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HKPFH Joint Venture

**Contract No.: CV/2013/06
Handling of Surplus Public Fill
(2014-2016)**

TSEUNG KWAN O AREA 137 FILL BANK

MONTHLY EM&A REPORT NO.26

(FEBRUARY 2016)

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17 March 2016

By E-mail and Fax No.: 2695 3944

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

Attention: Mr. C L Lau

Dear Mr. Lau,

Re: **Contract No. CV/2013/06**
Handling of Surplus Public Fill (2014 – 2016)
Monthly EM&A Report (No. 26) for February 2016 for the Tseung Kwan O Area
137 Fill Bank

Reference is made to your submission of the draft Monthly EM&A Report for February 2016 for the TKO Area 137 Fill Bank received by E-mail on 15 March 2016 and the subsequent revision on 17 March 2016.

We are pleased to inform you that we have no further comment on the captioned report.

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

Yours sincerely,



Tony Cheng
Independent Environmental Checker

c.c. CEDD Attn: Mr. Terry Chock / Mr. Simon Leung Fax No.: 2714 0113
HKPFHJV Attn: Mr. Eric Wan Fax No.: 2744 6937

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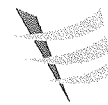
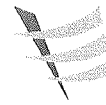


TABLE OF CONTENTS		Page
EXECUTIVE SUMMARY		
1.0	INTRODUCTION	1
2.0	PROJECT INFORMATION	
	2.1 Scope of the Project	1
	2.2 Site Description	1
	2.3 Work Programme	2
	2.4 Project Organization and Management Structure	2
	2.5 Contact Details of Key Personnel	2
3.0	WORK PROGRESS IN THIS REPORTING MONTH	2
4.0	AIR QUALITY MONITORING	
	4.1 Monitoring Requirement	2
	4.2 Monitoring Equipment	2
	4.3 Monitoring Parameters, Frequency and Duration	2
	4.4 Monitoring Locations and Schedule	3
	4.5 Monitoring Methodology	3
	4.6 Action and Limit levels	4
	4.7 Event-Action Plans	4
	4.8 Results and Observation	4
5.0	NOISE MONITORING	
	5.1 Monitoring Requirements	4
	5.2 Monitoring Equipment	4 – 5
	5.3 Monitoring Parameters, Duration and Frequency	5
	5.4 Monitoring Locations and Month	5
	5.5 Monitoring Procedures and Calibration Details	5
	5.6 Action and Limit levels	5
	5.7 Event-Action Plans	6
	5.8 Results and Observation	6
6.0	MARINE WATER QUALITY MONITORING	
	6.1 Monitoring Requirements	6
	6.2 Monitoring Locations	6
	6.3 Monitoring Parameters	6
	6.4 Monitoring Frequency	7
	6.5 Monitoring Methodology and Equipment Used	7 - 8
	6.6 Action and Limit Level	9
	6.7 Event and Action Plan	9
	6.8 Monitoring Duration and Month in this reporting month	9
	6.9 Marine Water Monitoring Results	9
7.0	ENVIRONMENTAL AUDIT	
	7.1 Weekly ET Site Inspections	10
	7.2 Review of Environmental Monitoring Procedures	10
	7.3 Assessment of Environmental Monitoring Results	10
	7.4 Advice on the Solid and Liquid Waste Management Status	11
8.0	STATUS OF ENVIRONMENTAL LICENSING AND PERMITTING	11
9.0	ENVIRONMENTAL NON-CONFORMANCE	
	9.1 Summary of air quality, noise and marine water quality	12
	9.2 Summary of Environmental Complaints	12
	9.3 Summary of Notification of Summons and Prosecution	12
10.0	IMPLEMENTATION STATUS	
	10.1 Implementation Status of Environmental Mitigation Measures	12
	10.2 Implementation Status of Event and Action Plan	12
	10.3 Implementation Status of Environmental Complaint, Notifications of Summons and Successful Prosecutions Handling	12
11.0	CONCLUSION AND RECOMMENDATIONS	12 – 13
12.0	FUTURE KEY ISSUE	
	12.1 Work Programme for the Coming Month	14
	12.2 Key Issues for the Coming Month	14 – 15
	12.3 Monitoring Schedule for the Coming Month	15



APPENDIX I

A	Organization Chart and Lines of Communication
B1	Calibration Certificates for Impact Air Quality Monitoring Equipment
B2	Impact Air Quality Monitoring Results
B3	Graphical Plots of Impact Air Quality Monitoring Data
C1	Calibration Certificates for Impact Noise Monitoring Equipment
C2	Impact Noise Monitoring Results
C3	Graphical Plots of Impact Noise Monitoring Data
D1	Calibration Certificates for Impact Marine Water Quality Monitoring Equipment
D2	Impact Marine Water Quality Monitoring Results
D3	Graphical Plots of Impact Marine Water Quality Monitoring Data
E	Weather Condition
F	Event-Action Plans
G	Work Programme
H	Weekly ET's Site Inspection Record
I	Implementation Schedule of Mitigation Measures
J	Site General Layout Plan
K	Monitoring Schedule for the Coming Month
L	Complaint Log

APPENDIX I FIGURES

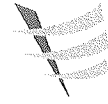
Figure 1	Locations of Water Quality Monitoring Stations – Tseung Kwan O Area 137 Fill Bank
Figure 2	Location of Noise Quality Monitoring Station – Tseung Kwan O Area 137 Fill Bank
Figure 3	Locations of Air Quality Monitoring Stations – Tseung Kwan O Area 137 Fill Bank

APPENDIX II

Marine Water Quality Monitoring Report for Contract No. HY/2010/02 Hong Kong – Zhuhai – Macao Bridge, Hong Kong Boundary Crossing Facilities – Reclamation Works

TABLES

2.1	Contact Details of Key Personnel
4.1	Air Quality Monitoring Equipment
4.2	Monitoring parameters, duration and frequency of air quality monitoring
4.3	Air Quality Monitoring Locations
4.4	Action and Limit levels for 24-hr TSP and 1-hr TSP
5.1	Noise Monitoring Equipment
5.2	Duration, Frequency and Parameters of noise monitoring
5.3	Noise Monitoring Location
5.4	Action and Limit levels for noise monitoring
6.1	Locations of Marine Water Monitoring Stations
6.2	Marine Water Quality Monitoring Parameters
6.3	Monitoring frequency of the marine water
6.4	Summary of testing procedures
6.5	Details of Marine Water Quality Monitoring Equipment (In-site measurement)
6.6	Water Quality Action and Limit Levels
6.7	Time Schedule of Impact Marine Water Quality Monitoring
6.8	Summary of Impact Marine Water Quality Exceedances in this reporting month
7.1	Key Findings of Weekly ET Site Audits in this reporting month
7.2	Actual amounts of Waste generated in this reporting month
8.1	Summary of environmental licensing and permit status
10.1	Summary of Environmental Complaints and Prosecutions



EXECUTIVE SUMMARY

This monthly Environmental Monitoring and Audit (EM&A) report No.26 was prepared by ETS-Testconsult Ltd (ET) for the "Contract No: CV/2013/06 – Handling of Surplus Public Fill (2014-2016) – Tseung Kwan O (TKO) Area 137 Fill Bank" (The Project).

This report documented the findings of EM&A Works conducted during the operation phase of Fill Bank at TKO Area 137 in February 2016.

Site Activities

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

1. Operation of the TKO137 Fill Bank.
2. Transferring public fill to vessel and delivering to Taishan and other parties

Environmental Monitoring Progress

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

- Noise Monitoring (Day-time): 1 Occasion at 1 designated location
- 24-hour TSP Monitoring: 5 Occasions at 2 designated locations
- 1-hour TSP Monitoring: 14 Occasions at 2 designated locations
- Marine Water Quality Monitoring: 11 Occasions at 2 designated locations
- Weekly-site inspection: 4 Occasions

Noise Monitoring

No exceedance of Action and Limit levels for noise monitoring was recorded in the reporting month.

Air Monitoring

No exceedance of Action and Limit levels was recorded for 1-hr and 24-hr TSP monitoring in the reporting month.

Marine Water Quality Monitoring

According to the summary of marine water monitoring results, no exceedance of Action and Limit levels was recorded in this reporting month.

Weekly Site Inspections

In general, performance on environmental mitigation measures implemented was found to be satisfactory in this reporting month. The major findings observed during site inspections are presented in the Section 7.0.

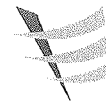
Environmental Complaints, Notification of summons and successful prosecutions

No complaint, notification of summons or successful prosecutions with respect to environmental issues was received in this month.

Future Key Issues

Based on site inspections and forecast of engineering works in coming month, key issues to be considered are as follows:

- Noise and air quality impact due to site works;
- Maintain wheel washing facilities properly;
- Maintain all drainage and desilting facilities properly;
- Use and maintain silt curtain properly;
- Clean up the fill material on concrete pavement along the BHA frequently;
- Sufficient drip trays for all oil drums / chemical containers;
- Implement all necessary preventive measures to avoid oil leakage. In the event an oil leakage happens, the Contractor should properly remove the leaked oil and handle the contaminated soil and all materials using for this cleaning works as chemical waste;
- Maintain good site practice and waste management to minimize environmental impacts at the site; and
- Follow-up improvements on waste management issues.



1.0 INTRODUCTION

HKPFH Joint Venture (HKPFH-JV) appointed Environmental Team (ET) of ETS-Testconsult Limited (ETL) to undertake the Environmental Monitoring and Audit (EM&A) for the “Contract No: CV/2013/06 – Handling of Surplus Public Fill (2014-2016) – Tseung Kwan O (TKO) Area 137 Fill Bank” (The Project).

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

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

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

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

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

This report documented the findings of EM&A Works conducted during the operation phase of Fill Bank at Tseung Kwan O Area 137 in February 2016.

2.0 PROJECT INFORMATION

2.1 Scope of the Project

The scale and scope of the Project as stated in the EP include:

- Site clearance;
- Construction of a temporary storm water system;
- Stockpiling of 6 million m³ of public fill;
- Setting up two barging points: one at the TKO Basin and one at the Construction and Demolition Material Sorting Facility (C&DMSF) for transporting the stockpiled public fill by barges;
- Setting up a temporary barging point at the existing Explosive Off-loading Barging Point located in the south-eastern part of Area 137 for the month of May 2004 to December 2004 for transporting the stockpiled public fill by barge;
- Construction and operation of a Construction and Demolition Material Sorting Facility (C&DMSF);
- Setting up a Construction and Demolition Material Crushing Facility at the TKO Basin; and
- Remove the temporary fill bank.

2.2 Site Description

TKO Area 137 Fill Bank is located at the southern end of Wan Po Road. In the vicinity of the site are other industrial uses such as SENT landfill, TKO Industrial Estate, etc. Both Island Resort and Fullview Garden are also situated at more than 1.8km from the site. Other existing ASRs and NSRs, including resident developments and schools, are located at a further distance away from TKO Area 137.



2.3 Work Programme

Details of work programme are shown in Appendix I G.

2.4 Project Organization and Management Structure

The project organization chart is shown in Appendix I A.

2.5 Contact Details of Key Personnel

The key personnel contact names and telephone numbers are shown in Table 2.1.

Table 2.1 Contact Details of Key Personnel

Organization	Name of Key Staff	Project Role	Tel. No.	Fax No.
CEDD	Simon Leung, Terry Chock, Patrick Ng, James Sze, Phoebe Tang	Engineer's Representative	2762 5555	2714 0113
IEC (Ramboll Environ)	Tony Cheng	IEC	3465 2888	3465 2899
Contractor (HKPFH-JV)	K W Li	Project Manager	9750 6438	2744 6937
ET (ETL)	C. L. Lau	ET Leader	2946 7791	2695 3944

3.0 WORK PROGRESS IN THIS REPORTING MONTH

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

1. Operation of the TKO137 Fill Bank.
2. Transferring public fill to vessel and delivering to Taishan and other parties

4.0 AIR QUALITY MONITORING

4.1 Monitoring Requirement

TSP levels were monitored in the reporting month in accordance with the EM&A Manual. Table 4.4 shows the Action and Limit Levels for the environmental monitoring works.

4.2 Monitoring Equipment

Both 1-hour and 24-hour TSP air quality monitoring was performed using a GMWS2310 High Volume Air Sampler (HVS) located at each of the designated monitoring station. Table 4.1 summarizes the equipment used in the air quality monitoring programme. A copy of the calibration certificates for the HVS and calibrator are attached in Appendix I B1.

Table 4.1 Air Quality Monitoring Equipment

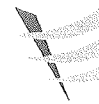
Equipment	Model and Make
HVS	Greasby GMWS2310
Calibrator	Tisch TE-5025A

4.3 Monitoring Parameters, Frequency and Duration

Table 4.2 summarizes the monitoring parameters, monitoring duration and frequencies of air quality monitoring.

Table 4.2 Monitoring parameters, duration, frequency of air quality monitoring

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



4.4 Monitoring Locations

Table 4.3 tabulates the air quality monitoring locations of this project.

Table 4.3 Air quality monitoring locations

Monitoring station	Location
TKO-A1	Site Egress
TKO-A2a	CREO

4.5 Monitoring Methodology

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

Instrumentation

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

Installation

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

Operation/Analytical Procedures

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

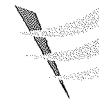
- Prior to the commencement of the dust sampling, the flow rate of the high volume sampler was properly set (between 0.6m³/min and 1.7m³/min.) in accordance with the manufacturer's instruction to within the range recommended in USEPA Standard Title 40, CFR Part 50. The flow rate was indicated on the flow rate chart.
- For TSP sampling, fiberglass filters (Whatman G653) were used.
- The power supply was checked to ensure the sampler worked properly.
- On sampling, the sampler was operated 5 minutes to establish thermal equilibrium before placing any filter media at designated air monitoring station.
- The filter holding frame was then removed by loosening the four nuts and carefully a weighted and conditioned filter was centered with the stamped number upwards, on a supporting screen.
- The filter was aligned on the screen so that the gasket formed an air-tight seal on the outer edges of the filter. Then the filter holder frame was tightened to the filter holder with swing bolts. The applied pressure should be sufficient to avoid air leakage at the edges.
- The programmable timer will be set for a sampling month of 1 hour or 24 hours. Information was recorded on the record sheet, which included the starting time, the weather condition and the filter number (the initial weight of the filter paper can be found out by using the filter number.).
- After sampling, the filter was transferred from the filter holder of the HVS to a sealed plastic bag and sent to the laboratory for weighting. The elapsed time was also recoded.
- Before weighting, all filters were equilibrated in a desiccator for 24 hour with the temperature of 25°C ± 3°C and the relative humidity (RH) <50% ±5%.
- All measurement procedures in Section 2.3 of the EM&A Manual were followed during the reporting month.

Maintenance & Calibration

- HVS and their accessories should be maintained in good working condition, such as replacing motor brushes routinely and checking electrical wiring to ensure a continuous power supply.
- HVS should be calibrated at bi-monthly intervals.

Wind Data Monitoring

Wind data (wind speed and wind direction) were directly extracted from Tseung Kwan O Station of Hong Kong Observatory. All wind data during this reporting month are shown in Appendix I E.



4.6 Action and Limit Levels

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

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

Monitoring Location	24-hr TSP ($\mu\text{g}/\text{m}^3$)		1-hr TSP ($\mu\text{g}/\text{m}^3$)	
	Action Level	Limit Level	Action Level	Limit Level
TKO-A1	210	260	376	500
TKO-A2a *	210	260	376	500

Remark (*): Since dust monitoring stations TKO-A2 and TKO-A2a are located close to the major dust emission sources and also close to the same sensitive receptor and no significant difference between them on the prevailing meteorological conditions, the baseline data from TKO-A2 (August and September 2002 by MateriaLab) can also be valid in the case of TKO-A2a.

4.7 Event-Action Plans

Please refer to Appendix I F for details.

4.8 Results and Observation

4.8.1 1-hour and 24-hour TSP Monitoring results

Monitoring data of both 1-hour and 24-hour TSP monitoring carried out in this reporting month are summarized in Appendix I B2. Graphical presentation of 1-hour and 24-hour TSP monitoring results for the reporting month is shown in Appendix I B3. Wind data included wind speed and wind direction was extracted from Tseung Kwan O Station of Hong Kong Observatory during this reporting month and is presented in Appendix I E.

No exceedance of Action and Limit Level of 1-hr TSP and 24-hour TSP monitoring results was recorded during the reporting month.

4.8.2 Observation

Generally, the Contractor implemented sufficient dust mitigation measures, including operation of the mist spraying systems at the CEDD Combined Reception Office and the site egress area, wheel washing facilities, road dampening by water bowsers and automatic water sprinklers on the main haul roads. Furthermore, hydroseeded slopes on the stockpiling areas was maintained properly in order to prevent dust generation from wind erosion of the exposed surfaces. Other dust sources near TKO Area 137 also included operation of the temporary CWSF and dumping activities at the SENT Landfill.

5.0 Noise Monitoring

5.1 Monitoring Requirements

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

5.2 Monitoring Equipment

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

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

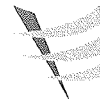


Table 5.1 Noise Monitoring Equipment

Equipment	Model
Sound Level Meter	Rion NL-31 / Rion NL-52
Sound Level Calibrator	Rion NC-73 / Castle GA607

5.3 Monitoring Parameters, Duration and Frequency

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

Table 5.2 Duration, Frequencies and Parameters of Noise Monitoring

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

5.4 Monitoring Locations

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

Table 5.3 Noise Monitoring Location

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

5.5 Monitoring Procedures and Calibration Details

Operation/Analysis Procedures

- The Sound Level Meter was set on a tripod at a height of 1.2m above the ground.
- For free field measurement, the meter was positioned away from any nearby reflective surfaces.
- The battery condition was checked to ensure the correct functioning of the meter.
- Parameters such as frequency weighting, the time weighting and the measurement time were set as follows:
 - Frequency weighting: A
 - Time weighting : Fast
 - Time measurement : 30 mins
- Prior to and after each noise measurement, the meter was calibrated using a Calibrator for 94 dB at 1000HZ. If the difference in the calibration level before and after measurement was more than 1dB(A), the measurement would be considered invalid and repeat measurement would be required after re-calibration or repair of the equipment.
- The wind speed was frequently checked with a portable wind meter.
- During the monitoring month, the L_{eq} , L_{10} and L_{90} were recorded. In addition, site conditions and noise sources were recorded on a standard record sheet.
- Correction factor of +3dB(A) should be made to the free Field measurements.
- Noise monitoring would be cancelled in the presence of fog, rain, wind with a steady speed exceeding 5m/s, or wind gusts exceeding 10m/s.

Maintenance and Calibration

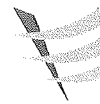
- The microphone head of the sound level meter and calibrator are cleaned with soft cloth in quarterly intervals.
- The meter is sent to the supplier or HOKLAS laboratory to check and calibrated in yearly intervals.

5.6 Action and Limit Levels

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

Table 5.4 Action and Limit Levels for noise monitoring

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



5.7 Event-Action Plans

Please refer to the Appendix I F for details.

5.8 Results and Observation

5.8.1 Results

Only Day-time noise monitoring was carried out at monitoring station TKO-N1 in this reporting month. The detail of the noise monitoring is provided in Appendix I C2. Graphical presentation of the monitoring result for the reporting month is shown in Appendix I C3. Since no documented complaints on noise issue were received in this reporting month, no Action Level exceedances were recorded. Besides, no exceedances in Limit Level were recorded according to the result from Day-time monitoring.

5.8.2 Observation

The major noise source during the monitoring event was the dump truck traffic. Operation of the Fill Bank was from 08:00 to 21:00 from Monday to Sunday in the reporting month. Whereas the operation hours for barge activities in the TKO Basin was from 08:00 to 21:00. The monitoring result complied with the noise limit of 75dB(A).

6.0 MARINE WATER QUALITY MONITORING

6.1 Monitoring Requirements

In accordance with the EM&A Manual, impact marine water quality monitoring was conducted three days per week. Measurements were taken at both mid-flood and mid-ebb tides at three depths (i.e. 1m below surface, mid depth and 1m from seabed) at Control Station, C1 and Monitoring Station, M4.

6.2 Monitoring Locations

For the Reclamation Project, there were 4 Designated Monitoring Stations and 2 Designated Control Stations specified in the EM&A Manual. Upon the completion of the monitoring programme under Stage 2 reclamation works, the ET started monitoring events at the impact station M4 and the control station C1 from 18 May 2004 onwards. Figure 1 shows the location of the marine water quality monitoring stations. Table 6.1 describes the locations of the monitoring stations in the reporting month.

Table 6.1 Locations of Marine Water Monitoring Stations

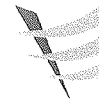
Station Description	Code	HK Metric Grid E	HK Metric Grid N
Control Station (Ebb tide)	TKO-C1	844 740.208	815 371.502
Monitoring Station, Tung Lung Chau Fish Culture Zone	TKO-M4	847 741.029	812 977.878

6.3 Monitoring Parameters

Monitoring of the marine water quality parameters are listed in Table 6.2.

Table 6.2 Marine Water Quality Monitoring Parameters

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



6.4 Monitoring Frequency

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

Table 6.3 Monitoring frequency of the marine water

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

6.5 Monitoring Methodology and Equipment Used

For Location of the monitoring stations

Global Positioning System (GPS)

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

For Water Depth measurement

Echo Sounder

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

For In-situ Water Quality Measurement

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

Dissolved Oxygen, Salinity and Temperature Measuring Equipment

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

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

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

Turbidity Measurement Instrument

A portable and weatherproof turbidity meter (HACH model 2100Q) was used during impact monitoring. It has a photoelectric sensor capable of measuring turbidity between 0-1000 NTU. Response of the sensor was checked with certified standard Turbidity solutions before the start of measurement.

For Water Sampling and Sample Analysis

In-situ monitoring was carried out at three depths: 1 meter below water surface, at mid-depth and 1 meter above the seabed. If the water depth is less than 6 m, the mid-depth station shall be omitted and if the water depth is below 3 m, only the mid depth station shall be monitored.

Water Sampler

A water sampler comprising a transparent PVC cylinder, with a capacity of not less than 2 liters, was lowered into the water body at the predetermined depth. The both opening ends of the sampler were then closed accordingly by dead weight and water samples were collected.



Water Container

The sample container, made by high-density polythene, was rinsed with a portion of the water sample. The water sample was then transferred to the container, labelled with a unique sample ID and sealed with a screw cap. The water samples were stored in a cool box maintained at 4°C. The water samples were then delivered to a local HOKLAS-accredited laboratory (Environmental Laboratory, ETS-Testconsult Ltd, HOKLAS Registration No. 022) on the same day for analysis.

The summary of testing method of testing parameter as recommended by EIA or required by EPD, with the QA/QC results in accordance with the requirement of HOKLAS or international accredited scheme is shown in Table 6.4.

Table 6.4 Summary of testing procedures

Laboratory Analysis	Testing Procedure	Detection Limit
Total suspended solids	In house method based on APHA 19 th ed 2540D	1.0 mg/L

In-situ measurement

All in-situ monitoring instruments were checked, calibrated and certified by a laboratory accredited under HOKLAS or any other international accreditation scheme before use. Responses of sensors and electrodes were checked with certified standard solutions before each use. Wet bulb calibration for a DO meter was carried out before the start of measurement.

At each measurement/sampling depth, two consecutive measurements of dissolved oxygen (DO), dissolved oxygen saturation (DOS), turbidity and salinity were taken. For turbidity measurement, the sample was collected by using sampler and then transferred to the cell. The reading of turbidity of the sample was directly recorded from the Turbidimeter (HACH 2100Q) after inserting the cell to the Turbidimeter. For DO, DOS and Salinity, duplicate measurements were performed by dropping the calibrated probes of the corresponding monitoring equipments to the designated depths of the water column and taking readings after stabilized. The duplicate measurements were averaged if the difference was not greater than 25%. If the difference is greater than 25%, repeat measurement will be required.

Table 6.5 shows the equipment used for in-situ monitoring of water quality. The calibration certificates are attached in Appendix I D1.

Table 6.5 Details of Marine Water Quality Monitoring Equipment (In-site measurement)

Parameter	Model	Date of Calibration	Due Date	Equipment No.
Coordinate of Monitoring stations	Garmin eTrex 10	-----	-----	ET/EW/005/04
Dissolved Oxygen (Saturation), Temperature, Salinity	YSI Dissolved Oxygen, Salinity & Temperature Meter, YSI 85	26/01/16	25/04/16	ET/EW/008/001 *
Turbidity	HACH Model 2100Q Turbid Meter	30/12/15	29/03/16	ET/0505/010 *
Water Depth	Speedtech SM-5	-----	-----	ET/EW/002/08

Remark:(*) indicates the instrument should be calibrated on use.

6.6 Action and Limit Level

The water quality criteria, namely Action and Limit (A/L) levels are presented in the table below.

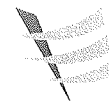


Table 6.6 Water Quality Action and Limit Levels

Parameter	Action Level	Limit Level
DO (mg/L)	<u>Surface & Middle</u> <5.45 mg/L (5%-ile of baseline data) <u>Bottom</u> <4.72 mg/L (5%-ile of baseline data)	<u>Surface & Middle</u> <5.10 mg/L (1%-ile of baseline data) <u>Bottom</u> <2.00 mg/L
SS (mg/L) (Depth-averaged)	>6.74 mg/L (95%-ile of baseline data) or >120% of the upstream control station's SS at the same tide on the same day	>7.67 mg/L (99%-ile of baseline data) or >130% of the upstream control station's SS at the same tide on the same day
Turbidity (NTU) (Depth-averaged)	>4.28 NTU (95%-ile of baseline data) or >120% of the upstream control station's turbidity at the same tide on the same day	>4.58 NTU (99%-ile of baseline data) or >130% of the upstream control station's turbidity at the same tide on the same day

6.7 Event and Action Plan

Please refer to the Appendix I F for details.

6.8 Monitoring Duration and Month in this reporting month

Below is the time schedule for the marine water quality monitoring events that were conducted in this reporting month:

Table 6.7 Time Schedule of Impact Marine Water Quality Monitoring

February 2016						
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	1	2	3	4	5	6
	▼		▼		▼	
7	8	9	10	11	12	13
	▼		▼		▼	
14	15	16	17	18	19	20
	▼		▼		▼	
21	22	23	24	25	26	27
	▼		▼		▼	
28	29					
	▼					

Remarks: (▼) = Marine water quality monitoring carried out by ET.

The daily marine water quality monitoring duration are detailed in Appendix I D2.

6.9 Marine Water Quality Monitoring Results

The impact water quality measurement results are detailed in Appendix I D2. Appendix I D3 presents the water quality monitoring data and graphical presentations of monitoring results respectively. The summary of marine water quality exceedances is shown in Table 6.8.

Table 6.8 Summary of Impact Marine Water Quality Exceedances in this reporting month

Station	Exceedance Level	DO		Turbidity		SS		Total	
		Flood	Ebb	Flood	Ebb	Flood	Ebb	Flood	Ebb
TKO-C1	Action	0	0	0	0	0	0	0	0
	Limit	0	0	0	0	0	0	0	0
TKO-M4	Action	0	0	0	0	0	0	0	0
	Limit	0	0	0	0	0	0	0	0

According to the summary of marine water monitoring results, no exceedance of Action and limit levels was recorded for this reporting month.



7.0 ENVIRONMENTAL AUDIT

7.1 Weekly ET Site Inspections

Weekly ET site inspections were carried out by ET to monitor the timely implementation of proper environmental pollution control and mitigation measures for the Project. In this reporting month, four weekly site inspections were conducted (03, 11, 19 and 24 February 2016). Table 7.1 presents the key findings of weekly ET site inspection in this reporting month.

Table 7.1 Key Findings of Weekly ET Site Audits in this reporting month

Date	Key Findings	Action(s) Taken recommended by ET	Action(s) Taken by the Contractor during the ET weekly site audit	Rectification Status by ET
03 February 2016	Mud was found accumulated near drainage channel at CP5. (Previous item)	To clear the accumulated mud properly.	Mud accumulated near drainage channel at CP5 was cleared.	Closed
	Generator No.9 at dry mud zone was found without NRMM label. (Previous item)	To provide appropriate NRMM label as soon as possible.	Appropriate NRMM label was provided for Generator No.9 at dry mud zone.	Closed
	Standing water was noted inside the idle sedimentation tank of Wetsep at Area A3. (New item)	To provide appropriate measure(s), e.g. adding pesticide, to avoid mosquito breeding.	---	Follow-up
11 February 2016	Standing water was noted inside the idle sedimentation tank of Wetsep at Area A3. (Previous item)	To provide appropriate measure(s), e.g. adding pesticide, to avoid mosquito breeding.	Pesticide was added to standing water inside the idle sedimentation tank of Wetsep at Area A3.	Closed
19 February 2016	Fill materials were observed on the concrete pavement along the Pier at A8. (New item)	To clear the mud properly and provide appropriate mitigation measures to avoid the dropping of fill materials into the sea.	---	Follow-up
24 February 2016	Fill materials were observed on the concrete pavement along the Pier at A8. (Previous item)	To clear the mud properly and provide appropriate mitigation measures to avoid the dropping of fill materials into the sea.	Fill materials observed on the concrete pavement along the Pier at A8 were cleared.	Closed

7.2 Review of Environmental Monitoring Procedures

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

Air Quality Monitoring

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

Noise Monitoring

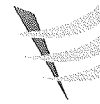
- The monitoring team recorded the observations around the monitoring station, which might affect the results.
- Major noise sources were identified and recorded.

Water Quality Monitoring

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

7.3 Assessment of Environmental Monitoring Results

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



No exceedance was recorded in water quality, air quality and noise monitoring in this month.

The monitoring results in this reporting month were comparable with those of baseline month. Detailed discussions were given in Section 4, 5 and 6 of this Report.

7.4 Advice on the Solid and Liquid Waste Management Status

The Contractor usually disposed of non-inert waste, including general refuse and materials segregated from the existing stockpiles, to SENT landfill. Table 7.2 summarizes data on offsite waste disposal in this reporting month.

Table 7.2 Actual amounts of Waste generated in this reporting month

Waste Type	Actual Amount	Disposal Locations
Public Fill (m ³)	0	TKO 137 Fill Bank
C&D Waste (kg)	0	SENT Landfill / Refuse Collection Point
Chemical Waste (kg/L)	0	Collected by licensed collector

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

Concrete bunding has erected outside the CEDD combined reception office and near the automatic wheel washing facilities for storing generator sets and oil drums. The drain outlet of all the bunded areas should be plugged properly. Besides, pre-cast drip trays were provided for oil drums at several areas, such as workshop and chemical storage area. The Contractor should collect and dispose of any stagnant water accumulated in the concrete bunding and drip trays and handle them as chemical waste.

The Contractor should use suitable containers with proper labels to store chemical wastes in accordance with Code of Practice on the Packaging, Labeling and Storage of Chemical Waste. The Contractor should also advise their workers of the proper procedures in handling the chemical waste. All the trip tickets for chemical waste disposal were properly kept in the site office.

The Contractor was reminded to increase the frequency of inspection and cleaning of the site drainage system, including permanent desilting chambers, desilting facilities, oil interceptor bypass tank, DP3 and DP4 and all the trapezoidal channels. Moreover, the Contractor should apply approved pesticides in the stagnant water ponds.

All the runoff from the parking area should be pumped to the desilting facilities and oil interceptors to remove suspended solids and oil & grease prior to discharge.

8.0 Status of Environmental Licensing and Permitting

All permits/licenses valid in this reporting month are summarized in Table 8.1.

Table 8.1 Summary of environmental licensing and permit status

Description	Permit No.	Valid Month		Section
		From	To	
Amended Environmental Permit	EP-134/2002/K	04/02/13	---	<ul style="list-style-type: none"> ▪ Site clearance ▪ Construction of a temporary storm water system ▪ Stockpiling of 6 million m³ of public fill ▪ Setting up two barging points for transporting the stockpiled public fill by barges ▪ Setting up a temporary barging point at the existing Explosive Off-loading Barging Point for the month of May 2004 to December 2004 for transporting the stockpiled public fill by barge ▪ Construction of operation of a construction and Demolition Material Sorting Facility (C&DMSF) ▪ Setting up a Construction and Demolition Material Crushing Facility at the TKO Basin ▪ Remove the temporary fill bank

Description	Permit No.	Valid Month		Section
		From	To	
Effluent Discharge License	WT000188 97-2014	11/07/14	31/07/19	Wastewater arising from the wheel washing bay of the premises, Sedimentation Tank & Desilting Tank
Marine Dumping Permit	EP/MD/16-150	01/01/16	31/03/16	Approval for dumping 3,800,000 tons (approximately equal to 2,111,111 cu.m. bulked quantity) of Public Fill (Reclamation Materials) from Tseung Kwan O Area 137 Fill Bank and Tuen Mun Area 38 Fill Bank to designated dumping area at Guanghaiwan of Taishan
Chemical Waste Producer	5213-839- H3552-01	21/01/14	----	Spent Lubricating Oil and Spent Battery
Billing Account for Waste Disposal	7018998	---	----	---

9.0 ENVIRONMENTAL NON-CONFORMANCE

9.1 Summary of air quality, noise and marine water quality

No Action and Limit level exceedance of 1-hour and 24-hr TSP monitoring was recorded in this reporting month.

Since no documented complaints on noise issue were received in this reporting month, no Action Level exceedance was recorded. Besides, no exceedance in Limit Level was recorded according to the result from Day-time monitoring.

According to the summary of marine water monitoring results, no exceedance of Action and Limit levels was recorded for this reporting month.

9.2 Summary of Environmental Complaints

No complaint was received in this reporting month.

9.3 Summary of Notification of Summons and successful Prosecution

There was no notification of summons and successful prosecution respect to environmental issues registered in this reporting month.

10.0 IMPLEMENTATION STATUS

10.1 Implementation Status of Environmental Mitigation Measures

An updated summary of the Environmental Mitigation Implementation Schedule (EMIS) is presented in Appendix I I. Most of the necessary mitigation measures were implemented properly. Any deficiencies were noted in the remarks of the schedule.

10.2 Implementation Status of Event and Action Plan

Since no exceedance of Action and Limit level of air, noise and marine water monitoring results was recorded for this reporting month, no further action was required.

10.3 Implementation Status of Environmental Complaint, Notifications of Summons and Successful Prosecutions Handling

No complaint, notification of summon and successful prosecution was received in this month.

A summary of environmental complaints, notifications of summons and successful prosecutions was given in Table 10.1 and further details of the complaint could be found in the Complaint Log (Appendix I L).



Table 10.1 Summary of Environmental Complaints and Prosecutions

<i>Complaints logged</i>		<i>Summons served</i>		<i>Successful prosecution received</i>	
<i>February 2016</i>	<i>Cumulative</i>	<i>February 2016</i>	<i>Cumulative</i>	<i>February 2016</i>	<i>Cumulative</i>
0	1	0	0	0	0

11.0 CONCLUSIONS AND RECOMMENDATIONS

Conclusions

Impact monitoring of air quality, noise and water quality were carried out at designated locations in accordance with the EM&A Manual in this reporting month.

No Action and Limit level exceedance of 1-hour and 24-hr TSP monitoring was recorded in this reporting month.

Since no documented complaints on noise issue were received in this reporting month, no Action Level exceedance was recorded. Besides, no exceedance in Limit Level was recorded according to the result from Day-time monitoring.

According to the summary of marine water monitoring results, no exceedance of Action and Limit levels was recorded for this reporting month.

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

According to the ET weekly site inspections carried out in this reporting month, the Contractor generally implemented sufficient dust mitigation measures, including operation of the mist spraying systems and automatic wheel washing facilities, dampening of haul roads and stockpiling areas.

Recommendations

According to the environmental site inspections performed in the reporting month, the following recommendations were provided:

Air Quality

- Ensure the frequency of water spraying on haul roads, unloading areas and stockpiles to be sufficient to suppress the dust sources;
- Provide proper maintenance for the powered mechanical equipment and barges to avoid emission of dark smoke;
- Provide water spraying onto the truckloads during inspection of fill material;
- Conduct road sweeping on all paved haul roads and public roads especially outside and near the site egress by the road sweeper. Undertake water spraying on stockpiling area by water bowser;
- Erect adequate speed limit signs to advise the truck drivers of the speed limit;
- Operate mist spraying systems and automatic water sprinklers in the Fill Bank;
- Implement the dust mitigation measures for the site activities;
- Designate proper haul roads to ensure effective water spraying; and
- Ensure all vehicles to be washed before leaving the site egress by provision, operation and maintenance of automatic wheel washing facilities.

Noise

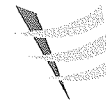
- Conduct noisy activities at a farther location from the NSRs.

Water Quality

- Maintain the drainage system, including the trapezoidal channels, permanent desilting chambers, regularly;
- Operate and maintain the silt curtains regularly;
- Operate the cleaning vessel within the TKO Basin regularly;
- Clean up the fill material on the concrete pavement at BHA frequently; and
- Remove the stagnant water or provide approved pesticides for the stagnant water in the permanent desilting chambers, if any.

Landscape and Visual

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



- Maintain the hydroseeded slopes in accordance with the Landscape Plan.

Chemical and Waste Management

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

12.0 FUTURE KEY ISSUES

12.1 Work Programme for the Coming Month

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

1. Operation of the TKO137 Fill Bank.
2. Transferring public fill to vessel and delivering to Taishan and other parties.

12.2 Key Issues for the Coming Month

Key issues to be considered in the coming month include:

- Chemical and waste management;
- Treatment of runoff and wastewater prior to discharge;
- Dust generated from loading and unloading activities; and
- Dust generated from dump trucks traffic.

Mitigation measures to be required in the coming month:

Air Quality Impact

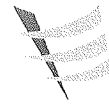
- To provide adequate water spraying on haul roads and working platform;
- To operate and maintain automatic wheel washing facilities properly;
- To dampen the fill material prior to unloading or movement;
- To provide road sweeping on haul road near site egress and public roads outside site egress;
- To ensure implementation of the dust mitigation measures for the site activities;
- To maintain proper operation of the mist spraying system;
- To provide proper maintenance for vehicles and machines on site; and
- To investigate any other dust sources around the air sensitive receivers

Noise

- To switch off equipment if not in use;
- To operate silent equipment;
- To identify the noise sources inside and outside of the site;
- To follow up any exceedance caused by the Fill Bank operation; and
- To re-schedule the work activities in the event of valid noise exceedance.

Water Quality Impact

- To maintain the drainage system in the Fill Bank;
- To ensure the cleanliness of oil interceptor bypass tanks and all the drainage channels;
- To maintain the existing silt trap to ensure good efficiency of wheel wash facilities;
- To repair, inspect and maintain the silt curtains regularly;
- To provide covers for the drip trays to avoid stagnant water pond due to rainfall;
- To provide proper treatment for oily water discharged from the area around air monitoring station TKO-A1;
- To deploy a cleaning vessel to remove floating rubbish in the TKO Basin;
- To clean up the concrete paved area at Portion I every night to avoid fill materials from being washed into the sea; and
- To avoid any stagnant water or provide insecticide to avoid mosquito breeding in the Fill Bank.



Chemical and Waste Management

- To remove waste from the site regularly;
- To properly store and handle chemical wastes on site;
- To implement trip ticket system for all the imported public fill and general refuse disposal;
- To provide and manage sufficiently sized drip trays for diesel drums or chemical containers;
- To remove existing unwanted material in the stockpiles and avoid improper disposal at the Fill Bank through inspection of imported truckloads;
- To maintain proper housekeeping at the workshop area;
- To remove the oil stains in the event of leakage and handle all materials using for this cleaning works as chemical waste;
- To maintain mesh screen on top of the additional drainage, DP3 opening to avoid improper dumping of rubbish into this channel; and
- To identify C&D material by packaging, labeling, storage, transportation and disposal in accordance with statutory regulations.

12.3 Monitoring Schedule for the Coming Month

The proposed EM&A program of the coming month is attached in Appendix I M.

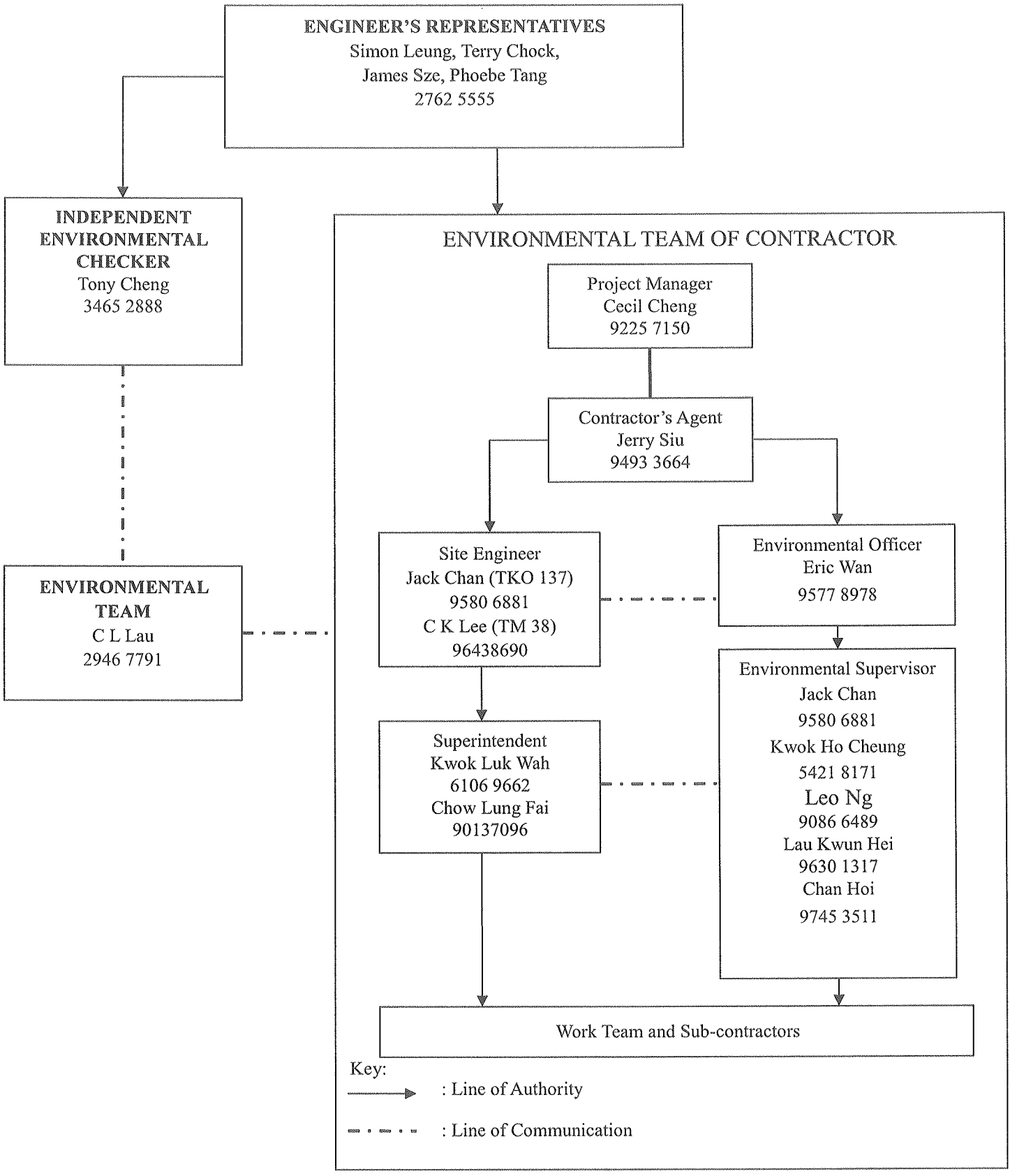
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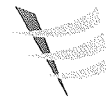


Appendix I

A

Project Organization Chart

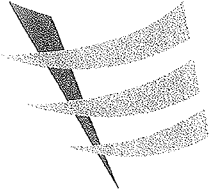




Appendix I

B1

Calibration Certificates for Impact Air Quality Monitoring Equipment



東業德勤測試顧問有限公司
ETS-TESTCONSULT LIMITED

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

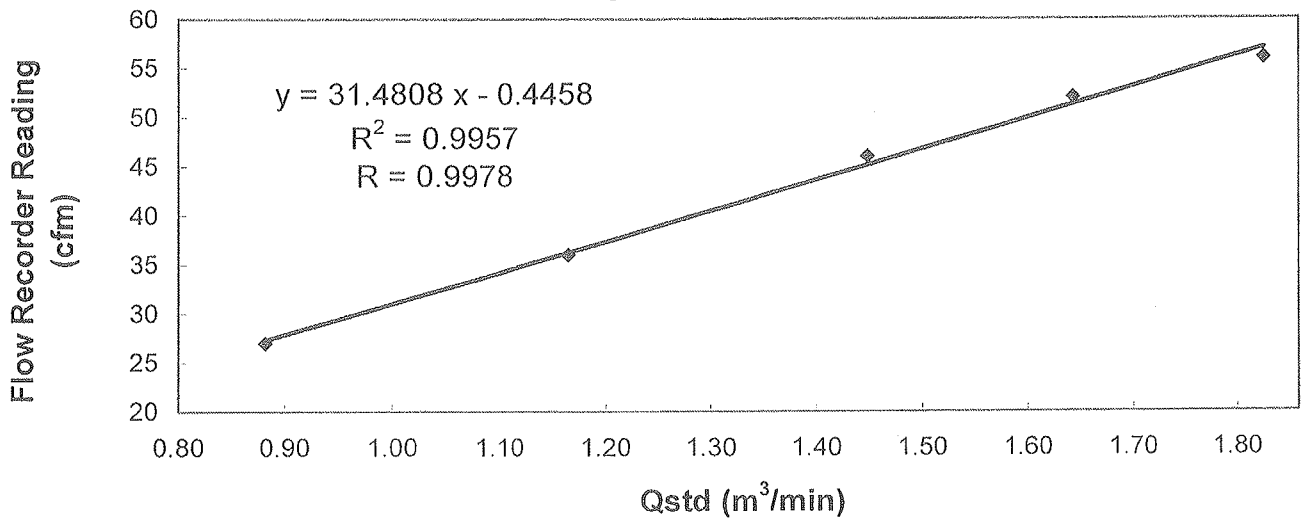
Calibration Report
of
High Volume Air Sampler

Manufacturer : Graseby GMW Date of Calibration : 05 February 2016
Serial No. : 10581 (ET / EA / 003 / 22) Calibration Due Date : 04 April 2016
Method : Five-point calibration by using standard calibration kit Tisch TE-5025A refer to the Operations Manual

Results :

Flow recorder reading (cfm)	56	52	46	36	27
Qstd (Actual flow rate, m ³ /min)	1.83	1.64	1.45	1.17	0.88
Pressure :	763.56	mm Hg	Temp. :	284	K

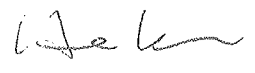
Sampler 10581 Calibration Curve
Site: Tseung Kwan O 137 (TKO-A1)

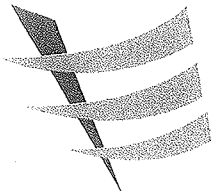


Acceptance Criteria : Correlation coefficient (r) of the calibration curve greater than 0.990 after a 5-point calibration.

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

Calibrated by : 
TANG, Chung Hang
(Assistant Supervisor)

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



東業德勤測試顧問有限公司
ETS-TESTCONSULT LIMITED

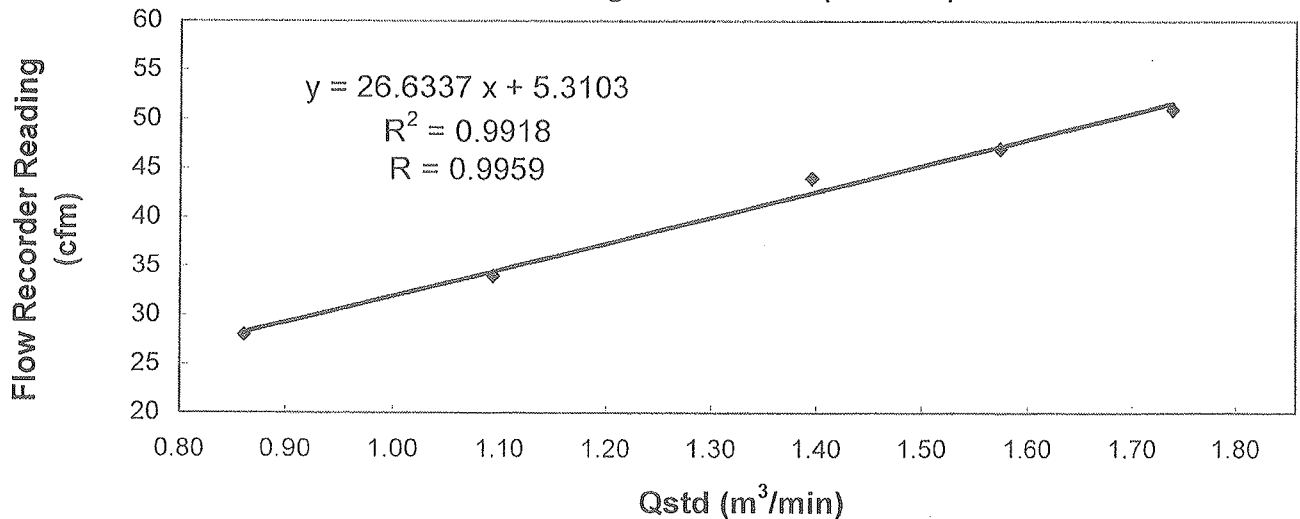
8/F., Block B, Veristrong Industrial Centre, 34-36 Au Pui Wan Street, Fotan, Hong Kong
Tel : 2695 8318 E-mail : etl@ets-testconsult.com
Fax : 2695 3944 Web site : www.ets-testconsult.com

Calibration Report
of
High Volume Air Sampler

Manufacturer : Graseby GMW Date of Calibration : 11 December 2015
Serial No. : 10581 (ET / EA / 003 / 22) Calibration Due Date : 10 February 2016
Method : Five-point calibration by using standard calibration kit Tisch TE-5025A refer to the Operations Manual

Results	Flow recorder reading (cfm)	51	47	44	34	28
	Qstd (Actual flow rate, m ³ /min)	1.74	1.57	1.40	1.09	0.86
	Pressure : 763.56 mm Hg	Temp. : 298 K				

Sampler 10581 Calibration Curve
Site: Tseung Kwan O 137 (TKO-A1)

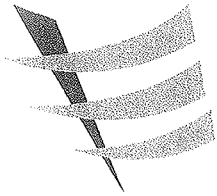


Acceptance Criteria : Correlation coefficient (r) of the calibration curve greater than 0.990 after a 5-point calibration.

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

Calibrated by : 
TANG, Chung Hang
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Checked by : 
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(Senior Environmental Officer)



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Web site : www.ets-testconsult.com

Calibration Report of High Volume Air Sampler

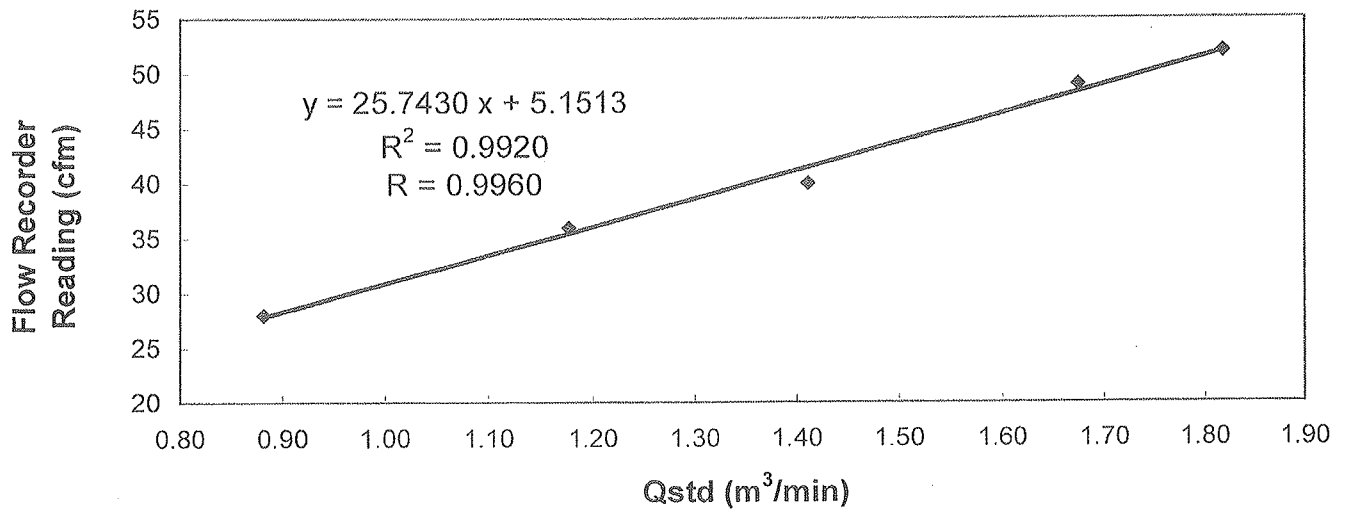
Manufacturer : Graseby GMW Date of Calibration : 05 February 2016

Serial No. : 1172 (ET/EA/003/11) Calibration Due Date : 04 April 2016

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

Results	Flow recorder reading (cfm)	52	49	40	36	28
	Qstd (Actual flow rate, m ³ /min)	1.82	1.68	1.41	1.18	0.88
	Pressure :	763.56	mm Hg	Temp. :	284	K

Sampler 1172 Calibration Curve
Site: Tseung Kwan O 137 (TKO-A2a)



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

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

Calibrated by : 
TANG, Chung Hang
(Assistant Supervisor)

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

- END OF REPORT -



01/16/2015, 11:12

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

ORIFICE TRANSFER STANDARD CERTIFICATION WORKSHEET TE-5025A

Date - May 12, 2015 Rootmeter S/N 0438320 Ta (K) - 293
 Operator Tisch Orifice I.D. - 2943 Pa (mm) - 751.84

PLATE OR Run #	VOLUME START (m3)	VOLUME STOP (m3)	DIFF VOLUME (m3)	DIFF TIME (min)	METER DIFF Hg (mm)	ORFICE DIFF H2O (in.)
1	NA	NA	1.00	1.4710	3.2	2.00
2	NA	NA	1.00	1.0350	6.4	4.00
3	NA	NA	1.00	0.9200	7.9	5.00
4	NA	NA	1.00	0.8760	8.7	5.50
5	NA	NA	1.00	0.7220	12.6	8.00

DATA TABULATION

Vstd	(x axis) Qstd	(y axis)	Va	(x axis) Qa	(y axis)
1.0018	0.6810	1.4186	0.9957	0.6769	0.8828
0.9976	0.9639	2.0061	0.9915	0.9580	1.2485
0.9955	1.0820	2.2429	0.9894	1.0754	1.3959
0.9945	1.1352	2.3524	0.9884	1.1283	1.4640
0.9892	1.3701	2.8371	0.9832	1.3618	1.7657
Qstd slope (m) = 2.05628			Qa slope (m) = 1.28761		
intercept (b) = 0.01949			intercept (b) = 0.01213		
coefficient (r) = 0.99997			coefficient (r) = 0.99997		
y axis = SQRT[H2O(Pa/760) (298/Ta)]			y axis = SQRT[H2O(Ta/Pa)]		

CALCULATIONS

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

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

For subsequent flow rate calculations:

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



Appendix I

B2

Impact Air Quality Monitoring Results

Summary of 24-hr TSP Monitoring Results

Monitoring Station : TKO-A1
Location : Site Egress

Date	Start Time	Finish		Elapse Time		Sampling Time (hrs)	Flow Rate (m ³ /min.)		Average (m ³ /min.)	Filter Weight (g)		Conc. (µg/m ³)
		Date	Time	Initial	Final		Initial	Final		Initial	Final	
03/02/16	09:15	04/02/16	09:15	24334.33	24358.33	24.00	1.0021	1.0021	1.0021	2.7952	2.9196	86
11/02/16	11:15	12/02/16	11:15	24361.33	24385.33	24.00	1.0307	1.0307	1.0307	2.7861	2.8910	71
17/02/16	10:45	18/02/16	10:45	24388.33	24412.33	24.00	1.0307	1.0307	1.0307	2.7961	2.8994	70
23/02/16	08:00	24/02/16	08:00	24414.33	24438.33	24.00	1.0307	1.0307	1.0307	2.7688	2.8787	74
29/02/16	09:45	01/03/16	09:45	24442.33	24466.33	24.00	1.0307	1.0307	1.0307	2.7951	2.8992	70

Monitoring Station : TKO-A2a
Location : CREO

Date	Start Time	Finish		Elapse Time		Sampling Time (hrs)	Flow Rate (m ³ /min.)		Average (m ³ /min.)	Filter Weight (g)		Conc. (µg/m ³)
		Date	Time	Initial	Final		Initial	Final		Initial	Final	
03/02/16	09:20	04/02/16	09:20	24343.64	24367.64	24.00	1.0724	1.0724	1.0724	2.8001	2.9174	76
11/02/16	11:20	12/02/16	11:20	24370.64	24394.64	24.00	1.0430	1.0430	1.0430	2.8433	2.9585	77
17/02/16	10:50	18/02/16	10:50	24397.64	24421.64	24.00	1.0430	1.0430	1.0430	2.8002	2.9147	76
23/02/16	08:00	24/02/16	08:00	24423.64	24447.64	24.00	1.0430	1.0430	1.0430	2.7742	2.8992	83
29/02/16	09:55	01/03/16	09:55	24451.64	24475.64	24.00	1.0430	1.0430	1.0430	2.8003	2.9008	67

Summary of 1-hr TSP Monitoring Results

Monitoring Station : TKO-A1
Location : Site Egress

Date	Time		Elapse Time		Sampling Time (hrs)	Flow Rate (m ³ /min.)		Average (m ³ /min.)	Filter Weight (g)		Conc. (µg/m ³)
	Start	Finish	Initial	Final		Initial	Final		Initial	Final	
01/02/16	09:10	10:10	24332.33	24333.33	1.00	1.0021	1.0021	1.0021	2.8051	2.8158	178
03/02/16	08:15	09:15	24333.33	24334.33	1.00	1.0021	1.0021	1.0021	2.7854	2.7987	221
05/02/16	14:16	15:16	24358.33	24359.33	1.00	1.0021	1.0021	1.0021	2.7915	2.8040	208
05/02/16	15:16	16:16	24359.33	24360.33	1.00	1.0021	1.0021	1.0021	2.7799	2.7903	173
11/02/16	10:15	11:15	24360.33	24361.33	1.00	1.0307	1.0307	1.0307	2.7825	2.7946	196
12/02/16	10:15	11:15	24385.33	24386.33	1.00	1.0307	1.0307	1.0307	2.7966	2.8088	197
15/02/16	11:25	12:25	24386.33	24387.33	1.00	1.0307	1.0307	1.0307	2.7799	2.7905	171
17/02/16	09:45	10:45	24387.33	24388.33	1.00	1.0307	1.0307	1.0307	2.7851	2.7979	207
19/02/16	08:15	09:15	24412.33	24413.33	1.00	1.0307	1.0307	1.0307	2.7865	2.7989	201
22/02/16	13:20	14:20	24413.33	24414.33	1.00	1.0307	1.0307	1.0307	2.7999	2.8106	173
24/02/16	08:05	09:05	24438.33	24439.33	1.00	1.0307	1.0307	1.0307	2.8052	2.8177	202
24/02/16	13:40	14:40	24439.33	24440.33	1.00	1.0307	1.0307	1.0307	2.7866	2.7983	189
26/02/16	16:10	17:10	24440.33	24441.33	1.00	1.0307	1.0307	1.0307	2.7888	2.7999	179
29/02/16	08:45	09:45	24441.33	24442.33	1.00	1.0307	1.0307	1.0307	2.7952	2.8076	201

Monitoring Station : TKO-A2a
Location : CREO

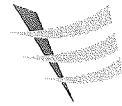
Date	Time		Elapse Time		Sampling Time (hrs)	Flow Rate (m ³ /min.)		Average (m ³ /min.)	Filter Weight (g)		Conc. (µg/m ³)
	Start	Finish	Initial	Final		Initial	Final		Initial	Final	
01/02/16	09:15	10:15	24341.64	24342.64	1.00	1.0724	1.0724	1.0724	2.7942	2.8067	194
03/02/16	08:20	09:20	24342.64	24343.64	1.00	1.0724	1.0724	1.0724	2.8129	2.8249	186
05/02/16	14:20	15:20	24367.64	24368.64	1.00	1.0724	1.0724	1.0724	2.7643	2.7750	166
05/02/16	15:20	16:20	24368.64	24369.64	1.00	1.0724	1.0724	1.0724	2.7880	2.8030	233
11/02/16	10:20	11:20	24369.64	24370.64	1.00	1.0430	1.0430	1.0430	2.8003	2.8108	168
12/02/16	10:20	11:20	24394.64	24395.64	1.00	1.0430	1.0430	1.0430	2.8041	2.8148	171
15/02/16	11:30	12:30	24395.64	24396.64	1.00	1.0430	1.0430	1.0430	2.8079	2.8192	181
17/02/16	09:50	10:50	24396.64	24397.64	1.00	1.0430	1.0430	1.0430	2.7694	2.7829	216
19/02/16	08:25	09:25	24421.64	24422.64	1.00	1.0430	1.0430	1.0430	2.8001	2.8138	219
22/02/16	13:30	14:30	24422.64	24423.64	1.00	1.0430	1.0430	1.0430	2.8066	2.8179	181
24/02/16	08:10	09:10	24447.64	24448.64	1.00	1.0430	1.0430	1.0430	2.7934	2.8064	208
24/02/16	13:45	14:45	24448.64	24449.64	1.00	1.0430	1.0430	1.0430	2.8213	2.8337	198
26/02/16	16:15	17:15	24449.64	24450.64	1.00	1.0430	1.0430	1.0430	2.8761	2.8890	206
29/02/16	08:55	09:55	24450.64	24451.64	1.00	1.0430	1.0430	1.0430	2.8061	2.8168	171



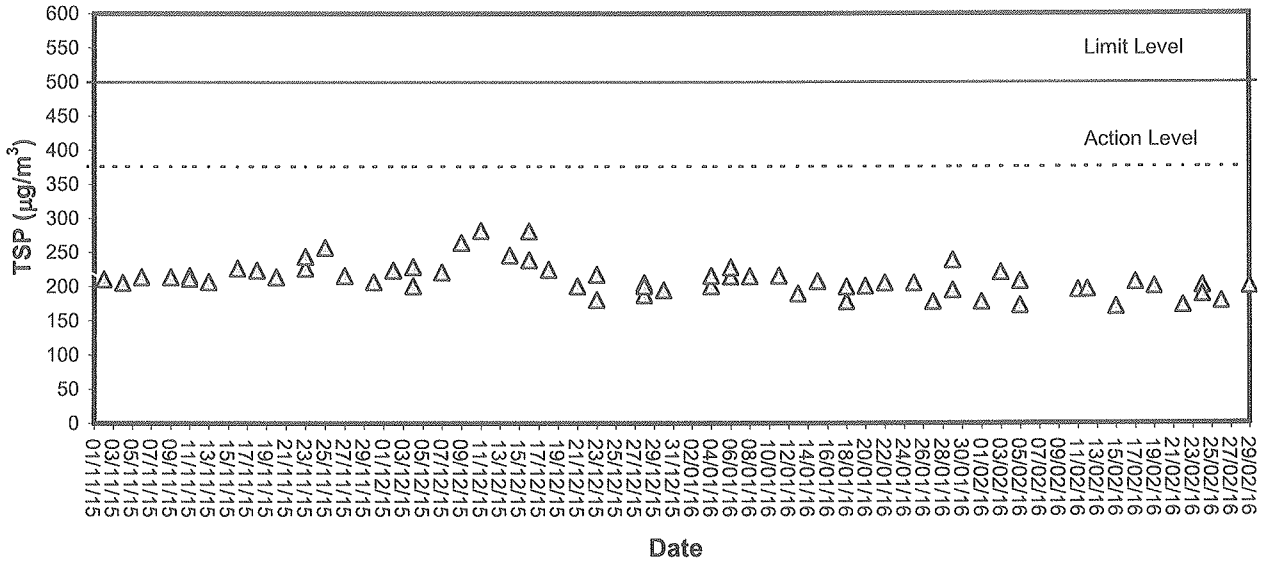
Appendix I

B3

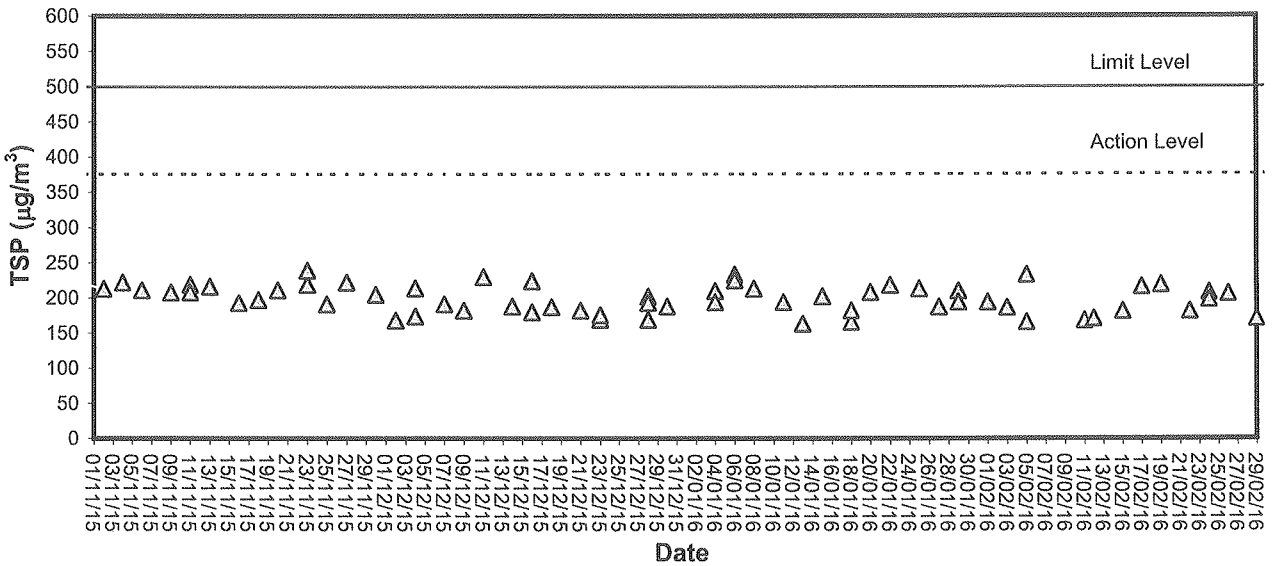
Graphical Plots of Impact Air Quality Monitoring Data



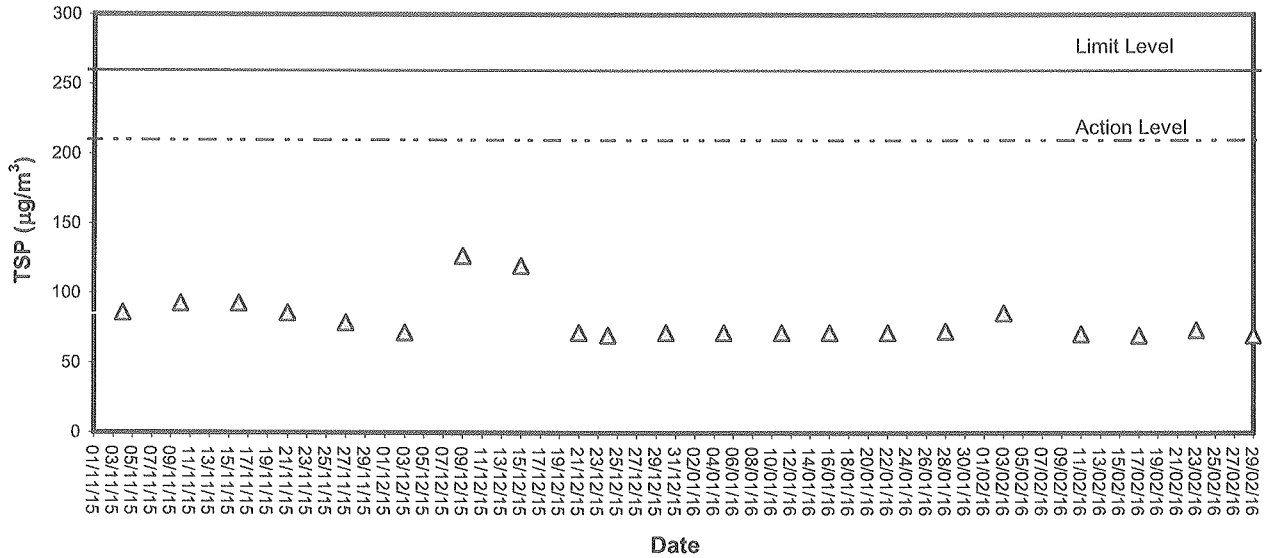
1-hour TSP level at TKO-A1



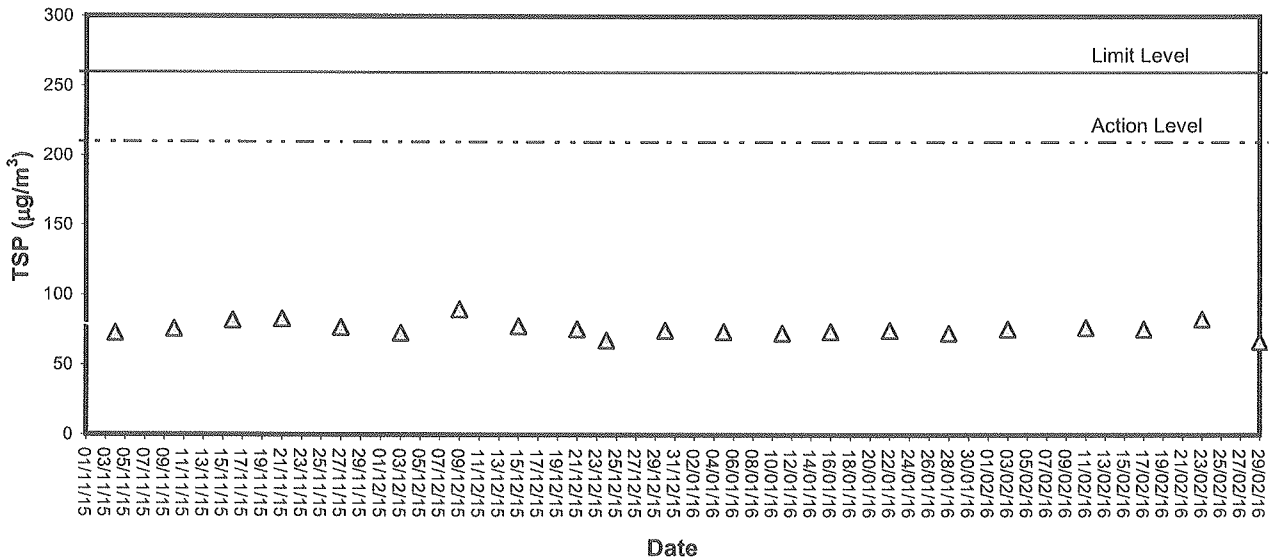
1-hour TSP level at TKO-A2a

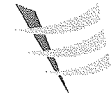


24-hour TSP level at TKO-A1



24-hour TSP level at TKO-A2a





Appendix I

C1

Calibration Certificates for Impact Noise Monitoring Equipment



Calibration Certificate

Certificate No. 501438

Page 1 of 2 Pages

Customer : ETS-Testconsult Limited

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

Order No. : Q50640

Date of receipt : 2-Mar-15

Item Tested

Description : Acoustic Calibrator (ET/EN/002/07)

Manufacturer : Castle

Model : GA607

Serial No. : 038641

Test Conditions

Date of Test : 6-Mar-15

Supply Voltage : --

Ambient Temperature : (23 ± 3)°C

Relative Humidity : (50 ± 25) %

Test Specifications

Calibration check.

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

Test Results

All results were within the manufacturer's specification.

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

Main Test equipment used:

Equipment No.	Description	Cert. No.	Traceable to
S014	Spectrum Analyzer	405316	NIM-PRC & SCL-HKSAR
S240	Sound Level Calibrator	500563	NIM-PRC & SCL-HKSAR
S041	Universal Counter	405317	SCL-HKSAR
S206	Sound Level Meter	405322	SCL-HKSAR

The values given in this Calibration Certificate only relate to the values measured at the time of the test and any uncertainties quoted will not include allowance for the equipment long term drift, variations with environmental changes, vibration and shock during transportation, overloading, mis-handling, or the capability of any other laboratory to repeat the measurement. Hong Kong Calibration Ltd. shall not be liable for any loss or damage resulting from the use of the equipment.

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

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

Calibrated by : 
Dorothy Cheuk

Approved by : 
Steve Kwan

Date: 6-Mar-15

This Certificate is issued by
Hong Kong Calibration Ltd.
Unit 8B, 24/F., Well Fung Industrial Centre, No. 58-76, Ta Chuen Ping Street, Kwai Chung, NT, Hong Kong.
Tel: 2425 8801 Fax: 2425 8846



Calibration Certificate

Certificate No. 501438

Page 2 of 2 Pages

Results :

1. Level Accuracy

UUT Setting (dB)	Measured Value (dB)		IEC 942. Class 1 Spec ± 0.3 dB
	Before Adjust.	After Adjust.	
94.0	* 94.9	94.0	

Uncertainty : ± 0.2 dB

2. Frequency Accuracy

UUT Nominal Value (kHz)	Measured Value (kHz)	IEC 942 Class 1 Spec.
1.000	1.0000	± 2 %

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

3. Level Stability : 0.0 dB

IEC 942 Class 1 Spec.: ± 0.1 dB

Uncertainty : ± 0.01 dB

4. Total Harmonic Distortion : < 2.6 %

IEC 942 Class 1 Spec. : < 3 %

Uncertainty : ± 2.3 % of rdg.

Remark : 1. UUT : Unit-Under-Test

2. The above measured values were the mean of 3 measurements.

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

4. Atmospheric Pressure : 1006 hPa.

----- END -----



Calibration Certificate

Certificate No. 505086

Page 1 of 4 Pages

Customer : ETS-Testconsult Limited

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

Order No. : Q51999

Date of receipt : 15-Jun-15

Item Tested

Description : Sound Level Meter (ET/EN/003/15)

Manufacturer : Rion

Model : NL-52

Serial No. : FADED

Test Conditions

Date of Test : 30-Jun-15

Supply Voltage : --

Ambient Temperature : (23 ± 3)°C

Relative Humidity : (50 ± 25) %

Test Specifications

Calibration check.

Ref. Document/Procedure: Z01, IEC 61672.

Test Results

All results were within the IEC 61672 Type1 specification.

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

Main Test equipment used:

Equipment No.	Description	Cert. No.	Traceable to
S017	Multi-Function Generator	C147450	SCL-HKSAR
S240	Sound Level Calibrator	500563	NIM-PRC & SCL-HKSAR

The values given in this Calibration Certificate only relate to the values measured at the time of the test and any uncertainties quoted will not include allowance for the equipment long term drift, variations with environmental changes, vibration and shock during transportation, overloading, mis-handling, or the capability of any other laboratory to repeat the measurement. Hong Kong Calibration Ltd. shall not be liable for any loss or damage resulting from the use of the equipment.

The test equipment used for calibration are traceable to International System of Units (SI).
The test results apply to the above Unit-Under-Test only

Calibrated by : 
Dorothy Cheuk

Approved by : 
Steve Kwan

Date: 30-Jun-15

This Certificate is issued by:
Hong Kong Calibration Ltd.
Unit 8B, 24/F., Well Fung Industrial Centre, No. 58-76, Ta Chuen Ping Street, Kwai Chung, NT, Hong Kong.
Tel: 2425 8801 Fax: 2425 8546



Calibration Certificate

Certificate No. 505086

Page 2 of 4 Pages

Results :

1. Self-generated noise: 13.5 dBA (Mfr's Spec \leq 17 dBA)

2. Acoustical signal test

UUT Setting				Applied Value (dB)	UUT Reading (dB)
Range (dB)	Frequency Weighting	Time Weighting	Octave Filter		
30-130	A	F	OFF	94.0	93.7
		S	OFF		93.7
	C	F	OFF		93.7
	Z	F	OFF		93.7
	A	F	OFF	114.0	113.7
			OFF		113.7
		C	OFF		113.7
		Z	OFF		113.7

IEC 61672 Type 1 Spec. : \pm 1.1 dB

Uncertainty : \pm 0.1 dB

3 Electrical signal tests of frequency weightings (A weighting)

Frequency	Attenuation (dB)	IEC 61672 Type 1 Spec.
31.5 Hz	-39.7	- 39.4 dB, \pm 2 dB
63 Hz	-26.2	- 26.2 dB, \pm 1.5 dB
125 Hz	-16.1	- 16.1 dB, \pm 1.5 dB
250 Hz	-8.6	- 8.6 dB, \pm 1 dB
500 Hz	-3.2	- 3.2 dB, \pm 1.4 dB
1 kHz	0.0 (Ref)	0 dB, \pm 1.1 dB
2 kHz	+1.1	+ 1.2 dB, \pm 1.6 dB
4 kHz	+0.7	+ 1.0 dB, \pm 1.6 dB
8 kHz	-1.1	- 1.1 dB, + 2.1 dB \sim -3.1 dB
16 kHz	-8.5	- 6.6 dB, + 3.5 dB \sim - 17.0 dB

Uncertainty : \pm 0.1 dB



Calibration Certificate

Certificate No. 505086

Page 3 of 4 Pages

4. Frequency & Time weightings at 1 kHz

4.1 Frequency Weighting (Fast)

UUT Setting	Applied Value (dB)	UUT Reading (dB)	Difference (dB)	IEC 61672 Type 1 Spec.
A	94.0	93.7 (Ref.)	--	± 0.4 dB
C	94.0	93.7	0.0	
Z	94.0	93.7	0.0	

4.2 Time Weighting (A-weighted)

UUT Setting	Applied Value (dB)	UUT Reading (dB)	Difference (dB)	IEC 61672 Type 1 Spec.
Fast	94.0	93.7 (Ref.)	--	± 0.3 dB
Slow	94.0	93.7	0.0	
Time-averaging	94.0	93.7	0.0	

Uncertainty : ± 0.1 dB

5. Level linearity on the reference level range

UUT Range	Applied Value (dB)	UUT Reading (dB)	Difference (dB)	IEC 61672 Type 1 Spec.
30-130 dB (Ref Level)	129.0	129.0	0.0	± 1.1 dB
	124.0	124.0	0.0	
	119.0	119.0	0.0	
	114.0	113.7 (Ref)	--	
	109.0	109.0	0.0	
	104.0	104.0	0.0	
	99.0	99.0	0.0	
	94.0	94.0	0.0	
	89.0	89.0	0.0	
	84.0	84.0	0.0	
	79.0	79.0	0.0	
	74.0	74.0	0.0	
	69.0	69.0	0.0	
	64.0	64.0	0.0	
	59.0	59.0	0.0	
	54.0	54.0	0.0	
	49.0	49.0	0.0	
44.0	44.0	0.0		

Uncertainty : ± 0.1 dB



Calibration Certificate

Certificate No. 505086

Page 4 of 4 Pages

6. Toneburst response (4kHz)

UUT Setting	Tone Burst Duration(ms)	UUT Reading(dB)	Difference (dB)	IEC 61672 Type 1 Spec.
Fast	Steady	127.0(Ref)	--	---
	200	126.0	0.0	-1.0 ± 0.8dB
	2	108.9	-18.1	-18.0, +1.3 dB ~ -1.8 dB
	0.25	99.9	-27.1	-27.0, +1.3 dB ~ -3.3 dB
Slow	Steady	127.0(Ref)	--	---
	200	119.5	-7.5	-7.4 ± 0.8dB
	2	99.9	-27.1	-27.0, +1.3 dB ~ -3.3 dB
Time averaging	Steady	127.0(Ref)	--	---
	200	120.4	-6.6	-7.0±0.8dB
	2	100.2	-26.8	-27.0, +1.3 dB ~ -1.8 dB
	0.25	92.7	-34.3	-36.0, +1.3 dB ~ -3.3 dB

Uncertainty : ± 0.1 dB

7. Overload indication (30-130 dB range, A-weighted, Time-average, 4kHz)

UUT Reading at overload (dB)		Difference (dB)	IEC 61672 Type 1 Spec.
+ ve one half cycle	- ve one half cycle		
136.8	136.8	0.0	< 1.8 dB

The overload indicator latched on until reset

Uncertainty : ± 0.1 dB

Remarks : 1. UUT : Unit-Under-Test

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

3. Atmospheric Pressure : 1012 hPa.

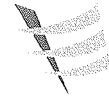
4. Preamplifier model : NH-25 , S/N : 20852

5. Firmware Version: 1.2

6. Power Supply Check: OK

7. The UUT was adjusted with the laboratory's sound calibrator at the reference sound pressure level before the calibration.

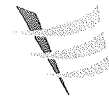
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Appendix I

C2

Impact Noise Monitoring Results



Day-time Noise Monitoring

Monitoring Location: TKO-N1 (Site Egress)

Date	Start Sampling Time (hh:mm)	Noise Level dB (A)			Wind Speed (m/s)	Weather Condition
		L _{eq} (30min)	L ₁₀	L ₉₀		
17/02/16	11:30	68.3	71.2	63.6	0.4	Cloudy



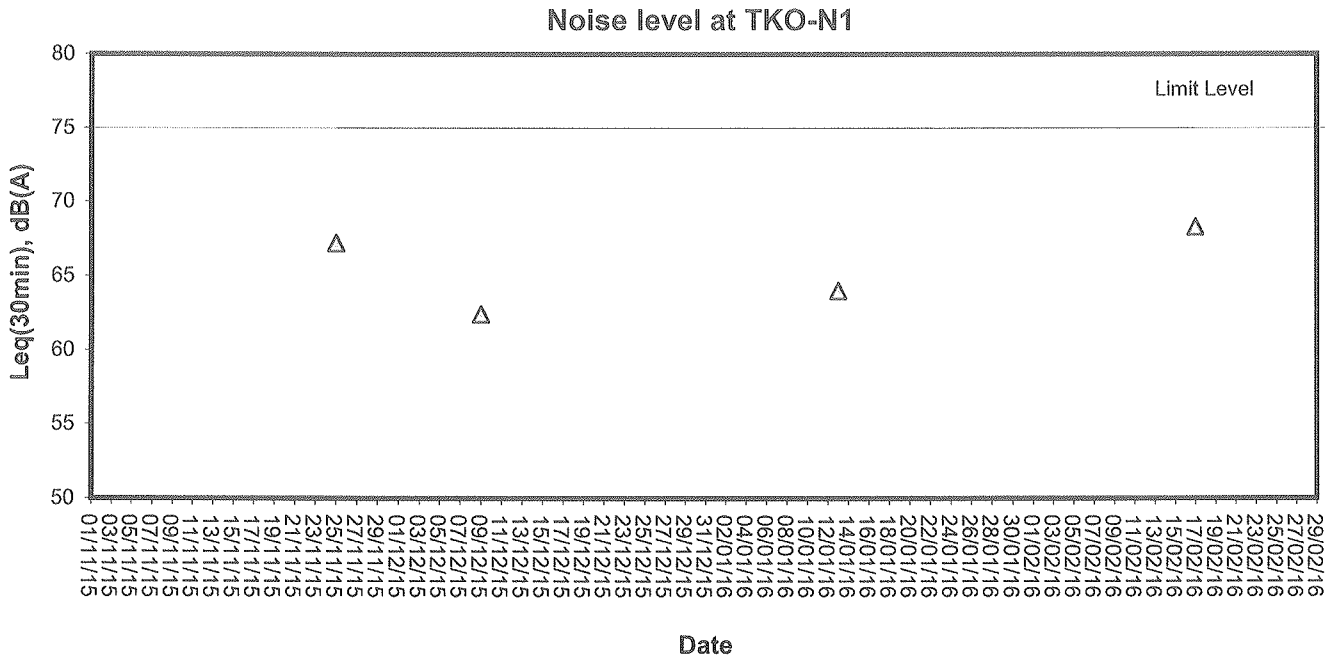
Appendix I

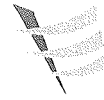
C3

Graphical Plots of Impact Noise Monitoring Data



Noise Monitoring (Day-time)





Appendix I

D1

Calibration Certificates for Impact Marine Water Quality Monitoring Equipments



Internal Calibration Report of Dissolved Oxygen Meter

Equipment Ref. No. : <u>ET/EW/008/001</u>	Manufacturer : <u>YSI</u>
Model No. : <u>85</u>	Serial No. : <u>05L 1285</u>
Date of Calibration : <u>30/01/2016</u>	Calibration Due Date : <u>29/04/2016</u>

Temperature Verification

Ref. No. of Reference Thermometer : ET/0521/017

Ref. No. of Water Bath : ---

		Temperature (°C)		
Reference Thermometer reading	Measured	20.0	Corrected	19.9
DO Meter reading	Measured	20.0	Difference	-0.1

Standardization of sodium thiosulphate (Na₂S₂O₃) solution

Reagent No. of Na ₂ S ₂ O ₃ titrant	CPE/012/4.5/001/13	Reagent No. of 0.025N K ₂ Cr ₂ O ₇	CPE/012/4.4/002/06
		Trial 1	Trial 2
Initial Vol. of Na ₂ S ₂ O ₃ (ml)		0.00	10.20
Final Vol. of Na ₂ S ₂ O ₃ (ml)		10.20	20.50
Vol. of Na ₂ S ₂ O ₃ used (ml)		10.20	10.30
Normality of Na ₂ S ₂ O ₃ solution (N)		0.02451	0.02427
Average Normality (N) of Na ₂ S ₂ O ₃ solution (N)		0.02439	
Acceptance criteria, Deviation		Less than ± 0.001N	

Calculation: Normality of Na₂S₂O₃, N = 0.25 / ml Na₂S₂O₃ used

Linearity Checking

Determination of dissolved oxygen content by Winkler Titration *

Purging Time (min)	2		5		10	
	1	2	1	2	1	2
Initial Vol. of Na ₂ S ₂ O ₃ (ml)	0.00	11.10	22.00	0.00	6.90	10.40
Final Vol. of Na ₂ S ₂ O ₃ (ml)	11.10	22.00	28.80	6.90	10.40	14.20
Vol. (V) of Na ₂ S ₂ O ₃ used (ml)	11.10	10.90	6.80	6.90	3.50	3.80
Dissolved Oxygen (DO), mg/L	7.27	7.14	4.45	4.52	2.29	2.49
Acceptance criteria, Deviation	Less than + 0.3mg/L		Less than + 0.3mg/L		Less than + 0.3mg/L	

Calculation: DO (mg/L) = V x N x 8000/298

Purging time, min	DO meter reading, mg/L			Winkler Titration result *, mg/L			Difference (%) of DO Content
	1	2	Average	1	2	Average	
2	7.28	7.31	7.30	7.27	7.14	7.21	1.24
5	4.22	4.26	4.24	4.45	4.52	4.49	5.73
10	2.28	2.33	2.31	2.29	2.49	2.39	3.40
Linear regression coefficient				0.9969			



Internal Calibration Report of Dissolved Oxygen Meter

Zero Point Checking

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

Salinity Checking

Reagent No. of NaCl (10ppt)	CPE/012/4.7/003/14	Reagent No. of NaCl (30ppt)	CPE/012/4.8/003/14
-----------------------------	--------------------	-----------------------------	--------------------

Determination of dissolved oxygen content by Winkler Titration **

Salinity (ppt)	10		30	
	1	2	1	2
Initial Vol. of Na ₂ S ₂ O ₃ (ml)	0.00	11.40	22.80	32.50
Final Vol. of Na ₂ S ₂ O ₃ (ml)	11.40	22.80	32.50	42.10
Vol. (V) of Na ₂ S ₂ O ₃ used (ml)	11.40	11.40	9.70	9.60
Dissolved Oxygen (DO), mg/L	7.46	7.46	6.35	6.29
Acceptance criteria, Deviation	Less than + 0.3mg/L		Less than + 0.3mg/L	

Calculation: DO (mg/L) = V x N x 8000/298

Salinity (ppt)	DO meter reading, mg/L			Winkler Titration result**, mg/L			Difference (%) of DO Content
	1	2	Average	1	2	Average	
10	7.22	7.29	7.26	7.46	7.46	7.46	2.72
30	6.44	6.40	6.42	6.35	6.29	6.32	1.57

Acceptance Criteria

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

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

[#] Delete as appropriate

Calibrated by :

Approved by :



Performance Check of Salinity Meter

Equipment Ref. No. : ET/EW/008/001 Manufacturer : YSI
 Model No. : 85 Serial No. : 05L 1285
 Date of Calibration : 26/1/2016 Due Date : 25/2/2016

Ref. No. of Salinity Standard used (30ppt)	S/001/6
--	---------

Salinity Standard (ppt)	Measured Salinity (ppt)	Difference * (%)
30.0	30.6	2.00

(*) Difference (%) = (Measured Salinity – Salinity Standard value) / Salinity Standard value x 100

Acceptance Criteria

Difference : -10 % to 10 %

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

Checked by :  Approved by : 



Performance Check of Turbidity Meter

Equipment Ref. No. : ET/0505/010 Manufacturer : HACH
 Model No. : 2100Q Serial No. : 11110 C 014260
 Date of Calibration : 30/12/2015 Due Date : 29/03/2015 ²⁰¹⁶ *ide*

Ref. No. of Turbidity Standard used (4000NTU)

005/6.1/001/8

Theoretical Value of Turbidity Standard (NTU)	Measured Value (NTU)	Difference % *
20	20.6	3.00
100	97.2	-2.80
800	780	-2.50

(*) Difference = (Measured Value – Theoretical Value) / Theoretical Value x 100

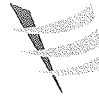
Acceptance Criteria

Difference : -5 % to 5 %

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

Prepared by : 

Checked by : 



Appendix I

D2

Impact Marine Water Quality Monitoring Results

Mid-Flood Tide



英德测试顾问有限公司
ETS-TESTCONSULT LIMITED

Monitoring Station : TKO-C1

Date	Sampling Duration	Ambient Temp (°C) / Weather Condition	Monitoring Depth (m)		Temp (°C)	Salinity (ppt)		Dissolved Oxygen (mg/L)			Dissolved Oxygen Saturation (%)			Turbidity (NTU)			Suspended Solids (mg/L)		
			Surface	Bottom		Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average
01/02/16	1030-1048	12/Cloudy	Surface	1.0	17.1	30.1	30.1	6.45	6.46	79.9	80.0	4.06	4.07	5.7	6.0	5.4			
			Middle	9.9	16.7	30.2	30.3	6.30	6.31	77.8	77.9	4.15	4.16	5.3	5.2				
			Bottom	18.7	16.6	30.4	30.5	6.25	6.26	76.9	77.0	4.30	4.31	5.0	5.0				
03/02/16	1230-1247	12/Cloudy	Surface	1.0	17.9	31.5	31.5	6.28	6.27	80.1	80.0	3.52	3.55	5.3	5.0	5.0			
			Middle	9.9	17.7	31.6	31.7	6.17	6.16	78.7	78.5	3.42	3.45	4.4	4.5				
			Bottom	18.9	17.6	31.8	31.9	6.11	6.09	77.9	77.7	3.77	3.74	6.0	5.6				
05/02/16	1400-1418	13/Cloudy	Surface	1.0	17.8	31.5	31.5	6.17	6.16	78.4	78.5	3.70	3.66	5.6	5.4	5.4			
			Middle	9.8	17.8	31.6	31.7	6.08	6.09	77.5	77.6	3.59	3.57	5.0	5.0				
			Bottom	18.6	17.7	31.9	32.0	5.93	5.94	75.5	75.7	3.94	3.99	6.3	6.0				
12/02/16	0900-0913	17/Cloudy	Surface	1.0	17.9	31.5	31.6	6.23	6.22	79.2	79.3	2.61	2.57	3.1	3.1	3.6			
			Middle	9.9	17.8	31.7	31.8	6.14	6.15	78.3	78.4	2.50	2.48	3.5	3.4				
			Bottom	18.8	17.8	32.0	32.1	6.01	6.00	76.6	76.5	2.94	2.90	4.0	4.3				
15/02/16	1030-1045	13/Cloudy	Surface	1.0	16.3	27.7	27.8	6.04	6.06	72.8	73.0	3.12	3.10	4.7	4.4	4.6			
			Middle	10.7	16.5	27.9	27.9	5.87	5.86	71.1	70.9	3.07	3.08	4.0	4.3				
			Bottom	20.4	16.6	28.0	28.0	5.74	5.72	69.7	70.0	3.33	3.35	5.3	5.2				
17/02/16	1230-1247	14/Cloudy	Surface	1.0	15.4	27.3	27.4	6.56	6.54	77.5	77.2	2.98	3.02	3.6	4.1	4.7			
			Middle	9.8	15.3	27.6	27.6	6.43	6.42	76.0	75.8	3.39	3.42	4.4	5.0				
			Bottom	18.6	15.2	27.8	27.9	6.26	6.24	73.9	73.7	3.68	3.73	5.2	5.1				
19/02/16	1430-1441	15/Cloudy	Surface	1.0	15.3	28.4	28.4	7.27	7.28	86.6	86.5	2.34	2.32	3.7	3.6	3.5			
			Middle	9.8	15.2	28.5	28.6	7.23	7.22	85.7	85.6	2.30	2.50	3.4	3.1				
			Bottom	18.6	15.1	28.7	28.7	7.19	7.18	85.4	85.0	2.56	2.63	3.2	4.0				
22/02/16	1700-1717	16/Cloudy	Surface	1.0	15.5	28.2	28.2	7.13	7.12	84.9	84.8	2.61	2.49	3.4	3.4	3.6			
			Middle	9.8	15.4	28.4	28.4	6.99	6.98	83.3	83.2	2.66	2.69	3.3	3.6				
			Bottom	18.6	15.3	28.7	28.7	6.86	6.88	82.3	82.1	2.84	2.82	4.0	3.8				

Mid-Flood Tide

Monitoring Station : TKO-C1

Date	Sampling Duration	Ambient Temp (°C) / Weather Condition	Monitoring Depth (m)	Temp (°C)	Salinity (ppt)		Dissolved Oxygen (mg/L)		Dissolved Oxygen Saturation (%)		Turbidity (NTU)		Suspended Solids (mg/L)	
					Value	Average	Value	Average	Value	Average	Value	Average	Value	Average
24/02/16	0800-0818	16/Cloudy	Surface	15.4	27.9	28.0	7.19	7.20	85.4	85.5	2.31	2.30	3.5	3.4
				15.2	28.0	7.21	7.10	85.6	2.29	3.2				
			Middle	15.2	28.1	7.11	7.10	84.1	2.45	2.9	2.44	3.2		
				15.1	28.2	7.09	6.93	83.9	2.47	3.5				
			Bottom	15.1	28.3	6.92	6.93	81.7	2.55	3.3	2.56	3.6		
				15.8	28.4	6.94	6.86	81.9	2.57	3.9	2.20	3.4		
26/02/16	0815-0832	15/Cloudy	Surface	15.6	27.5	27.5	6.87	6.68	86.4	86.3	2.26	2.20	3.6	3.4
				15.4	27.7	27.8	6.85	6.68	86.1	2.14	3.2			
			Middle	15.4	27.8	6.67	6.68	83.9	2.37	3.1	2.41	3.4		
				15.5	27.8	6.69	6.54	84.3	2.44	3.7	2.42	3.4		
			Bottom	15.4	27.9	6.52	6.54	81.9	2.63	4.2	2.66	3.9		
				15.5	28.0	6.55	6.94	82.4	2.69	3.6	2.40	3.1		
29/02/16	0900-0918	16/Cloudy	Surface	15.3	27.5	27.5	6.93	6.76	82.2	82.3	2.39	2.40	3.1	3.1
				15.2	27.5	6.95	6.85	82.4	2.41	3.1				
			Middle	15.3	27.6	6.77	6.76	79.8	2.55	4.1	2.56	4.0		
				15.2	27.7	6.75	6.59	79.6	2.57	3.9	2.54	4.0		
			Bottom	15.2	27.8	6.58	6.59	77.4	2.64	4.0	2.65	3.9		
				15.2	27.9	6.60	6.59	77.6	2.66	3.7	6.59	3.7		

Mid-Flood Tide



永業維動測試顧問有限公司
ETS-TESTCONSULT LIMITED

Monitoring Station : TKO-M4

Date	Sampling Duration	Ambient Temp (°C) / Weather Condition	Monitoring Depth (m)		Temp (°C)	Salinity (ppt)		Dissolved Oxygen (mg/L)			Dissolved Oxygen Saturation (%)			Turbidity (NTU)			Suspended Solids (mg/L)		
			Surface	Bottom		Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average
01/02/16	1206-1230	12/Cloudy	Surface	1.0	17.0	30.1	30.1	6.63	6.64	82.2	82.3	3.80	3.81	6.3	6.3	5.5	5.3	3.97	5.5
			Middle	4.3	16.8	30.2	30.2	6.36	6.37	78.5	78.6	3.94	3.95	4.7	4.7				
			Bottom	7.6	16.6	30.4	30.4	6.38	6.30	78.7	77.5	3.96	4.14	5.5	5.0				
03/02/16	1359-1417	12/Cloudy	Surface	1.0	17.8	31.6	31.6	6.23	6.22	79.5	79.3	3.41	3.45	4.8	4.8	4.9	4.8	3.55	4.6
			Middle	4.5	17.7	31.6	31.7	6.15	6.17	78.5	78.6	3.53	3.51	4.6	4.5				
			Bottom	7.9	17.6	31.7	31.8	6.12	6.12	78.1	78.1	3.68	3.71	4.8	5.2				
05/02/16	1540-1600	13/Cloudy	Surface	1.0	17.7	31.5	31.6	6.26	6.28	79.9	80.1	3.51	3.53	5.6	5.6	5.0	5.3	3.64	5.1
			Middle	4.2	17.6	31.5	31.6	6.39	6.39	81.4	81.4	3.58	3.62	4.7	4.7				
			Bottom	7.4	17.5	31.7	31.7	6.06	6.05	77.2	77.0	3.65	3.78	5.5	5.3				
12/02/16	1015-1030	17/Cloudy	Surface	1.0	17.8	31.7	31.7	6.32	6.34	80.7	81.0	2.43	2.45	3.1	3.1	3.9	3.5	2.55	3.5
			Middle	4.3	17.7	31.7	31.8	6.36	6.45	81.2	82.2	2.46	2.53	3.9	3.7				
			Bottom	7.6	17.6	31.8	31.8	6.44	6.11	82.1	77.8	2.56	2.69	3.3	3.3				
15/02/16	1155-1210	13/Cloudy	Surface	1.0	16.4	27.7	27.7	5.97	5.96	72.1	71.9	2.95	2.93	4.1	4.1	4.4	4.0	3.03	4.1
			Middle	4.8	16.6	27.8	27.8	5.94	5.72	69.6	69.3	3.12	3.10	4.1	4.7				
			Bottom	8.6	16.6	27.9	27.9	5.70	5.68	69.0	68.9	3.08	3.06	4.7	4.6				
17/02/16	1405-1424	14/Cloudy	Surface	1.0	15.3	27.3	27.3	6.73	6.71	79.5	79.3	2.83	2.89	4.5	4.5	4.0	4.2	3.18	4.1
			Middle	4.4	15.3	27.4	27.5	6.69	6.57	79.1	77.6	2.95	3.12	3.8	3.8				
			Bottom	7.8	15.3	27.5	27.7	6.58	6.37	77.8	75.3	3.16	3.53	4.3	4.5				
19/02/16	1528-1539	15/Cloudy	Surface	1.0	15.1	28.2	28.3	7.64	7.63	91.0	90.9	0.95	1.05	1.2	1.2	1.5	1.4	1.24	1.9
			Middle	5.3	15.1	28.3	28.3	7.63	7.66	90.8	90.0	1.15	1.26	1.5	1.7				
			Bottom	9.6	15.0	28.2	28.4	7.68	7.52	89.7	86.7	1.29	1.40	1.8	1.8				
22/02/16	1832-1850	16/Cloudy	Surface	1.0	15.5	28.2	28.2	7.51	7.46	86.5	88.9	1.38	1.42	1.9	1.9	1.9	1.9	1.68	2.5
			Middle	5.2	15.5	28.3	28.3	7.29	7.27	86.8	86.6	1.45	1.71	1.9	2.3				
			Bottom	9.4	15.4	28.4	28.4	7.24	7.18	85.9	85.7	1.75	1.92	3.0	2.6				

Mid-Flood Tide



東業律動測試顧問有限公司
ETS-TESTCONSULT LIMITED

Monitoring Station : TKO-M4

Date	Sampling Duration	Ambient Temp (°C) / Weather Condition	Monitoring Depth (m)	Temp (°C)	Salinity (ppt)		Dissolved Oxygen (mg/L)		Dissolved Oxygen Saturation (%)			Turbidity (NTU)			Suspended Solids (mg/L)		
					Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Depth-average	Value	Average
24/02/16	0937-1000	16/Cloudy	Surface	15.5	28.1	28.1	7.36	7.35	87.5	87.4	2.24	2.25	3.1	2.9	3.2		
			Middle	15.3	27.9	28.0	7.34	7.20	85.3	85.2	2.26	2.34	2.7	3.5			
			Bottom	15.1	28.3	28.3	7.21	7.00	85.1	82.5	2.33	2.47	3.7	3.2			
26/02/16	0934-0950	15/Cloudy	Surface	15.6	27.5	27.6	6.99	6.64	82.4	83.5	2.46	2.05	3.0	3.0	2.9		
			Middle	15.7	27.7	27.7	7.01	6.57	82.6	82.7	2.03	2.15	2.6	2.9			
			Bottom	15.5	27.8	27.8	6.63	6.48	83.4	81.5	2.07	2.28	3.2	2.9			
29/02/16	1036-1100	16/Cloudy	Surface	15.4	27.5	27.6	6.56	6.84	81.6	81.1	2.31	2.46	2.9	3.2	3.5		
			Middle	15.2	27.4	27.4	6.58	6.66	81.3	78.6	2.24	2.59	2.8	3.7			
			Bottom	15.0	27.2	27.2	6.42	6.41	75.5	75.4	2.73	2.74	3.8	3.7			
					27.2	27.2	6.40	6.41	75.3	2.75	2.75	3.6	3.7				

Mid-Ebb Tide

Monitoring Station : TKO-C1



取業德勤測試顧問有限公司
ETS-TESTCONSULT LIMITED

Date	Sampling Duration	Ambient Temp (°C) / Weather Condition	Monitoring Depth (m)	Temp (°C)	Salinity (ppt)		Dissolved Oxygen (mg/L)			Dissolved Oxygen Saturation (%)			Turbidity (NTU)			Suspended Solids (mg/L)		
					Value	Average	Value	Average	Depth-average	Value	Average	Value	Average	Depth-average	Value	Average	Depth-average	
01/02/16	1700-1718	12/Cloudy	Surface	17.0	30.1	6.37	6.38	6.31	78.9	79.0	4.16	4.17	5.0	5.5	5.9			
			Middle	16.8	30.2	6.25	6.24	6.31	79.1	71.1	4.18	4.34	6.0	6.3				
			Bottom	16.5	30.3	6.23	6.16	6.16	71.0	75.8	4.33	4.51	5.7	5.9				
03/02/16	0810-0823	12/Cloudy	Surface	17.8	31.2	6.03	6.04	6.01	75.9	76.9	4.50	3.69	5.6	5.0	5.4			
			Middle	17.7	31.3	5.96	5.97	6.01	77.0	76.0	3.73	3.60	5.6	5.1				
			Bottom	17.6	31.4	5.98	5.82	5.82	76.1	74.0	3.62	4.02	5.1	6.1				
05/02/16	0900-0918	13/Cloudy	Surface	17.7	31.5	6.11	6.10	6.07	73.9	77.7	3.97	3.75	5.7	5.5	5.4			
			Middle	17.6	31.6	6.04	6.03	6.07	74.1	77.7	4.06	3.66	5.7	5.2				
			Bottom	17.6	31.7	5.89	5.88	5.88	77.8	76.8	3.79	3.66	5.2	5.3				
12/02/16	1400-1418	17/Cloudy	Surface	17.9	31.6	6.14	6.13	6.10	76.9	78.2	2.67	2.63	3.5	3.7	3.8			
			Middle	17.9	31.8	6.07	6.06	6.10	77.2	77.3	2.56	2.54	3.9	4.0				
			Bottom	17.8	31.9	5.92	5.91	5.91	77.4	75.4	2.51	2.96	4.1	3.7				
15/02/16	1700-1715	13/Cloudy	Surface	16.4	27.8	5.95	5.97	5.85	75.2	72.2	3.11	3.13	4.7	4.3	4.5			
			Middle	16.7	27.9	5.75	5.73	5.85	72.4	69.8	3.15	3.22	3.8	4.8				
			Bottom	16.8	27.9	5.71	5.65	5.65	70.0	68.9	3.24	3.37	4.5	4.4				
17/02/16	1900-1917	13/Cloudy	Surface	15.2	27.3	6.44	6.46	6.38	69.1	76.3	3.35	3.20	4.0	4.7	5.0			
			Middle	15.2	27.4	6.32	6.30	6.38	76.1	74.5	3.15	3.53	4.4	5.0				
			Bottom	15.1	27.5	6.28	6.18	6.18	74.7	73.1	3.49	3.81	4.5	5.4				
19/02/16	0930-0948	15/Cloudy	Surface	15.8	27.8	6.18	6.19	6.15	72.8	78.0	3.75	2.57	5.3	3.5	3.7			
			Middle	15.6	27.9	6.12	6.11	6.15	77.9	77.1	2.54	2.65	3.3	3.6				
			Bottom	15.5	28.0	6.10	6.05	6.05	77.2	76.4	2.61	2.89	3.9	3.9				
22/02/16	1130-1147	16/Fog	Surface	15.6	28.3	7.04	7.02	6.95	76.1	83.7	2.91	2.72	3.8	3.7	4.0			
			Middle	15.5	28.3	6.99	6.89	6.95	76.6	82.1	2.68	2.89	3.2	4.2				
			Bottom	15.4	28.5	6.83	6.82	6.82	84.0	81.5	2.75	2.75	4.1	4.2				

Mid-Ebb Tide

Monitoring Station : TKO-C1



榮業 檢測 試驗 顧問 有限公司
ETS-TESTCONSULT LIMITED

Date	Sampling Duration	Ambient Temp (°C) / Weather Condition	Monitoring Depth (m)		Temp (°C)	Salinity (ppt)		Dissolved Oxygen (mg/L)			Dissolved Oxygen Saturation (%)			Turbidity (NTU)			Suspended Solids (mg/L)		
			Surface	Bottom		Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average
24/02/16	1230-1248	16/Cloudy	Surface	1.0	15.5	28.1	28.2	6.94	6.95	82.5	82.6	2.41	2.42	3.4	3.4				
						28.2		6.96		82.7		2.43		3.4					
						28.3		6.81		80.5		2.50		3.0					
			Middle	9.8	15.4	28.4	28.4	6.79	6.80	80.3	80.4	2.52	2.51	3.5	3.3	2.53			
						28.4		6.67		78.7		2.66		4.0					
						28.5		6.69		78.9		2.68		3.2					
			Bottom	18.6	15.2	28.5	28.5	6.67	6.68	78.7	78.8	2.66	2.67	4.0	3.6				
						28.5		6.32		79.3		2.73		3.8					
						27.1		6.33		79.4		2.70		3.6					
26/02/16	1330-1347	15/Cloudy	Surface	1.0	15.6	27.2	27.2	6.26	6.25	78.2	78.4	2.84	2.88	4.0	4.1	2.87			
						27.2		6.24		78.2		2.91		4.1					
						27.3		6.13		76.7		2.98		4.5					
			Middle	9.6	15.4	27.3	27.3	6.12	6.13	76.6	76.7	3.04	3.01	4.9	4.7				
						27.3		6.12		76.6		3.04		4.9					
						27.5		6.74		79.9		2.49		3.7					
			Bottom	18.1	15.3	27.4	27.5	6.72	6.73	79.7	79.8	2.51	2.50	3.5	3.6				
						27.4		6.55		77.3		2.66		3.7					
						27.5		6.53		77.1		2.68		3.8					
29/02/16	1530-1548	16/Cloudy	Surface	1.0	15.4	27.6	27.6	6.36	6.37	74.8	74.9	2.74	2.75	3.6	3.8	2.64			
						27.6		6.38		74.9		2.76		3.9					
						27.7		6.54		77.2		2.67		3.7					
			Middle	9.3	15.2	27.8	27.8	6.36	6.37	74.8	74.9	2.74	2.75	3.6	3.8				
						27.8		6.36		74.8		2.74		3.6					
						27.9		6.38		74.9		2.76		3.9					
			Bottom	17.5	15.1	28.0	28.0	6.38	6.37	74.9	74.9	2.76	2.75	3.9	3.8				
						28.0		6.38		74.9		2.76		3.9					
						28.0		6.38		74.9		2.76		3.9					

Mid-Ebb Tide



東業 德 勤 測 試 顧 問 有 限 公 司
ETS-TESTCONSULT LIMITED

Monitoring Station : TKO-M4

Date	Sampling Duration	Ambient Temp (°C) / Weather Condition	Monitoring Depth (m)		Temp (°C)	Salinity (ppt)		Dissolved Oxygen (mg/L)			Dissolved Oxygen Saturation (%)		Turbidity (NTU)			Suspended Solids (mg/L)					
			Surface	Bottom		Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Depth-average	Value	Average	Depth-average
01/02/16	1839-1900	12/Cloudy	Surface	1.0	17.1	30.1	30.2	6.52	6.51	80.8	80.7	3.95	3.94	4.7	4.5	5.5	4.2	4.2	4.13		
			Middle	4.2	16.7	30.3	30.4	6.30	6.31	77.8	77.9	4.12	4.13	5.8	5.6		4.4	4.4			
			Bottom	7.3	16.6	30.4	30.6	6.32	6.24	78.0	76.8	4.14	4.31	5.4	6.5		4.3	6.0			
03/02/16	0914-0929	12/Cloudy	Surface	1.0	17.7	31.3	31.4	6.14	6.16	78.2	78.5	3.54	3.56	4.6	5.2	5.3	5.7	5.7	3.67	5.4	5.1
			Middle	4.3	17.6	31.4	31.4	6.07	6.07	77.3	77.3	3.61	3.65	4.8	5.1		4.4	4.4			
			Bottom	7.6	17.6	31.5	31.5	5.94	5.93	75.6	75.4	3.78	3.81	5.3	5.7		6.1	6.1			
05/02/16	1040-1100	13/Cloudy	Surface	1.0	17.6	31.4	31.5	6.20	6.22	79.1	79.3	3.60	3.62	4.7	4.7	5.1	4.7	4.7	3.73	4.7	4.7
			Middle	4.1	17.6	31.5	31.5	6.33	6.33	80.6	80.6	3.67	3.71	5.1	5.2		5.1	5.1			
			Bottom	7.2	17.5	31.6	31.6	6.32	5.99	80.5	76.2	3.74	3.87	5.2	5.5		5.0	5.0			
12/02/16	1540-1600	17/Cloudy	Surface	1.0	17.9	31.7	31.8	6.27	6.25	79.6	79.9	2.48	2.50	3.5	3.4	3.8	3.5	3.5	2.61	3.3	3.9
			Middle	4.1	17.8	31.8	31.9	6.36	6.35	80.1	81.0	2.52	2.59	3.8	3.9		3.8	3.8			
			Bottom	7.2	17.7	31.9	32.0	6.34	6.02	80.9	76.7	2.62	2.75	4.1	4.2		4.1	4.2			
15/02/16	1825-1840	13/Cloudy	Surface	1.0	16.4	27.7	27.8	6.02	6.04	72.7	72.9	2.87	2.89	4.3	4.1	4.2	4.3	4.3	2.99	3.8	4.0
			Middle	4.4	16.6	27.8	27.8	5.82	5.83	73.1	70.8	2.90	2.93	3.5	4.0		4.4	4.4			
			Bottom	7.8	16.7	27.9	27.9	5.84	5.92	70.9	72.1	2.91	3.14	4.4	4.6		5.0	4.6			
17/02/16	2038-2056	13/Cloudy	Surface	1.0	15.2	27.2	27.2	6.62	6.60	72.3	78.0	3.16	3.11	4.1	4.2	4.7	4.1	4.1	3.36	3.8	4.2
			Middle	4.2	15.2	27.3	27.3	6.47	6.45	76.5	76.3	3.24	3.28	4.6	4.4		4.6	4.6			
			Bottom	7.4	15.2	27.6	27.6	6.33	6.32	74.8	74.6	3.67	3.70	5.5	5.6		5.6	5.6			
19/02/16	1104-1122	15/Cloudy	Surface	1.0	15.8	27.7	27.8	6.13	6.12	77.3	77.1	2.47	2.44	3.0	3.1	3.3	3.0	3.1	2.57	3.1	3.6
			Middle	4.3	15.7	27.9	27.9	6.07	6.07	76.6	76.6	2.58	2.54	3.6	3.6		3.6	3.6			
			Bottom	7.5	15.6	28.0	28.0	6.06	6.00	76.5	75.8	2.50	2.73	3.5	3.3		3.3	3.3			
22/02/16	1305-1323	16/Fog	Surface	1.0	15.6	28.3	28.3	7.41	7.39	88.3	88.0	1.83	1.75	2.9	2.6	2.7	2.9	2.6	1.87	2.3	2.6
			Middle	5.1	15.6	28.2	28.2	7.19	7.21	87.7	85.9	1.66	1.87	2.5	2.6		2.6	2.6			
			Bottom	9.2	15.5	28.4	28.5	7.14	7.13	85.2	85.0	2.04	2.00	3.1	3.0		3.1	3.0			

Mid-Ebb Tide

Monitoring Station : TKO-M4

Date	Sampling Duration	Ambient Temp (°C) / Weather Condition	Monitoring Depth (m)	Temp (°C)	Salinity (ppt)		Dissolved Oxygen (mg/L)			Dissolved Oxygen Saturation (%)			Turbidity (NTU)			Suspended Solids (mg/L)		
					Value	Average	Value	Average	Depth-average	Value	Average	Value	Average	Depth-average	Value	Average	Value	Average
24/02/16	1406-1430	16/Cloudy	Surface	15.6	27.9	28.0	7.16	7.17	7.08	85.1	85.2	2.35	2.36	3.8	3.3			
					28.0		7.18			85.3		2.37		2.8				
					28.1		7.00			82.8		2.49		3.5				
			Middle	15.3	28.2	28.2	6.98	6.99	6.74	82.6	82.7	2.51	2.50	3.8	3.7	2.53	3.7	
					28.2		6.73			79.4		2.72		3.8				
					28.3		6.75			79.2		2.74		4.4				
			Bottom	15.1	28.4	28.4	6.43	6.44	6.40	80.6	80.8	2.37	2.35	3.6	3.4			
					27.2		6.45			80.9		2.32		3.2				
					27.3		6.37			79.9		2.48		3.5				
26/02/16	1454-1513	15/Cloudy	Surface	15.6	27.2	27.2	6.34	6.36	6.28	79.5	79.7	2.41	2.45	3.6	3.6	2.46	3.6	3.5
					27.1		6.29			78.8		2.54		3.6				
					27.1		6.26			78.5		2.61		3.4				
			Middle	15.5	27.6	27.7	6.65	6.66	6.55	78.8	78.9	2.56	2.57	3.6	3.6			
					27.7		6.43			79.0		2.58		3.6				
					27.8		6.47			75.8		2.63		4.2				
29/02/16	1706-1730	16/Cloudy	Surface	15.3	27.9	27.9	6.45	6.44	6.34	76.0	75.9	2.65	2.64	3.7	4.0	2.64	4.0	3.7
					28.0		6.35			74.7		2.71		3.5				
					28.0		6.33			74.5		2.73		3.3				
			Middle	15.0	28.0	28.0	6.34	6.34	6.34	74.7	74.6	2.71	2.72	3.5	3.4			
					28.0		6.35			74.7		2.71		3.5				
					28.0		6.33			74.5		2.73		3.3				
			Bottom	15.0	28.0	28.0	6.33	6.34	6.34	74.5	74.6	2.73	2.72	3.3	3.4			
					28.0		6.35			74.7		2.71		3.5				
					28.0		6.33			74.5		2.73		3.3				



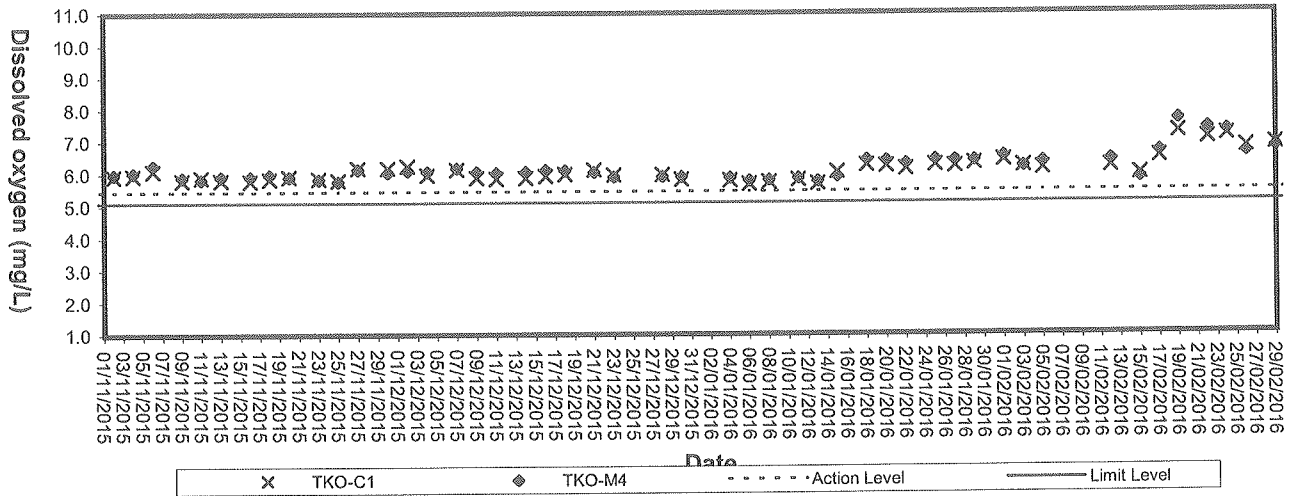
Appendix I

D3

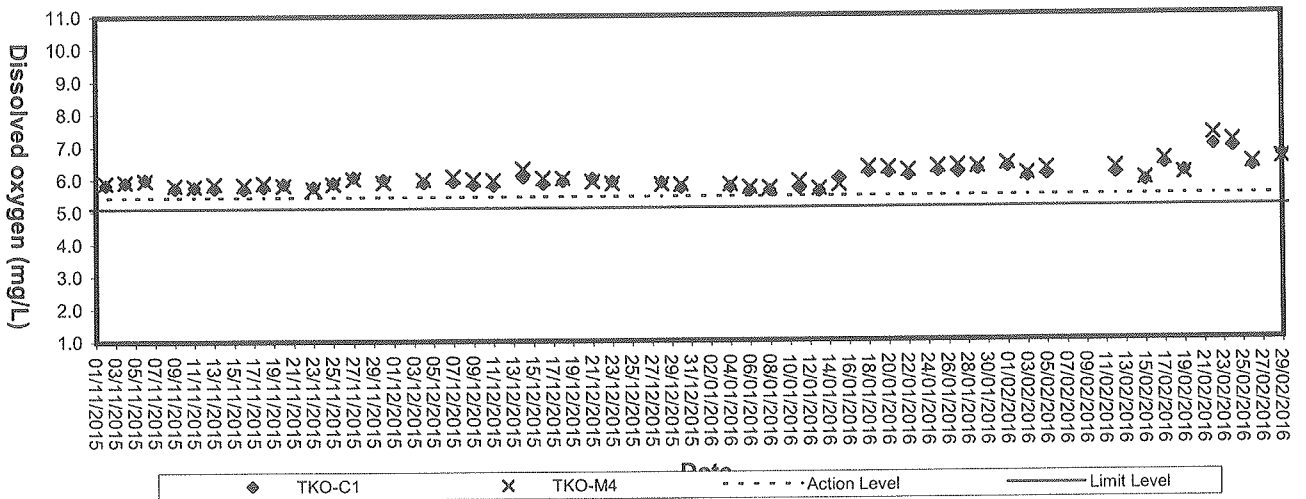
Graphical Plots of Impact Marine Water Quality Monitoring Data

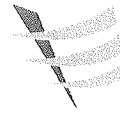


Dissolved Oxygen (Surface & Middle) at Mid-Flood Tide

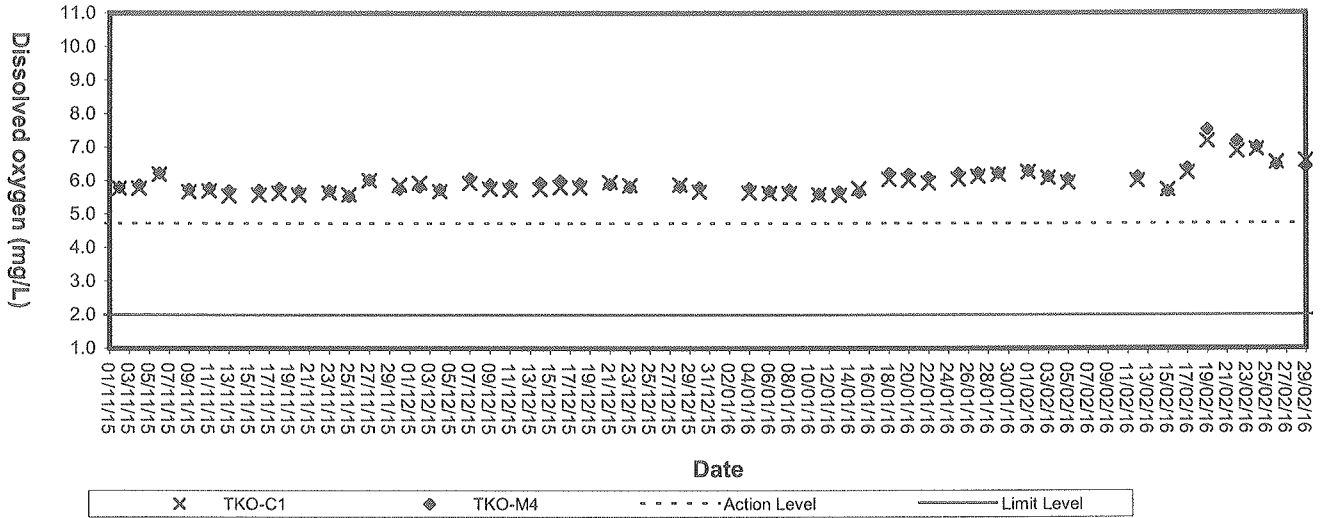


Dissolved Oxygen (Surface & Middle) at Mid-Ebb Tide

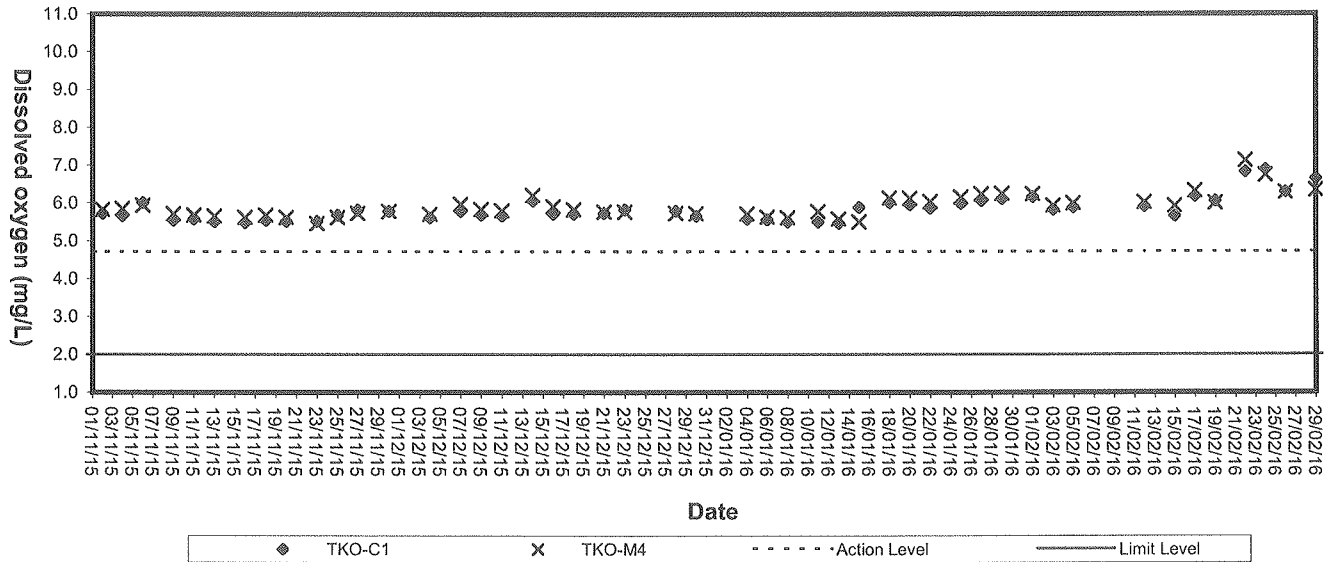




Dissolved Oxygen (Bottom) at Mid-Flood Tide

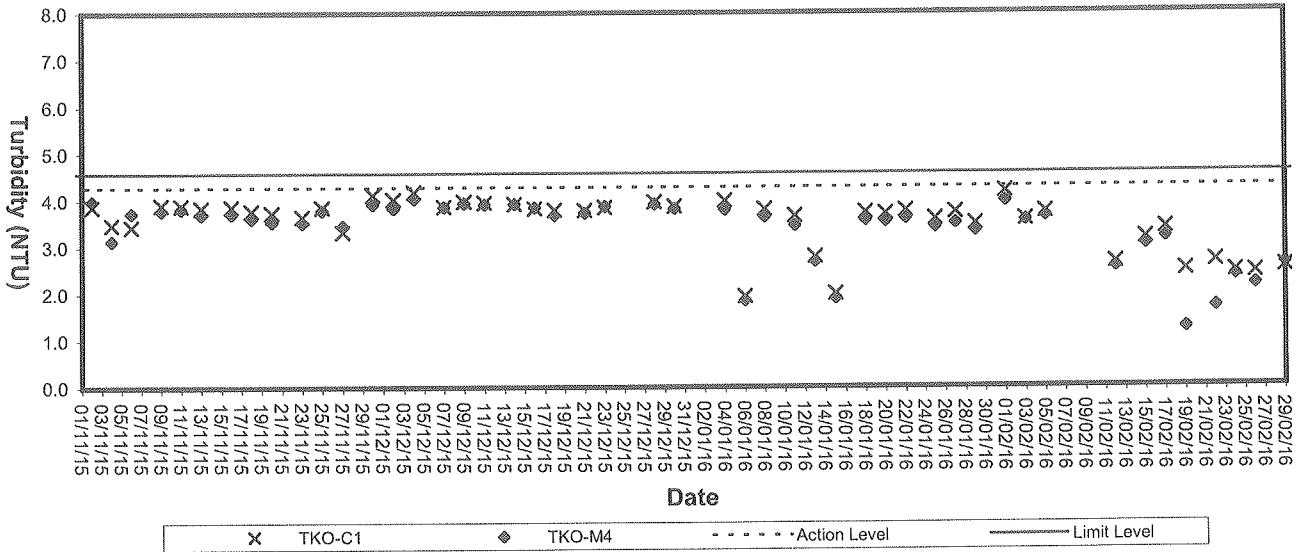


Dissolved Oxygen (Bottom) at Mid-Ebb Tide

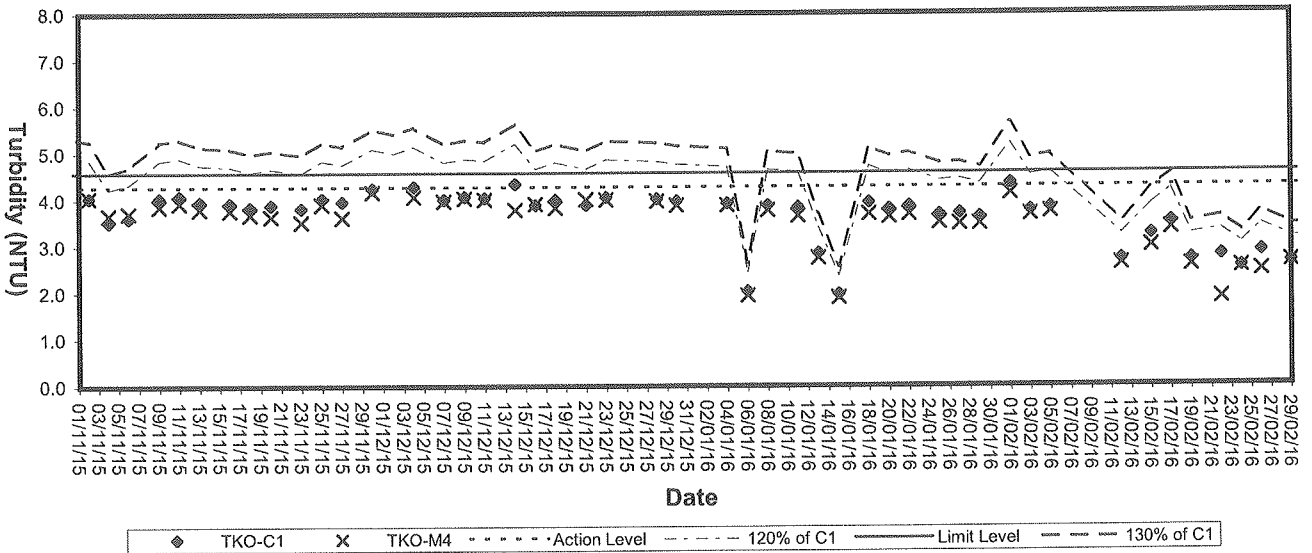


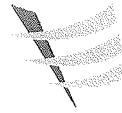


Turbidity (Depth-average) at Mid-Flood Tide

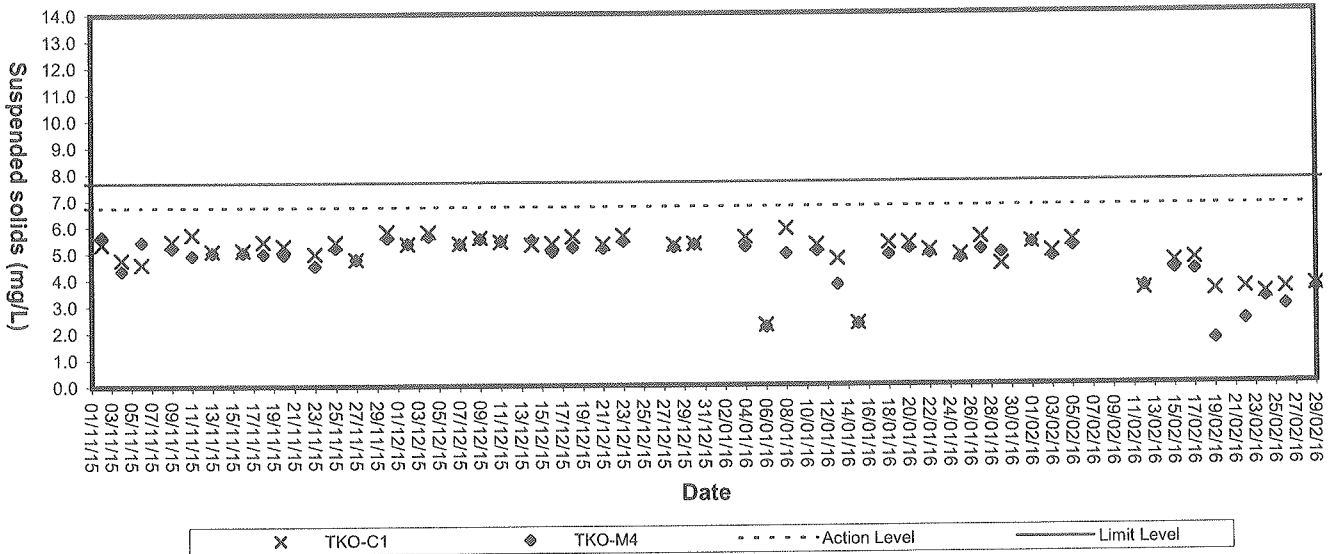


Turbidity (Depth-average) at Mid-Ebb Tide

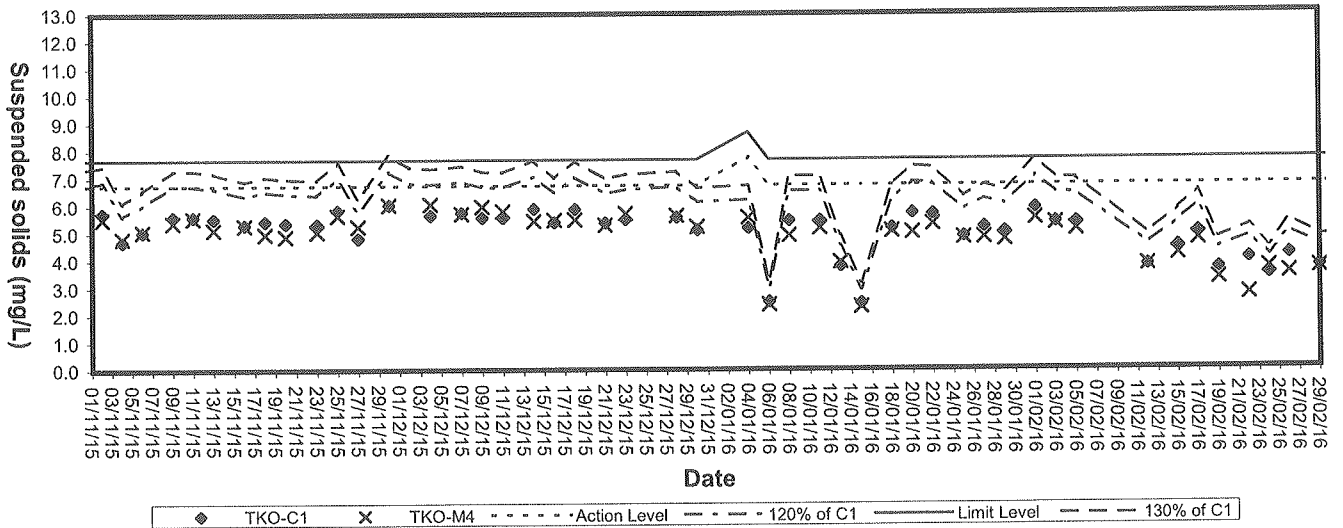


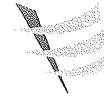


Suspended solids (Depth-average) at Mid-Flood Tide



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





Appendix I

E

Weather Condition

Daily Extract of Meteorological Observations, February 2016 – Tseung Kwan O

Day	Mean Pressure (hPa)	Air Temperature			Mean Dew Point (deg. C)	Mean Relative Humidity (%)	Total Rainfall (mm)	Prevailing Wind Direction (degrees)	Mean Wind Speed (km/h)
		Absolute Daily Max (deg. C)	Mean (deg. C)	Absolute Daily Min (deg. C)					
1	***	14.8	11.4	9.4	10.1	92	10.0	350	7.0
2	***	11.2	9.6	8.8	6.1	79	0.0	330	6.2
3	***	13.9	11.6	9.1	7.4	76	0.0	050	5.5
4	***	19.6	14.4	11.7	11.0	81	0.0	330	3.6
5	***	20.5	14.4	10.3	6.9	63	0.0	340	8.4
6	***	17.8	13.4	10.2	-3.9	31	0.0	360	12.5
7	***	19.8	12.4	8.0	-5.7	32	0.0	350	9.0
8	***	20.7	12.5	6.6	1.2	54	0.0	330	4.4
9	***	22.4	15.8	8.5	5.3	51	0.0	360	4.9
10	***	16.8	15.9	13.2	9.0	64	0.0	350	6.0
11	***	21.3	18.0	16.4	15.9	88	0.5	010	4.0
12	***	18.9	17.8	16.8	17.7	99	0.5	360	3.3
13	***	24.7	21.6	18.9	20.6	94	0.0	150	2.8
14	***	27.4	21.2	15.7	16.9	78	0.0	060	5.0
15	***	15.8	11.8#	10.4	4.4#	60#	0.0	050	9.8
16	***	15.1	12.0	9.9	4.1	59	0.0	050	6.8
17	***	13.8	11.9	10.3	7.3	75	2.5	330	5.2
18	***	14.4	12.7	10.7	11.2	91	3.0	020	4.3
19	***	15.7	14.6	13.6	13.1	91	6.0	010	5.0
20	***	20.4	14.4	11.5	8.9	72	2.0	050	8.0
21	***	15.0	14.3	12.0	10.1	76	0.0	040	8.5
22	***	16.6	15.5	14.2	14.2	92	0.5	060	5.6
23	***	16.0	14.7	12.3	13.5	93	0.5	070	4.6
24	***	15.4	13.0	11.3	8.7	76	0.0	050	6.5
25	***	16.6	14.0	12.5	9.4	74	0.0	050	5.5
26	***	17.7	14.9	13.1	10.7	77	0.0	070	4.6
27	***	20.3	15.4	12.4	11.0	76	0.0	360	4.9
28	***	21.7	15.0	10.1	10.2	76	0.0	360	4.0
29	***	25.8	17.5	11.2	7.9	59	0.0	350	6.9

*** unavailable

data incomplete

Rainfall measured in increment of 0.5 mm. Amount of < 0.5 mm cannot be detected



Appendix I

F

Event-Action Plans

EVENT/ACTION PLAN FOR AIR QUALITY EXCEEDANCE

ACTION

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

LIMIT LEVEL

EVENT/ACTION PLAN FOR AIR QUALITY EXCEEDANCE

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

EVENT/ACTION PLAN FOR NOISE EXCEEDANCE

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

EVENT AND ACTION PLAN FOR WATER QUALITY EXCEEDANCE

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

EVENT AND ACTION PLAN FOR WATER QUALITY

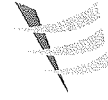
Event	ACTION		
	ET Leader	Contractor	ER
<p>Action level being exceeded by more than one consecutive sampling days</p>	<ol style="list-style-type: none"> 1. Identify source(s) of impact; 2. Repeat in-situ measurement to confirm findings 3. Notify Contractor in writing within 24 hours of identification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

EVENT AND ACTION PLAN FOR WATER QUALITY EXCEEDANCE

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

EVENT AND ACTION PLAN FOR WATER QUALITY EXCEEDANCE

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



Appendix I

G

Works Programme

Master Programme of Contract No. CV/2013/06 - Handling of Surplus Public Fill

Site Location : Tseung Kwan O Area 137 Fill Bank

ID	Activity	Original Duration	Start	Finish
A1150	Take Over	0	23-Jan-14	
A1170	Operation	1100	23-Jan-14	26-Jan-17
A1370	Hand Over to CEDD	0		26-Jan-17
Stage A1 Construction of New Office				
A1080	Submission	120	28-Nov-13	27-May-14
A1090	Approval by Engineer	30	28-Nov-13	27-Dec-13
A1100	Installation	7	28-Dec-13	03-Jan-14
A1110	Hand Over to Engineer	64	23-Jan-14	27-May-14
A1110	Hand Over to Engineer	0		27-May-14
Stage A1 Surveillance System				
A1190	Submission	120	28-Nov-13	27-May-14
A1200	Approval by Engineer	30	28-Nov-13	27-Dec-13
A1210	Installation	7	28-Dec-13	03-Jan-14
A1210	Installation	64	23-Jan-14	27-May-14
A1230	Hand Over to Engineer	0		27-May-14



Appendix I

H


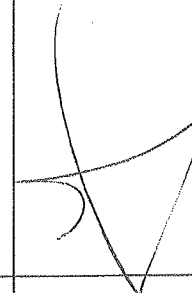

Weekly ET's Site Inspection Record



CEDD Contract No.: CV/2013/06

Handling of Surplus Public Fill (2014-2016) - Tseung Kwan O Area 137 Fill Bank

Inspection Date : 3/2/16
 Time : 10:30
 Weather : Sunny / Fine / Cloudy / Overcast / Drizzle / Rain / Storm / Hazy
 Wind : Calm / Light / Breeze / Strong
 Temperature : 12°C
 Humidity : High / Moderate / Low

Inspected by	CEDD	Contractor / Sub-Contractor	ET
Signature:			
Name:	C. L. HON	Eric Wan	Mark Jui Wai
Title	AZOW/P3 (1)	EO	ET

		Implementation Stages*		Remark
		Yes	No / N/A	
Fugitive Dust Emission				
▪	Dust control / mitigation measures shall be provided to prevent dust nuisance.	√		
▪	A buffer zone of at least 100m shall be maintained between the edge of the stockpiling area and the nearest ASRs at the TKO Industrial Estate. Within the buffer zone, no dusty material shall be stockpiled and no loading / unloading and similar activities should be allowed.	√		
▪	Water sprays shall be provided and used to dampen materials.	√		
▪	Regular cleaning and watering the site shall be provided to minimize the fugitive dust emissions.	√		
▪	All vehicles shall be restrict to a maximum speed of 10 km per hour.	√		
▪	Any vehicle with open load carrying area used for moving materials which has the potential to create dust shall have properly fitting side and tail boards. Material having the potential to create dust shall not be loaded to a level higher than the side and tail boards, and shall be covered by a clean tarpaulin.	√		
▪	The designated site main haul road shall be paved or regular watering.	√		
▪	Frequent watering of work site shall be at least three times per day.	√		
▪	Wheel washing facilities including high-pressure water jet shall be provided at the entrance of work site.	√		
▪	Every vehicle shall be washed to remove any dusty materials from its body and wheels before leaving the fill bank.	√		
▪	All plant and equipment should be well maintained e.g. without black smoke emission.	√		
▪	Open burning should be prohibited.	√		
▪	The temporary slope surfaces, especially those facing to the north of the site shall be covered with impermeable sheet or sprayed with water or protected by other method approved by CEDD.	√		
▪	Final slope surfaces, especially those facing to the north of the site shall be treated by compaction, followed by hydroseeding, vegetation planting or sealing with shot concrete, latex, vinyl, bitumen, or other suitable surface stabilizer approved by CEDD.	√		
▪	When fill material is transfer by belt conveyor systems, the conveyors shall be enclosed on top and 2 sides.	√		
▪	The belt scraper shall be equipped with bottom plates or other similar means to prevent falling of material from the return belt.	√		
▪	The level of stockpiling belt conveyor shall be adjustable such that the vertical distance between the belt conveyor and the material landing point is maintained at no more than 1m.	√		
▪	Approval or exemption Non-road Mobile Machinery (NRMM) labels should be painted or securely fixed on regulated machines and non-road vehicles at a conspicuous position according to the Air Pollution Control (Non-road Mobile Machinery) (Emission) Regulation (APCO Cap.311).	√	Item 3	
Noise Impact				
▪	The approved method of working, equipment and sound-reducing measures (e.g. use of silenced type of equipment, etc.) shall be adapted.	√		
▪	Only well maintained plant should be operated on-site and plant should be serviced regularly during the construction works.	√		
▪	Powered mechanical equipment (PME) should be covered or shielded by appropriate acoustic materials.	√		
▪	Air compressors and hand held breakers should have noise labels.	√		
▪	Machines and plants that may be in intermittent use should be shut down between work periods or should be throttled down to a minimum.	√		
▪	Noisy equipment and mobile plant shall always be site away from NSRs.	√		



Handling of Surplus Public Fill (2014-2016) - Tseung Kwan O Area 137 Fill Bank

		Implementation Stages*		Remark
		Yes	No / N/A	
Water Quality				
▪	Drainage system should be adequate and well maintained to prevent flooding and overflow, especially after rain storms.	√		
▪	The permanent drainage channels should have sediment basin, traps and baffles and maintain properly.	√		
▪	Temporary intercepting drains should be used at the stockpiling area to divert polluted stormwater to the intercepting channels. Earth bunds and sand bay barriers shall be used to assist the diversion of polluted stormwater to the intercepting channels.	√		
▪	Manholes should be covered and sealed.	√		
▪	Unnecessary water retained in receptacles and standing water should be avoided to prevent mosquito breeding.	√		Item 3
▪	A buffer distance of at least 100m shall be maintained between the boundary of the public fill stockpiling area and the sea front.	√		
▪	A buffer distance of at least 20m shall be maintained between the boundary of the C&DMSF and the seafront.	√		
▪	The stormwater intercepting system shall be effective to collect of runoff and remove suspended solids before discharge.	√		
▪	The temporary slope surfaces, especially those facing to the north of the site shall be covered with impermeable sheet or sprayed with water or protected by other method approved by CEDD.	√		
▪	Final slope surfaces, especially those facing to the north of the site shall be treated by compaction, followed by hydroseeding, vegetation planting or sealing with shotcrete, latex, vinyl, bitumen, or other suitable surface stabilizer approved by CEDD.	√		
▪	Existing and newly constructed Catchpits, sand and silt removal facilities and intercepting channels shall be maintained, and the deposited silt and grit shall be removed weekly and on a need basis especially at the onset of and after each rainstorm to ensure that these facilities are functioning properly at all times.	√		
▪	A wheel washing bay shall be provided at the site exit and wash-water shall have sand and silt settled out or removed before being discharged into storm drains.	√		
▪	The section of construction road between wheel washing bay and the public road shall be paved with concrete, bituminous materials or hardcore to reduce vehicle tracking of soil and to prevent site run-off from entering public road drains.	√		
▪	Sewage from toilets shall be discharged in to a foul sewer, or chemical toilets shall be provided. The chemical toilets (if use) shall be provided by a licensed contractor, who will be responsible for disposal and maintenance of these facilities.	√		
▪	Oil intercept in addition of sand / silt removal facilities shall be provided at the car parking areas.	√		
▪	Oil interceptor shall be provided at work shop.	√		
▪	Tipping halls enclosed with top and 3-side to prevent spillage of material into marine water.	√		
▪	The barges shall be in right size such that adequate clearance is maintained between the vessels and the seabed at all states of the tide to ensure the undue turbidity is not generated by turbulence from vessel movement or propeller wash.	√		
▪	All vessels used for transportation of fill material shall have tight fitting seals to their bottom openings to prevent leakage of material during transport.	√		
▪	Adequate environmental control measures shall be provided to prevent / avoid dropping of fill material into the sea during the transfer.	√		
▪	Barges shall not be filled to a level which may cause the overflow of material during loading or transportation. Barge effluents shall be properly collected and treated before disposal.	√		
▪	The work activities shall not cause any visible foam, oil, grease, scum, litter or other objectionable matters to be present on the water in the vicinity of the barging facilities.	√		
▪	Existing silt curtain at the outward side of the basin near the Barging Handling Area throughout the period shall be repair, maintain and service when there is public fill intake by barges to the Fill Bank in accordance with PS Clause 1.68. The total length of the silt curtains shall not be less than 160m, and a gap of about 80m shall be left open for access of barges. The silt curtain shall be properly maintained such that it can also serve the function of refuse containment boom to confine floating refuse.	√		
▪	A waste collection vessel shall be deployed to remove floating debris.	√		



Environmental Checklist	Implementation Stages*			Remark
	Yes	No	N/A	
Landscape and Visual				
<ul style="list-style-type: none"> ▪ The design of the fill bank and platform heights adopted should allow the fill bank to fit into the general topography of the surrounding land. Straight edged slopes should be avoided. ▪ The maximum stockpiling height at the fill bank shall be limited to a maximum of +35.2mPD. ▪ Surface of outer slopes of the fill bank shall preferably be hydroseeded or covered with geo-textile matting of appropriate colour (e.g. dark green / brown) once completed. ▪ The barging point and the C&DMSF at the fill bank shall not be in operation from 07:00 pm to 08:00 am daily to avoid potential visual impact from glare. 	√			
Other Environmental Factors				
<ul style="list-style-type: none"> ▪ C&D waste sorted from mixed C&D material shall be removed from the temporary buffer storage area on a daily basis and transfer to SENT landfill for disposal. ▪ Plan and stock construction materials carefully to minimise amount of waste generated and avoid unnecessary generation of waste. ▪ Any unused materials or those with remaining functional capacity should be recycled and stored properly. ▪ All generators, fuel and oil storage are within bundle areas. ▪ Oil leakage from machinery, vehicle and plant is prevented. ▪ The Environmental Permit should be displayed conspicuously on site. ▪ Good site practices should be adopted to clean the rubbish and litter on a regular basis so as to prevent the rubbish and litter from dropping into the nearby environment. ▪ To encourage collection of aluminium cans by individual collectors, separate labelled bins should be provided to segregate this waste from other general refuse generated by the workforce. 	√			



Summary of the Weekly Site Inspection:

Item	Details of defective works or observations	Proposed Follow Up Action	Photo Ref.	Further Action Required (Yes/No)	Target Completion Date
1	Follow up action to item 2 on 27/01/16, mud accumulated near drainage channel at CP5 was cleared.	---	160203_001	No	---
2	Follow up action to item 2 on 27/01/16, appropriate NRMM label was provided for Generator No.9 at dry mud zone.	---	160203_002	No	---
3	Standing water was noted inside the idle sedimentation tank of Wetsep at Area A3.	To provide appropriate measure(s), e.g. adding pesticide, to avoid mosquito breeding.	160203_003	Yes	11/02/16

Remark

Name	Title	Signature	Date
Linda Law	Senior Environmental Officer		03 February 2016

Photos

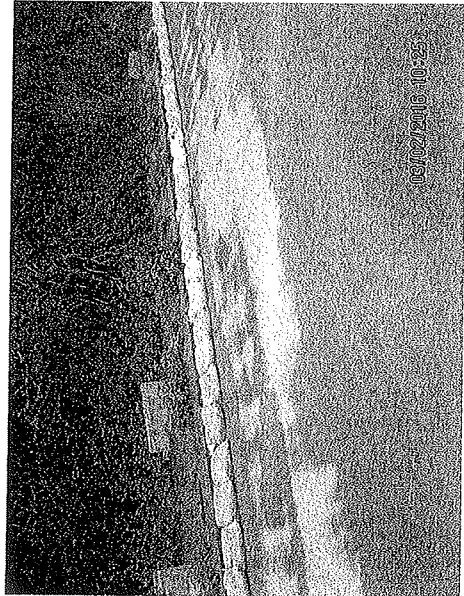


Photo 160203_001 (CP 5) (Improved)

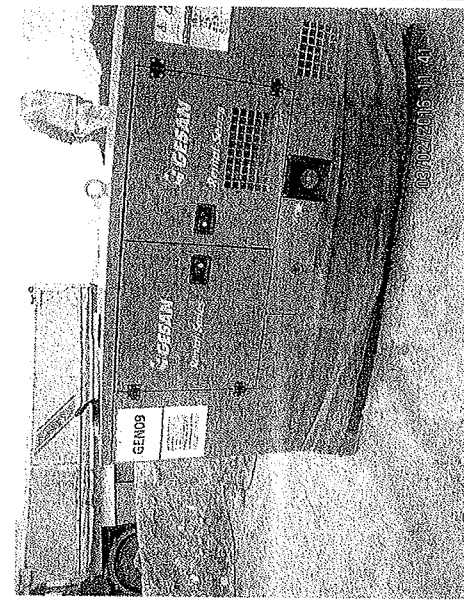


Photo 160203_002 (Dry mud zone) (Improved)



Photo 160203_003 (Idle sedimentation tank of Wetsep at Area A3)



CEDD Contract No.: CV/2013/06

Handling of Surplus Public Fill (2014-2016) - Tseung Kwan O Area 137 Fill Bank

Inspection Date : 11 - Feb - 2016




Time : 14:00

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

Wind : Calm / Light / Breeze / Strong

Temperature : 22°C

Humidity : High / Moderate / Low

Inspected by	CEDD	Contractor / Sub-Contractor	ET
Signature:			
Name:	FUNG CHAN KIN	Eric Wan	KHUBER
Title	A10W	EO	ET



Handling of Surplus Public Fill (2014-2016) - Tseung Kwan O Area 137 Fill Bank

Implementation Stages*	Implementation Stages*		Remark
	Yes	No / N/A	
Fugitive Dust Emission			
√			Dust control / mitigation measures shall be provided to prevent dust nuisance.
√			A buffer zone of at least 100m shall be maintained between the edge of the stockpiling area and the nearest ASRs at the TKO Industrial Estate. Within the buffer zone, no dusty material shall be stockpiled and no loading / unloading and similar activities should be allowed.
√			Water sprays shall be provided and used to dampen materials.
√			Regular cleaning and watering the site shall be provided to minimize the fugitive dust emissions.
√			All vehicles shall be restrict to a maximum speed of 10 km per hour.
√			Any vehicle with open load carrying area used for moving materials which has the potential to create dust shall have properly fitting side and tail boards. Material having the potential to create dust shall not be loaded to a level higher than the side and tail boards, and shall be covered by a clean tarpaulin.
√			The designated site main haul road shall be paved or regular watering.
√			Frequent watering of work site shall be at least three times per day.
√			Wheel washing facilities including high-pressure water jet shall be provided at the entrance of work site.
√			Every vehicle shall be washed to remove any dusty materials from its body and wheels before leaving the fill bank.
√			All plant and equipment should be well maintained e.g. without black smoke emission.
√			Open burning should be prohibited.
√			The temporary slope surfaces, especially those facing to the north of the site shall be covered with impermeable sheet or sprayed with water or protected by other method approved by CEDD.
√			Final slope surfaces, especially those facing to the north of the site shall be treated by compaction, followed by hydroseeding, vegetation planting or sealing with shot concrete, latex, vinyl, bitumen, or other suitable surface stabilizer approved by CEDD.
√			When fill material is transfer by belt conveyor systems, the conveyors shall be enclosed on top and 2 sides.
√			The belt scraper shall be equipped with bottom plates or other similar means to prevent falling of material from the return belt.
√			The level of stockpiling belt conveyor shall be adjustable such that the vertical distance between the belt conveyor and the material landing point is maintained at no more than 1m.
√			Approval or exemption Non-road Mobile Machinery (NRMM) labels should be painted or securely fixed on regulated machines and non-road vehicles at a conspicuous position according to the Air Pollution Control (Non-road Mobile Machinery) (Emission) Regulation (APCO Cap.311).
Noise Impact			
√			The approved method of working, equipment and sound-reducing measures (e.g. use of silenced type of equipment, etc.) shall be adapted.
√			Only well maintained plant should be operated on-site and plant should be serviced regularly during the construction works.
√			Powered mechanical equipment (PME) should be covered or shielded by appropriate acoustic materials.
√			Air compressors and hand held breakers should have noise labels.
√			Machines and plants that may be in intermittent use should be shut down between work periods or should be throttled down to a minimum.
√			Noisy equipment and mobile plant shall always be site away from NSRs.

	Implementation Stages*		Remark
	Yes	No / N/A	
Water Quality			
▪ Drainage system should be adequate and well maintained to prevent flooding and overflow, especially after rain storms.	✓		
▪ The permanent drainage channels should have sediment basin, traps and baffles and maintain properly.	✓		
▪ Temporary intercepting drains should be used at the stockpiling area to divert polluted stormwater to the intercepting channels. Earth bunds and sand bay barriers shall be used to assist the diversion of polluted stormwater to the intercepting channels.	✓		
▪ Manholes should be covered and sealed.	✓		
▪ Unnecessary water retained in receptacles and standing water should be avoided to prevent mosquito breeding.	✓		
▪ A buffer distance of at least 100m shall be maintained between the boundary of the public fill stockpiling area and the sea front.	✓		
▪ A buffer distance of at least 20m shall be maintained between the boundary of the C&DMSF and the seafront.	✓		
▪ The stormwater intercepting system shall be effective to collect of runoff and remove suspended solids before discharge.	✓		
▪ The temporary slope surfaces, especially those facing to the north of the site shall be covered with impermeable sheet or sprayed with water or protected by other method approved by CEDD.	✓		
▪ Final slope surfaces, especially those facing to the north of the site shall be treated by compaction, followed by hydroseeding, vegetation planting or sealing with shotconcrete, latex, vinyl, bitumen, or other suitable surface stabilizer approved by CEDD.	✓		
▪ Existing and newly constructed Catchpits, sand and silt removal facilities and intercepting channels shall be maintained, and the deposited silt and grit shall be removed weekly and on a need basis especially at the onset of and after each rainstorm to ensure that these facilities are functioning properly at all times.	✓		
▪ A wheel washing bay shall be provided at the site exit and wash-water shall have sand and silt settled out or removed before being discharged into storm drains.	✓		
▪ The section of construction road between wheel washing bay and the public road shall be paved with concrete, bituminous materials or hardcores to reduce vehicle tracking of soil and to prevent site run-off from entering public road drains.	✓		
▪ Sewage from toilets shall be discharged in to a foul sewer, or chemical toilets shall be provided. The chemical toilets (if use) shall be provided by a licensed contractor, who will be responsible for disposal and maintenance of these facilities.	✓		
▪ Oil intercept in addition of sand / silt removal facilities shall be provided at the car parking areas.	✓		
▪ Oil interceptor shall be provided at work shop.	✓		
▪ Tipping hails enclosed with top and 3-side to prevent spillage of material into marine water.	✓		
▪ The barges shall be in right size such that adequate clearance is maintained between the vessels and the seabed at all states of the tide to ensure the undue turbidity is not generated by turbulence from vessel movement or propeller wash.	✓		
▪ All vessels used for transportation of fill material shall have tight fitting seals to their bottom openings to prevent leakage of material during transport.	✓		
▪ Adequate environmental control measures shall be provided to prevent / avoid dropping of fill material into the sea during the transfer.	✓		
▪ Barges shall not be filled to a level which may cause the overflow of material during loading or transportation. Barge effluents shall be properly collected and treated before disposal.	✓		
▪ The work activities shall not cause any visible foam, oil, grease, scum, litter or other objectionable matters to be present on the water in the vicinity of the barging facilities.	✓		
▪ Existing silt curtain at the outward side of the basin near the Barging Handling Area throughout the period shall be repair, maintain and service when there is public fill intake by barges to the Fill Bank in accordance with PS Clause 1.68. The total length of the silt curtains shall not be less than 160m, and a gap of about 80m shall be left open for access of barges. The silt curtain shall be properly maintained such that it can also serve the function of refuse containment boom to confine floating refuse.	✓		
▪ A waste collection vessel shall be deployed to remove floating debris.	✓		


Environmental Checklist			Implementation Stages*		Remark
			Yes	No / N/A	
Landscape and Visual					
▪	The design of the fill bank and platform heights adopted should allow the fill bank to fit into the general topography of the surrounding land. Straight edged slopes should be avoided.	√			
▪	The maximum stockpiling height at the fill bank shall be limited to a maximum of +35.2mPD.	√			
▪	Surface of outer slopes of the fill bank shall preferably be hydroseeded or covered with geo-textile matting of appropriate colour (e.g. dark green / brown) once completed.	√			
▪	The barging point and the C&DMSF at the fill bank shall not be in operation from 07:00 pm to 08:00 am daily to avoid potential visual impact from glare.	√			
Other Environmental Factors					
▪	C&D waste sorted from mixed C&D material shall be removed from the temporary buffer storage area on a daily basis and transfer to SENT landfill for disposal.	√			
▪	Plan and stock construction materials carefully to minimise amount of waste generated and avoid unnecessary generation of waste.	√			
▪	Any unused materials or those with remaining functional capacity should be recycled and stored properly.	√			
▪	All generators, fuel and oil storage are within bundle areas.	√			
▪	Oil leakage from machinery, vehicle and plant is prevented.	√			
▪	The Environmental Permit should be displaced conspicuously on site.	√			
▪	Good site practices should be adopted to clean the rubbish and litter on a regular basis so as to prevent the rubbish and litter from dropping into the nearby environment.	√			
▪	To encourage collection of aluminium cans by individual collectors, separate labelled bins should be provided to segregate this waste from other general refuse generated by the workforce.	√			

Summary of the Weekly Site Inspection:

Item	Details of defective works or observations	Proposed Follow Up Action	Photo Ref.	Further Action Required (Yes/No)	Target Completion Date
1	Follow up action to item 3 on 03/02/16, pesticide was added to standing water inside the idle sedimentation tank of Weisep at Area A3.	---	160211_001	No	---

Remark

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Name	Title	Signature	Date
Checked by Linda Law	Senior Environmental Officer		11 February 2016

Photos

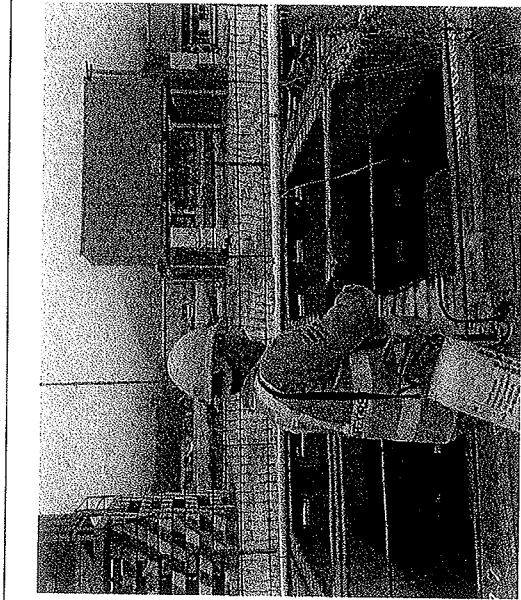




Photo 160211_001 (Idle sedimentation tank of Weisep at Area A3) (Improved)



CEDD Contract No.: CV/2013/06

Handling of Surplus Public Fill (2014-2016) - Tseung Kwan O Area 137 Fill Bank

Inspection Date : 19/2/16
 Time : 15:00
 Weather : Sunny / Fine / Cloudy / Overcast / Drizzle / Rain / Storm / Hazy
 Wind : Calm / Light / Breeze / Strong
 Temperature : 17°C
 Humidity : High / Moderate / Low

Inspected by	CEDD	Contractor / Sub-Contractor	ET
Signature:			Mark
Name:	S. L. FION	Eric Wan	Mark Kai Wan
Title	A20W / P3 C17	EO	E.T

Environmental Checklist			Implementation Stages*		Remark
			Yes	No / N/A	
Fugitive Dust Emission					
▪	Dust control / mitigation measures shall be provided to prevent dust nuisance.	✓			
▪	A buffer zone of at least 100m shall be maintained between the edge of the stockpiling area and the nearest ASRs at the TKO Industrial Estate. Within the buffer zone, no dusty material shall be stockpiled and no loading / unloading and similar activities should be allowed.	✓			
▪	Water sprays shall be provided and used to dampen materials.	✓			
▪	Regular cleaning and watering the site shall be provided to minimize the fugitive dust emissions.	✓			
▪	All vehicles shall be restrict to a maximum speed of 10 km per hour.	✓			
▪	Any vehicle with open load carrying area used for moving materials which has the potential to create dust shall have properly fitting side and tail boards. Material having the potential to create dust shall not be loaded to a level higher than the side and tail boards, and shall be covered by a clean tarpaulin.	✓			
▪	The designated site main haul road shall be paved or regular watering.	✓			
▪	Frequent watering of work site shall be at least three times per day.	✓			
▪	Wheel washing facilities including high-pressure water jet shall be provided at the entrance of work site.	✓			
▪	Every vehicle shall be washed to remove any dusty materials from its body and wheels before leaving the fill bank.	✓			
▪	All plant and equipment should be well maintained e.g. without black smoke emission.	✓			
▪	Open burning should be prohibited.	✓			
▪	The temporary slope surfaces, especially those facing to the north of the site shall be covered with impermeable sheet or sprayed with water or protected by other method approved by CEDD.	✓			
▪	Final slope surfaces, especially those facing to the north of the site shall be treated by compaction, followed by hydroseeding, vegetation planting or sealing with shot concrete, latex, vinyl, bitumen, or other suitable surface stabilizer approved by CEDD.	✓			
▪	When fill material is transfer by belt conveyor systems, the conveyors shall be enclosed on top and 2 sides.	✓			
▪	The belt scraper shall be equipped with bottom plates or other similar means to prevent falling of material from the return belt.	✓			
▪	The level of stockpiling belt conveyor shall be adjustable such that the vertical distance between the belt conveyor and the material landing point is maintained at no more than 1m.	✓			
▪	Approval or exemption Non-road Mobile Machinery (NRMM) labels should be painted or securely fixed on regulated machines and non-road vehicles at a conspicuous position according to the Air Pollution Control (Non-road Mobile Machinery) (Emission) Regulation (APCO Cap.311).	✓			
Noise Impact					
▪	The approved method of working, equipment and sound-reducing measures (e.g. use of silenced type of equipment, etc.) shall be adapted.	✓			
▪	Only well maintained plant should be operated on-site and plant should be serviced regularly during the construction works.	✓			
▪	Powered mechanical equipment (PME) should be covered or shielded by appropriate acoustic materials.	✓			
▪	Air compressors and hand held breakers should have noise labels.	✓			
▪	Machines and plants that may be in intermittent use should be shut down between work periods or should be throttled down to a minimum.	✓			
▪	Noisy equipment and mobile plant shall always be site away from NSRs.	✓			

		Implementation Stages*		Remark
		Yes	No	
Water Quality				
■	Drainage system should be adequate and well maintained to prevent flooding and overflow, especially after rain storms.	✓		
■	The permanent drainage channels should have sediment basin, traps and baffles and maintain properly.	✓		
■	Temporary intercepting drains should be used at the stockpiling area to divert polluted stormwater to the intercepting channels. Earth bunds and sand bay barriers shall be used to assist the diversion of polluted stormwater to the intercepting channels.	✓		
■	Manholes should be covered and sealed.	✓		
■	Unnecessary water retained in receptacles and standing water should be avoided to prevent mosquito breeding.	✓		
■	A buffer distance of at least 100m shall be maintained between the boundary of the public fill stockpiling area and the sea front.	✓		
■	A buffer distance of at least 20m shall be maintained between the boundary of the C&DMSF and the seafont.	✓		
■	The stormwater intercepting system shall be effective to collect of runoff and remove suspended solids before discharge.	✓		
■	The temporary slope surfaces, especially those facing to the north of the site shall be covered with impermeable sheet or sprayed with water or protected by other method approved by CEDD.	✓		
■	Final slope surfaces, especially those facing to the north of the site shall be treated by compaction, followed by hydroseeding, vegetation planting or sealing with shotcrete, latex, vinyl, bitumen, or other suitable surface stabilizer approved by CEDD.	✓		
■	Existing and newly constructed Catchpits, sand and silt removal facilities and intercepting channels shall be maintained, and the deposited silt and grit shall be removed weekly and on a need basis especially at the onset of and after each rainstorm to ensure that these facilities are functioning properly at all times.	✓		
■	A wheel washing bay shall be provided at the site exit and wash-water shall have sand and silt settled out or removed before being discharged into storm drains.	✓		
■	The section of construction road between wheel washing bay and the public road shall be paved with concrete, bituminous materials or hardcores to reduce vehicle tracking of soil and to prevent site run-off from entering public road drains.	✓		
■	Sewage from toilets shall be discharged in to a foul sewer, or chemical toilets shall be provided. The chemical toilets (if use) shall be provided by a licensed contractor, who will be responsible for disposal and maintenance of these facilities.	✓		
■	Oil intercept in addition of sand / silt removal facilities shall be provided at the car parking areas.	✓		
■	Oil interceptor shall be provided at work shop.	✓		
■	Tipping halls enclosed with top and 3-side to prevent spillage of material into marine water.	✓		
■	The barges shall be in right size such that adequate clearance is maintained between the vessels and the seabed at all states of the tide to ensure the undue turbidity is not generated by turbulence from vessel movement or propeller wash.	✓		
■	All vessels used for transportation of fill material shall have tight fitting seals to their bottom openings to prevent leakage of material during transport.	✓		
■	Adequate environmental control measures shall be provided to prevent / avoid dropping of fill material into the sea during the transfer.	✓		item 1
■	Barges shall not be filled to a level which may cause the overflow of material during loading or transportation. Barge effluents shall be properly collected and treated before disposal.	✓		
■	The work activities shall not cause any visible foam, oil, grease, scum, litter or other objectionable matters to be present on the water in the vicinity of the barging facilities.	✓		
■	Existing silt curtain at the outward side of the basin near the Barging Handling Area throughout the period shall be repair, maintain and service when there is public fill intake by barges to the Fill Bank in accordance with PS Clause 1.68. The total length of the silt curtains shall not be less than 160m, and a gap of about 80m shall be left open for access of barges. The silt curtain shall be properly maintained such that it can also serve the function of refuse containment boom to confine floating refuse.	✓		
■	A waste collection vessel shall be deployed to remove floating debris.	✓		


Environmental Checklist

	Implementation Stages*		Remark
	Yes	No / N/A	
Landscape and Visual			
▪ The design of the fill bank and platform heights adopted should allow the fill bank to fit into the general topography of the surrounding land. Straight edged slopes should be avoided.	√		
▪ The maximum stockpiling height at the fill bank shall be limited to a maximum of +35.2mPD.	√		
▪ Surface of outer slopes of the fill bank shall preferably be hydroseeded or covered with geo-textile matting of appropriate colour (e.g. dark green / brown) once completed.	√		
▪ The berthing point and the C&DMSF at the fill bank shall not be in operation from 07:00 pm to 08:00 am daily to avoid potential visual impact from glare.	√		
Other Environmental Factors			
▪ C&D waste sorted from mixed C&D material shall be removed from the temporary buffer storage area on a daily basis and transfer to SENT landfill for disposal.	√		
▪ Plan and stock construction materials carefully to minimise amount of waste generated and avoid unnecessary generation of waste.	√		
▪ Any unused materials or those with remaining functional capacity should be recycled and stored properly.	√		
▪ All generators, fuel and oil storage are within bundle areas.	√		
▪ Oil leakage from machinery, vehicle and plant is prevented.	√		
▪ The Environmental Permit should be displaced conspicuously on site.	√		
▪ Good site practices should be adopted to clean the rubbish and litter on a regular basis so as to prevent the rubbish and litter from dropping into the nearby environment.	√		
▪ To encourage collection of aluminium cans by individual collectors, separate labelled bins should be provided to segregate this waste from other general refuse generated by the workforce.	√		

Summary of the Weekly Site Inspection:

Item	Details of defective works or observations	Proposed Follow Up Action	Photo Ref.	Further Action Required (Yes/No)	Target Completion Date
1	Fill materials were observed on the concrete pavement along the Pier at A8.	To clear the mud properly and provide appropriate mitigation measures to avoid the dropping of fill materials into the sea.	160219_001	Yes	24/02/16

Remark

Name	Title	Signature	Date
Checked by Linda Law	Senior Environmental Officer		19 February 2016

Photos

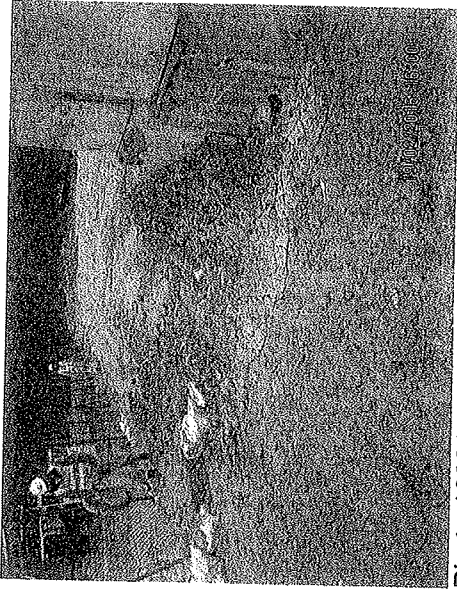


Photo 160219_001 (Pier at A8)



CEDD Contract No.: CV/2013/06

Handling of Surplus Public Fill (2014-2016) - Tseung Kwan O Area 137 Fill Bank

Inspection Date : 24/2/16

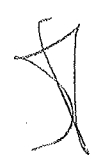
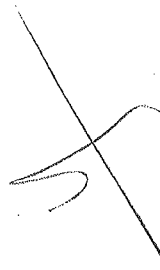

Time : 15:00

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

Wind : Calm / Light / Breeze / Strong

Temperature : 14°C

Humidity : High / Moderate / Low

Inspected by	CEDD	Contractor / Sub-Contractor	ET
Signature:			
Name:	HON CHUNG LUN	Eric Wan	Mark Tai Man
Title	ALUM / P3 (U)	EO	E.T

Implementation Stages*	Implementation Stages*		Remark
	Yes	No / N/A	
Fugitive Dust Emission			
✓			Dust control / mitigation measures shall be provided to prevent dust nuisance.
✓			A buffer zone of at least 100m shall be maintained between the edge of the stockpiling area and the nearest ASRs at the TKO Industrial Estate. Within the buffer zone, no dusty material shall be stockpiled and no loading / unloading and similar activities should be allowed.
✓			Water sprays shall be provided and used to dampen materials.
✓			Regular cleaning and watering the site shall be provided to minimize the fugitive dust emissions.
✓			All vehicles shall be restricted to a maximum speed of 10 km per hour.
✓			Any vehicle with open load carrying area used for moving materials which has the potential to create dust shall have properly fitting side and tail boards. Material having the potential to create dust shall not be loaded to a level higher than the side and tail boards, and shall be covered by a clean tarpaulin.
✓			The designated site main haul road shall be paved or regular watering.
✓			Frequent watering of work site shall be at least three times per day.
✓			Wheel washing facilities including high-pressure water jet shall be provided at the entrances of work site.
✓			Every vehicle shall be washed to remove any dusty materials from its body and wheels before leaving the fill bank.
✓			All plant and equipment should be well maintained e.g. without black smoke emission.
✓			Open burning should be prohibited.
✓			The temporary slope surfaces, especially those facing to the north of the site shall be covered with impermeable sheet or sprayed with water or protected by other method approved by CEDD.
✓			Final slope surfaces, especially those facing to the north of the site shall be treated by compaction, followed by hydroseeding, vegetation planting or sealing with shot concrete, latex, vinyl, bitumen, or other suitable surface stabilizer approved by CEDD.
✓			When fill material is transfer by belt conveyor systems, the conveyors shall be enclosed on top and 2 sides.
✓			The belt scraper shall be equipped with bottom plates or other similar means to prevent falling of material from the return belt.
✓			The level of stockpiling belt conveyor shall be adjustable such that the vertical distance between the belt conveyor and the material landing point is maintained at no more than 1m.
✓			Approval or exemption Non-road Mobile Machinery (NRMM) labels should be painted or securely fixed on regulated machines and non-road vehicles at a conspicuous position according to the Air Pollution Control (Non-road Mobile Machinery) (Emission) Regulation (APCO Cap.311).
Noise Impact			
✓			The approved method of working, equipment and sound-reducing measures (e.g. use of silenced type of equipment, etc.) shall be adapted.
✓			Only well maintained plant should be operated on-site and plant should be serviced regularly during the construction works.
✓			Powered mechanical equipment (PME) should be covered or shielded by appropriate acoustic materials.
✓			Air compressors and hand held breakers should have noise labels.
✓			Machines and plants that may be in intermittent use should be shut down between work periods or should be throttled down to a minimum.
✓			Noisy equipment and mobile plant shall always be site away from NSRs.

Handling of Surplus Public Fill (2014-2016) - Tseung Kwan O Area 137 Fill Bank

	Implementation Stages*		Remark
	Yes	No / N/A	
Water Quality			
Drainage system should be adequate and well maintained to prevent flooding and overflow, especially after rain storms.	√		
The permanent drainage channels should have sediment basin, traps and baffles and maintain properly.	√		
Temporary intercepting drains should be used at the stockpiling area to divert polluted stormwater to the intercepting channels. Earth bunds and sand bay barriers shall be used to assist the diversion of polluted stormwater to the intercepting channels.	√		
Manholes should be covered and sealed.	√		
Unnecessary water retained in receptacles and standing water should be avoided to prevent mosquito breeding.	√		
A buffer distance of at least 100m shall be maintained between the boundary of the public fill stockpiling area and the sea front.	√		
A buffer distance of at least 20m shall be maintained between the boundary of the C&DMSF and the seafront.	√		
The stormwater intercepting system shall be effective to collect runoff and remove suspended solids before discharge.	√		
The temporary slope surfaces, especially those facing to the north of the site shall be covered with impermeable sheet or sprayed with water or protected by other method approved by CEDD.	√		
Final slope surfaces, especially those facing to the north of the site shall be treated by compaction, followed by hydros seeding, vegetation planting or sealing with shotconcrete, latex, vinyl, bitumen, or other suitable surface stabilizer approved by CEDD.	√		
Existing and newly constructed Catchpits, sand and silt removal facilities and intercepting channels shall be maintained, and the deposited silt and grit shall be removed weekly and on a need basis especially at the onset of and after each rainstorm to ensure that these facilities are functioning properly at all times.	√		
A wheel washing bay shall be provided at the site exit and wash-water shall have sand and silt settled out or removed before being discharged into storm drains.	√		
The section of construction road between wheel washing bay and the public road shall be paved with concrete, bituminous materials or hardcore to reduce vehicle tracking of soil and to prevent site run-off from entering public road drains.	√		
Sewage from toilets shall be discharged in to a foul sewer, or chemical toilets shall be provided. The chemical toilets (if use) shall be provided by a licensed contractor, who will be responsible for disposal and maintenance of these facilities.	√		
Oil intercept in addition of sand / silt removal facilities shall be provided at the car parking areas.	√		
Oil interceptor shall be provided at work shop.	√		
Tipping helix enclosed with top and 3-side to prevent spillage of material into marine water.	√		
The barges shall be in right size such that adequate clearance is maintained between the vessels and the seabed at all states of the tide to ensure the undue turbidity is not generated by turbulence from vessel movement or propeller wash.	√		
All vessels used for transportation of fill material shall have tight fitting seals to their bottom openings to prevent leakage of material during transport.	√		
Adequate environmental control measures shall be provided to prevent / avoid dropping of fill material into the sea during the transfer.	√		
Barges shall not be filled to a level which may cause the overflow of material during loading or transportation. Barge effluents shall be properly collected and treated before disposal.	√		
The work activities shall not cause any visible foam, oil, grease, scum, litter or other objectionable matters to be present on the water in the vicinity of the barging facilities.	√		
Existing silt curtain at the outward side of the basin near the Barging Handling Area throughout the period shall be repair, maintain and service when there is public fill intake by barges to the Fill Bank in accordance with PS Clause 1.68. The total length of the silt curtains shall not be less than 160m, and a gap of about 80m shall be left open for access of barges. The silt curtain shall be properly maintained such that it can also serve the function of refuse containment boom to confine floating refuse.	√		
A waste collection vessel shall be deployed to remove floating debris.	√		



Summary of the Weekly Site Inspection:

Item	Details of defective works or observations	Proposed Follow Up Action	Photo Ref.	Further Action Required (Yes/No)	Target Completion Date
1	Follow up action to item 1 on 19/02/16, fill materials observed on the concrete pavement along the Pier at A8 were cleared.	--	160219_001	No	--

Remark

Name	Title	Signature	Date
Checked by Linda Law	Senior Environmental Officer		24 February 2016

Photos

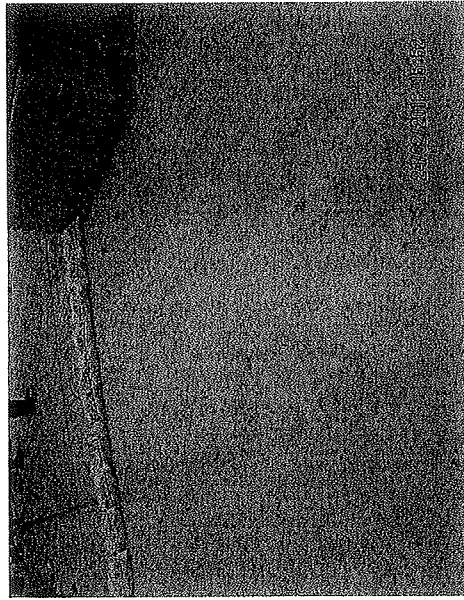
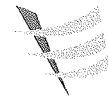


Photo 160219_001 (Pier at A8) (Improved)



Appendix I

I

Implementation Schedule of Mitigation Measures



Environmental Mitigation Implementation Schedule

	Location	Implementation Status				
		Implemented	Partially implemented	Not implemented	Not Applicable	
Environmental Protection Measures						
Air Quality						
<ul style="list-style-type: none"> ▪ Dust control / mitigation measures shall be provided to prevent dust nuisance. ▪ A buffer zone of at least 100m shall be maintained between the edge of the stockpiling area and the nearest ASRs at the TKO Industrial Estate. Within the buffer zone, no dusty material shall be stockpiled and no loading / unloading and similar activities should be allowed. ▪ Water sprays shall be provided and used to dampen materials. ▪ Regular cleaning and watering the site shall be provided to minimize the fugitive dust emissions. ▪ All vehicles shall be restrict to a maximum speed of 10 km per hour. ▪ Any vehicle with open load carrying area used for moving materials which has the potential to create dust shall have properly fitting side and tail boards. Material having the potential to create dust shall not be loaded to a level higher than the side and tail boards, and shall be covered by a clean tarpaulin. ▪ The designated site main haul rout shall be paved or regular watering. ▪ Frequent watering of work site shall be at least three times per day. ▪ Wheel washing facilities including high pressure water jet shall be provided at the entrance of work site. ▪ Every vehicle shall be washed to remove any dusty materials from its body and wheels before leaving the fill bank. ▪ The temporary slope surfaces, especially those facing to the north of the site shall be covered with impermeable sheet or sprayed with water or protected by other method approved by CEDD. ▪ Final slope surfaces, especially those facing to the north of the site shall be treated by compaction, followed by hydroseeding, vegetation planting or sealing with shotconcrete, latex, vinyl, bitumen, or other suitable surface stabilizer approved by CEDD. ▪ When fill material is transfer by belt conveyor systems, the conveyors shall be enclosed on top and 2 sides. ▪ The belt scraper shall be equipped with bottom plates or other similar means to prevent falling of material from the return belt. ▪ The level of stockpiling belt conveyor shall be adjustable such that the vertical distance between the belt conveyor and the material landing point is maintained at no more than 1m. ▪ All plant and equipment should be well maintained e.g. without black smoke emission. ▪ Approval or exemption Non-road Mobile Machinery (NRMM) labels should be painted or securely fixed on regulated machines and non-road vehicles at a conspicuous position according to the Air Pollution Control (Non-road Mobile Machinery) (Emission) Regulation (APCO Cap.311). 						
Noise Impact						
<ul style="list-style-type: none"> ▪ Approved method of working, equipment and sound-reducing measures (e.g. use of silenced type of equipment, etc.) shall be adapted. ▪ Only well maintained plant should be operated on-site and plant should be serviced regularly during the site works. ▪ Powered mechanical equipment (PME) should be covered or shielded by appropriate acoustic materials. ▪ Air compressors and hand held breakers should have noise labels. ▪ Machines and plants that may be in intermittent use should be shut down between work months or should be throttled down to a minimum. ▪ Noisy equipment and mobile plant shall always be site away from NSRs. 						



Environmental Protection Measures		Location	Implementation Status				
			Implemented	Partially implemented	Not implemented	Not Applicable	
Water Quality							
▪	Drainage system should be adequate and well maintained to prevent flooding and overflow, especially after rain storms.	All areas	✓				
▪	The permanent drainage channels should have sediment basin, traps and baffles and maintain properly.	All areas	✓				
▪	Temporary intercepting drains should be used at the stockpiling area to divert polluted stormwater to the intercepting channels. Earth bunds and sand bay barriers shall be used to assist the diversion of polluted stormwater to the intercepting channels.	All areas	✓				
▪	Manholes should be covered and sealed.	All areas	✓				
▪	Unnecessary water retained in receptacles and standing water should be avoided to prevent mosquito breeding.	All areas		✓			
▪	A buffer distance of at least 100m shall be maintained between the boundary of the public fill stockpiling area and the sea front.	Public fill stockpiling area	✓				
▪	A buffer distance of at least 20m shall be maintained between the boundary of the C&DMSF and the seafront.	C&DMFS	✓				
▪	The stormwater intercepting system shall be effective to collect runoff and remove suspended solids before discharge.	All areas	✓				
▪	The temporary slope surfaces, especially those facing to the north of the site shall be covered with impermeable sheet or sprayed with water or protected by other method approved by CEDD.	Temporary Slopes	✓				
▪	Final slope surfaces, especially those facing to the north of the site shall be treated by compaction, followed by hydroseeding, vegetation planting or sealing with shotcrete, latex, vinyl, bitumen, or other suitable surface stabilizer approved by CEDD.	Temporary Slopes	✓				
▪	Existing and newly constructed Catchpits, sand and silt removal facilities and intercepting channels shall be maintained, and the deposited silt and grit shall be removed weekly and on a need basis especially at the onset of and after each rainstorm to ensure that these facilities are functioning properly at all times.	All areas	✓				
▪	A wheel washing bay shall be provided at the site exit and wash-water shall have sand and silt settled out or removed before being discharged into storm drains.	Wheel Washing facility	✓				
▪	The section of construction road between wheel washing bay and the public road shall be paved with concrete, bituminous materials or hardcores to reduce vehicle tracking of soil and to prevent site run-off from entering public road drains.	Wheel Washing facility	✓				
▪	Sewage from toilets shall be discharged in to a foul sewer, or chemical toilets shall be provided. The chemical toilets (if use) shall be provided by a licensed contractor, who will be responsible for disposal and maintenance of these facilities.	All areas	✓				
▪	Oil intercept in addition of sand / silt removal facilities shall be provided at the car parking areas and work shop.	All areas	✓				
▪	Tipping halls enclosed with top and 3-side to prevent spillage of material into marine water.	Barge Handling Area (BHA)	✓				
▪	The barges shall be in right size such that adequate clearance is maintained between the vessels and the seabed at all states of the tide to ensure the undue turbidity is not generated by turbulence from vessel movement or propeller wash.	Barge Handling Area (BHA)	✓				
▪	All vessels used for transportation of fill material shall have tight fitting seals to their bottom openings to prevent leakage of material during transport.	Barge Handling Area (BHA)	✓				
▪	Adequate environmental control measures shall be provided to prevent / avoid dropping of fill material into the sea during the transfer.	Along the seafront		✓			
▪	Barges shall not be filled to a level which may cause the overflow of material during loading or transportation. Barge effluents shall be properly collected and treated before disposal.	Barge Handling Area (BHA)	✓				
▪	The work activities shall not cause any visible foam, oil, grease, scum, litter or other objectionable matters to be present on the water in the vicinity of the barging facilities.	Along the seafront	✓				
▪	Existing silt curtain at the outward side of the basin near the Barging Handling Area throughout the period shall be repair, maintain and service when there is public fill intake by barges to the Fill Bank in accordance with PS Clause 1.68. The total length of the silt curtains shall not be less than 160m, and a gap of about 80m shall be left open for access of barges. The silt curtain shall be properly maintained such that it can also serve the function of refuse containment boom to confine floating refuse.	Along the seafront	✓				
▪	A waste collection vessel shall be deployed to remove floating debris.	Along the seafront	✓				

Appendix I

J

Site General Layout plan

Appendix I

K

Monitoring Schedule for the Coming Month

Contract No. CV/2013/06 Handling of Surplus Public Fill

Tseung Kwan O Area137

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

March 2016

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



Appendix I

L

Complaint Log

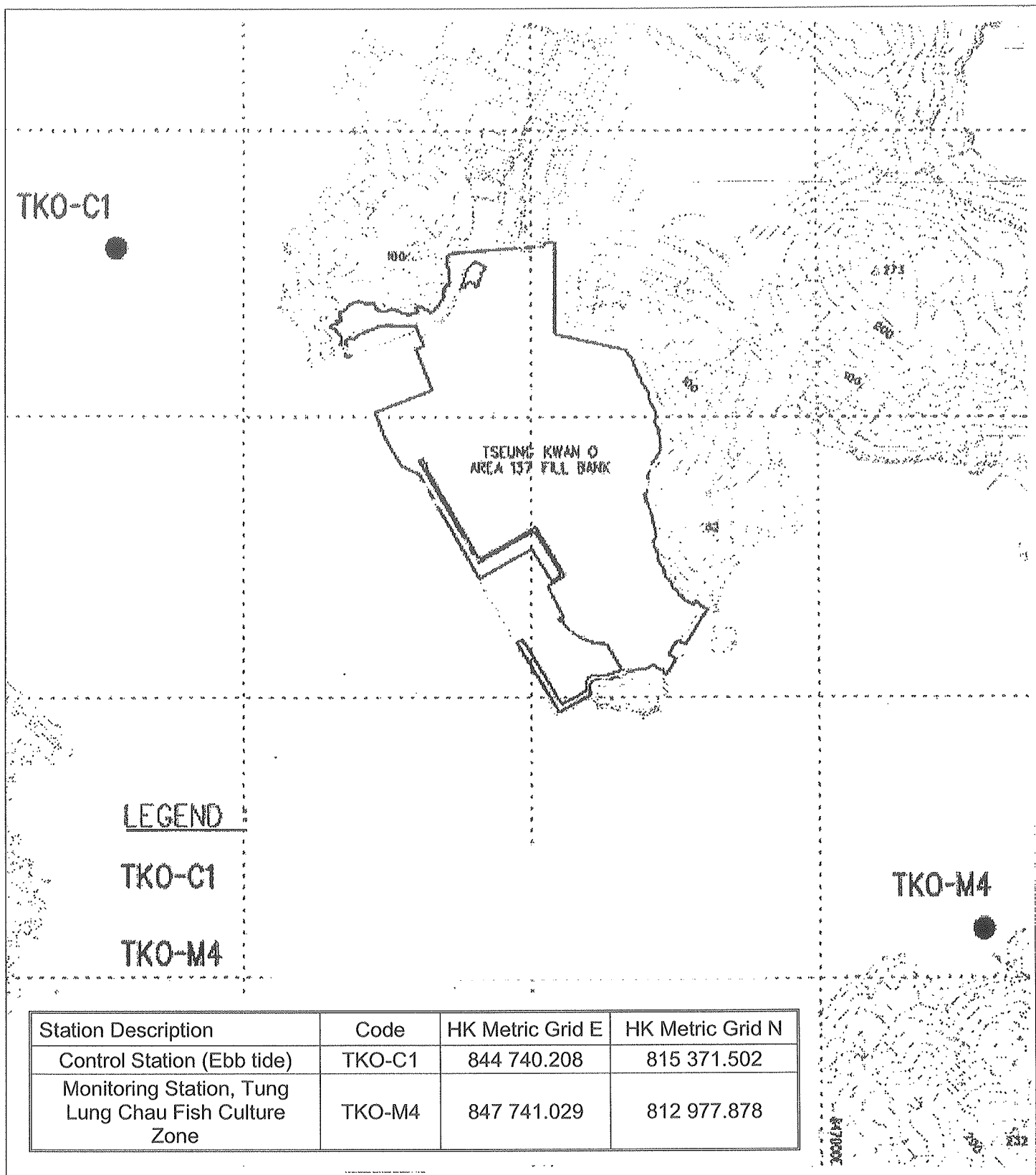
Complaint Logs

Log Ref.	Location	Received Date	Details of Complaint	Investigation / Mitigation Action	Status
001	Siu Sai Wan Promenade	13 October 2014	<p>One complaint was received via the Hotline on 13 October 2014 from a district councillor of Eastern District Council (Ref No.: H22/RS/00025513-14) against the dust emission from South East New Territories Landfill or Tsueng Kwan O 137 Fill Bank observed from a resident during the way at Siu Sai Wan Promenade in early October 2014. The complainant complained that the dust emission caused an environmental nuisance.</p>	<p>After received the details of the complaint from the Contractor on 11 November 2014, ET have performed a site inspection on 11 November 2014 to investigate this event. During the site inspection, no fugitive dust emission was recorded within the working areas of the Fill Bank.</p> <p>Besides, refer to the dust monitoring data and ET weekly site inspections during the early October 2014, no evidence showed that fugitive dust emission was observed. Hence no further action was required.</p> <p>Due to this event, the Contractor was reminded to take more effort on the frequency of watering on site especially during dry weather.</p>	Closed



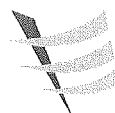
Appendix I

Figures

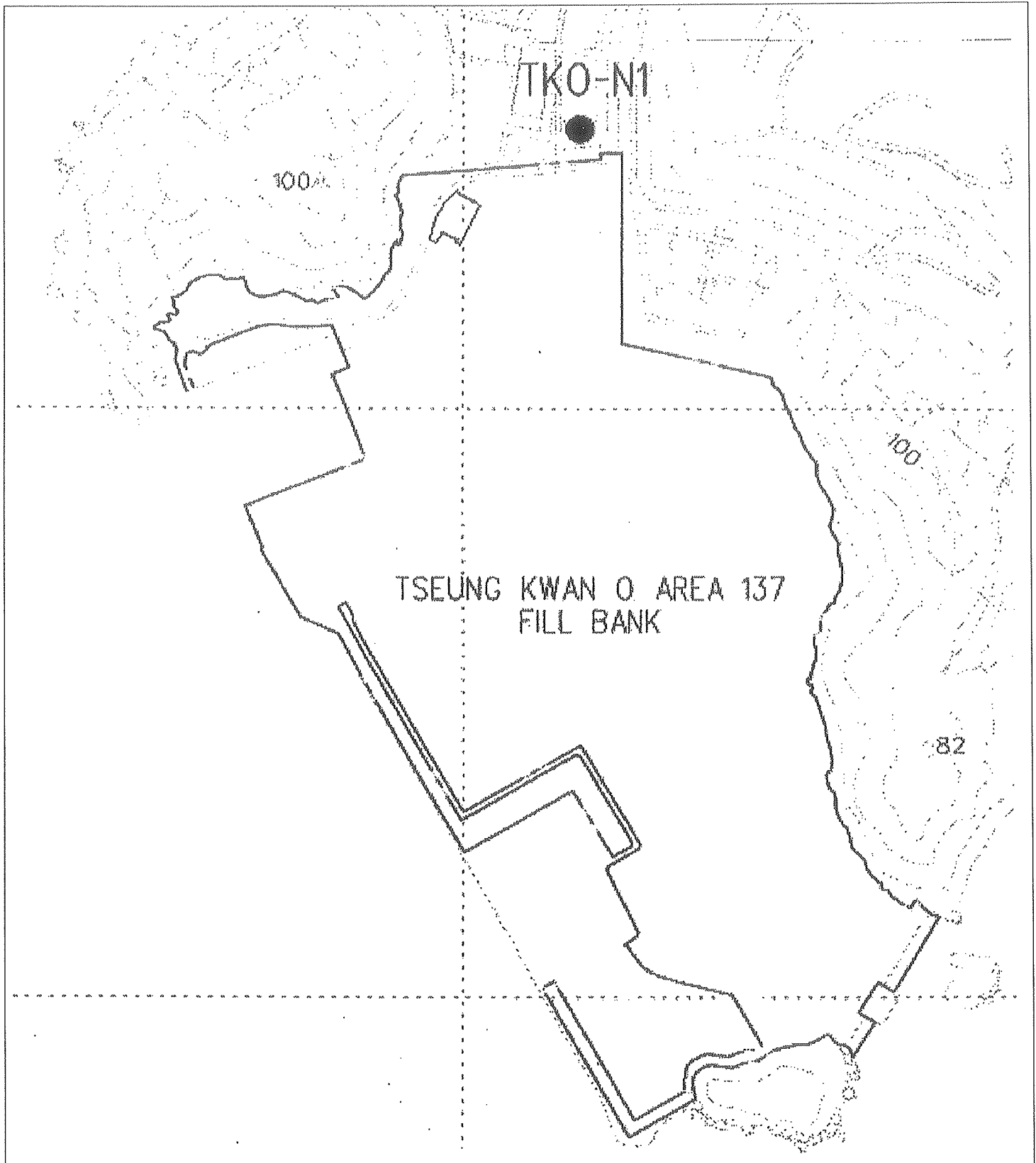


Contract No. CV/2013/06
 Handling of Surplus Public Fill (2014-2016)

Figure 1
 Locations of Water Quality Monitoring Stations –
 Tseung Kwan O Area 137 Fill Bank

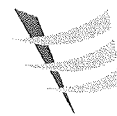


東業德勤測試顧問有限公司
 ETS-TESTCONSULT LIMITED

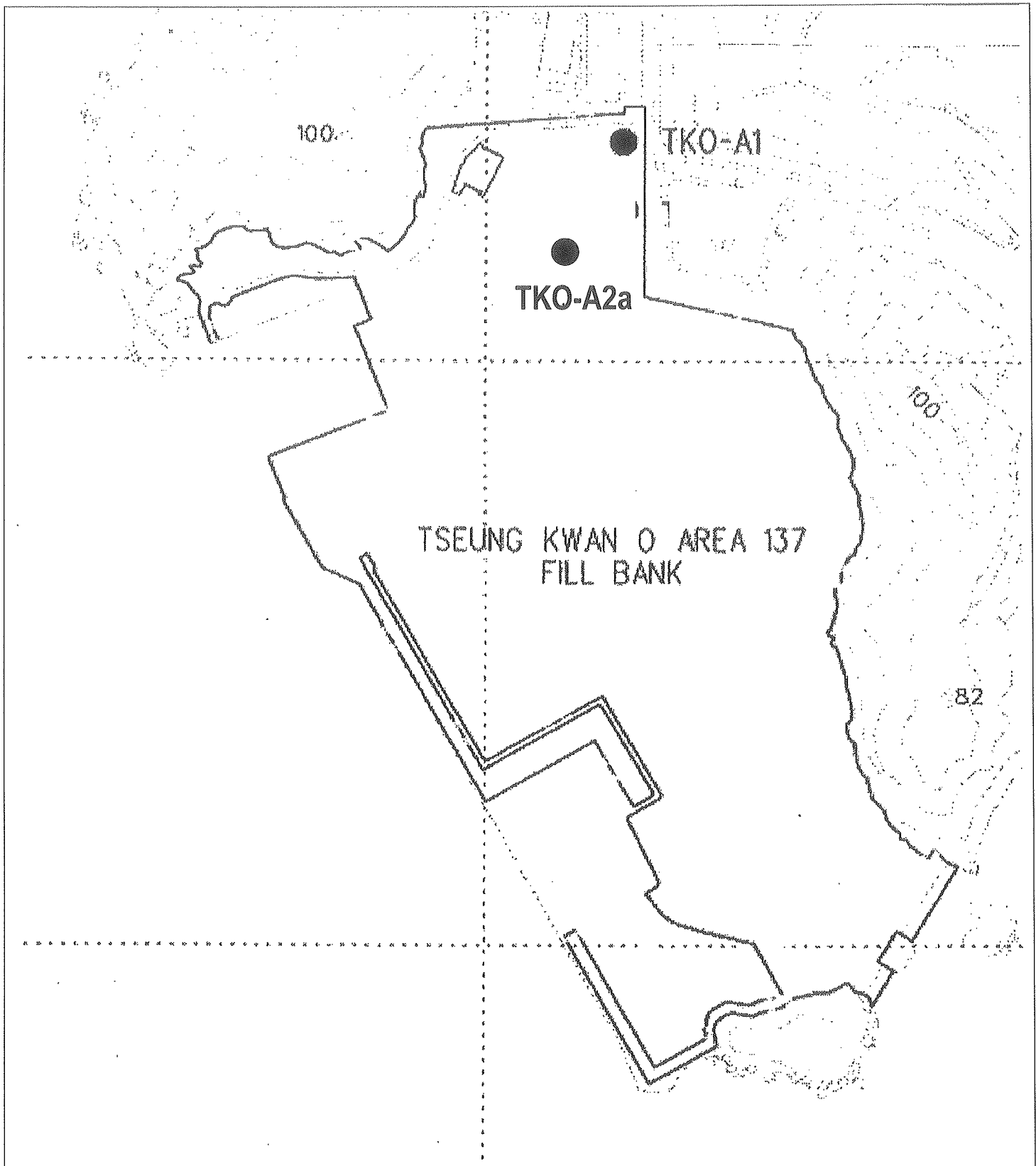


Contract No. CV/2013/06
Handling of Surplus Public Fill (2014-2016)

Figure 2
Location of Noise Monitoring Station –
Tseung Kwan O Area 137 Fill Bank



東業德勤測試顧問有限公司
ETS-TESTCONSULT LIMITED

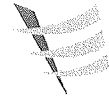


Contract No. CV/2013/06
Handling of Surplus Public Fill (2014-2016)

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



東業德勤測試顧問有限公司
ETS-TESTCONSULT LIMITED




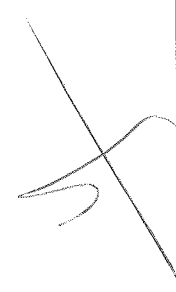

Appendix II

**Marine Water Quality Monitoring Report for Contract No. HY/2010/02
Hong Kong – Zhuhai – Macao Bridge, Hong Kong Boundary Crossing
Facilities – Reclamation Works**

CEDD Contract No.: CV/2013/06

Handling of Surplus Public Fill (2014-2016) - Tseung Kwan O Area 137 Fill Bank

Inspection Date : 24/2/16
 Time : 15:00
 Weather : Sunny / Fine / Cloudy / Overcast / Drizzle / Rain / Storm / Hazy
 Wind : Calm / Light / Breeze / Strong
 Temperature : 14°C
 Humidity : High / Moderate / Low

Inspected by	CEDD	Contractor / Sub-Contractor	ET
Signature:			
Name:	HON CHUNG LUN	Eric Wan	Mak Hei Wai
Title	ALOW / P3 (1)	EO	E.T

	Implementation Stages*		Remark
	Yes	No / N/A	
Fugitive Dust Emission			
▪ Dust control / mitigation measures shall be provided to prevent dust nuisance.	✓		
▪ A buffer zone of at least 100m shall be maintained between the edge of the stockpiling area and the nearest ASRs at the TKO Industrial Estate. Within the buffer zone, no dusty material shall be stockpiled and no loading / unloading and similar activities should be allowed.	✓		
▪ Water sprays shall be provided and used to dampen materials.	✓		
▪ Regular cleaning and watering the site shall be provided to minimize the fugitive dust emissions.	✓		
▪ All vehicles shall be restrict to a maximum speed of 10 km per hour.	✓		
▪ Any vehicle with open load carrying area used for moving materials which has the potential to create dust shall have properly fitting side and tail boards. Material having the potential to create dust shall not be loaded to a level higher than the side and tail boards, and shall be covered by a clean tarpaulin.	✓		
▪ The designated site main haul road shall be paved or regular watering.	✓		
▪ Frequent watering of work site shall be at least three times per day.	✓		
▪ Wheel washing facilities including high-pressure water jet shall be provided at the entrance of work site.	✓		
▪ Every vehicle shall be washed to remove any dusty materials from its body and wheels before leaving the fill bank.	✓		
▪ All plant and equipment should be well maintained e.g. without black smoke emission.	✓		
▪ Open burning should be prohibited.	✓		
▪ The temporary slope surfaces, especially those facing to the north of the site shall be covered with impermeable sheet or sprayed with water or protected by other method approved by CEDD.	✓		
▪ Final slope surfaces, especially those facing to the north of the site shall be treated by compaction, followed by hydroseeding, vegetation planting or sealing with shot concrete, latex, vinyl, bitumen, or other suitable surface stabilizer approved by CEDD.	✓		
▪ When fill material is transfer by belt conveyor systems, the conveyors shall be enclosed on top and 2 sides.	✓		
▪ The belt scraper shall be equipped with bottom plates or other similar means to prevent falling of material from the return belt.	✓		
▪ The level of stockpiling belt conveyor shall be adjustable such that the vertical distance between the belt conveyor and the material landing point is maintained at no more than 1m.	✓		
▪ Approval or exemption Non-road Mobile Machinery (NRM/M) labels should be painted or securely fixed on regulated machines and non-road vehicles at a conspicuous position according to the Air Pollution Control (Non-road Mobile Machinery) (Emission) Regulation (APCO Cap.311).	✓		
Noise Impact			
▪ The approved method of working, equipment and sound-reducing measures (e.g. use of silenced type of equipment, etc.) shall be adapted.	✓		
▪ Only well maintained plant should be operated on-site and plant should be serviced regularly during the construction works.	✓		
▪ Powered mechanical equipment (PME) should be covered or shielded by appropriate acoustic materials.	✓		
▪ Air compressors and hand held breakers should have noise labels.	✓		
▪ Machines and plants that may be in intermittent use should be shut down between work periods or should be throttled down to a minimum.	✓		
▪ Noisy equipment and mobile plant shall always be site away from NSRs.	✓		

Handling of Surplus Public Fill (2014-2016) - Tseung Kwan O Area 137 Fill Bank

Environmental Checklist

	Implementation Stages*		Remark
	Yes	No / N/A	
Water Quality			
▪ Drainage system should be adequate and well maintained to prevent flooding and overflow, especially after rain storms.	✓		
▪ The permanent drainage channels should have sediment basin, traps and baffles and maintain properly.	✓		
▪ Temporary intercepting drains should be used at the stockpiling area to divert polluted stormwater to the intercepting channels. Earth bunds and sand bay barriers shall be used to assist the diversion of polluted stormwater to the intercepting channels.	✓		
▪ Manholes should be covered and sealed.	✓		
▪ Unnecessary water retained in receptacles and standing water should be avoided to prevent mosquito breeding.	✓		
▪ A buffer distance of at least 100m shall be maintained between the boundary of the public fill stockpiling area and the sea front.	✓		
▪ A buffer distance of at least 20m shall be maintained between the boundary of the C&DMSF and the seafront.	✓		
▪ The stormwater intercepting system shall be effective to collect of runoff and remove suspended solids before discharge.	✓		
▪ The temporary slope surfaces, especially those facing to the north of the site shall be treated with impermeable sheet or sprayed with water or protected by other method approved by CEDD.	✓		
▪ Final slope surfaces, especially those facing to the north of the site shall be treated by compaction, followed by hydroseeding, vegetation planting or sealing with shotconcrete, latex, vinyl, bitumen, or other suitable surface stabilizer approved by CEDD.	✓		
▪ Existing and newly constructed Catchpits, sand and silt removal facilities and intercepting channels shall be maintained, and the deposited silt and grit shall be removed weekly and on a need basis especially at the onset of and after each rainstorm to ensure that these facilities are functioning properly at all times.	✓		
▪ A wheel washing bay shall be provided at the site exit and wash-water shall have sand and silt settled out or removed before being discharged into storm drains.	✓		
▪ The section of construction road between wheel washing bay and the public road shall be paved with concrete, bituminous materials or hardcore to reduce vehicle tracking of soil and to prevent site run-off from entering public road drains.	✓		
▪ Sewage from toilets shall be discharged in to a foul sewer, or chemical toilets shall be provided. The chemical toilets (if use) shall be provided by a licensed contractor, who will be responsible for disposal and maintenance of these facilities.	✓		
▪ Oil intercept in addition of sand / silt removal facilities shall be provided at the car parking areas.	✓		
▪ Oil interceptor shall be provided at work shop.	✓		
▪ Tipping halls enclosed with top and 3-side to prevent spillage of material into marine water.	✓		
▪ The barges shall be in right size such that adequate clearance is maintained between the vessels and the seabed at all states of the tide to ensure the undue turbidity is not generated by turbulence from vessel movement or propeller wash.	✓		
▪ All vessels used for transportation of fill material shall have tight fitting seals to their bottom openings to prevent leakage of material during transport.	✓		
▪ Adequate environmental control measures shall be provided to prevent / avoid dropping of fill material into the sea during the transfer.	✓		
▪ Barges shall not be filled to a level which may cause the overflow of material during loading or transportation. Barge effluents shall be properly collected and treated before disposal.	✓		
▪ The work activities shall not cause any visible foam, oil, grease, scum, litter or other objectionable matters to be present on the water in the vicinity of the barging facilities.	✓		
▪ Existing silt curtain at the outward side of the basin near the Barging Handling Area throughout the period shall be repair, maintain and service when there is public fill intake by barges to the Fill Bank in accordance with PS Clause 1.68. The total length of the silt curtains shall not be less than 160m, and a gap of about 80m shall be left open for access of barges. The silt curtain shall be properly maintained such that it can also serve the function of refuse containment boom to confine floating refuse.	✓		
▪ A waste collection vessel shall be deployed to remove floating debris.	✓		

Environmental Checklist		Implementation Stages*		Remark
		Yes	No	
Landscape and Visual				
▪	The design of the fill bank and platform heights adopted should allow the fill bank to fit into the general topography of the surrounding land. Straight edged slopes should be avoided.	√		
▪	The maximum stockpiling height at the fill bank shall be limited to a maximum of +35.2mPD.	√		
▪	Surface of outer slopes of the fill bank shall preferably be hydroseeded or covered with geo-textile matting of appropriate colour (e.g. dark green / brown) once completed.	√		
▪	The barging point and the C&DMSF at the fill bank shall not be in operation from 07:00 pm to 08:00 am daily to avoid potential visual impact from glare.	√		
Other Environmental Factors				
▪	C&D waste sorted from mixed C&D material shall be removed from the temporary buffer storage area on a daily basis and transfer to SENT landfill for disposal.	√		
▪	Plan and stock construction materials carefully to minimise amount of waste generated and avoid unnecessary generation of waste.	√		
▪	Any unused materials or those with remaining functional capacity should be recycled and stored properly.	√		
▪	All generators, fuel and oil storage are within bundle areas.	√		
▪	Oil leakage from machinery, vehicle and plant is prevented.	√		
▪	The Environmental Permit should be displaced conspicuously on site.	√		
▪	Good site practices should be adopted to clean the rubbish and litter on a regular basis so as to prevent the rubbish and litter from dropping into the nearby environment.	√		
▪	To encourage collection of aluminium cans by individual collectors, separate labelled bins should be provided to segregate this waste from other general refuse generated by the workforce.	√		



Summary of the Weekly Site Inspection:

Item	Details of defective works or observations	Proposed Follow Up Action	Photo Ref.	Further Action Required (Yes/No)	Target Completion Date
1	Follow up action to item 1 on 19/02/16, fill materials observed on the concrete pavement along the Pier at A8 were cleared.	---	160219_001	No	---

Remark

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Name	Title	Signature	Date
Linda Law	Senior Environmental Officer		24 February 2016

Photos

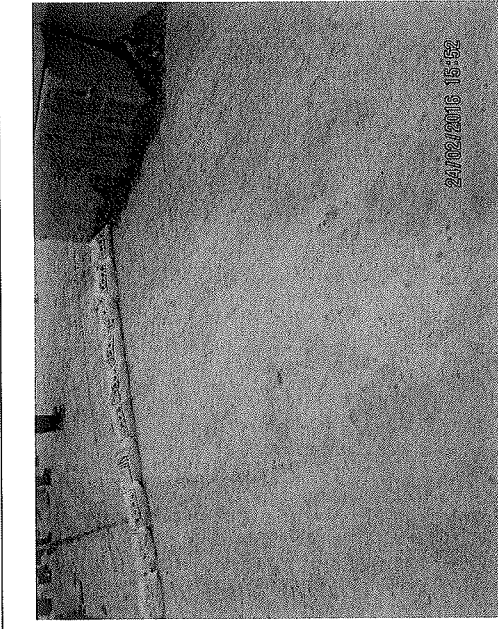


Photo 160219_001 (Pier at A8) (Improved)

Summary of the Weekly Site Inspection:

Item	Details of defective works or observations	Proposed Follow Up Action	Photo Ref.	Further Action Required (Yes/No)	Target Completion Date
1	Fill materials were observed on the concrete pavement along the Pier at A8. <i>已改善, 積泥已清 (808)</i>	To clear the mud properly and provide appropriate mitigation measures to avoid the dropping of fill materials into the sea.	160219_001	Yes	24/02/16

Remark

Name	Title	Signature	Date
Linda Law	Senior Environmental Officer	<i>Linda Law</i>	19 February 2016



CEDD Contract No.: CV/2013/06

Handling of Surplus Public Fill (2014-2016) - Tseung Kwan O Area 137 Fill Bank

Inspection Date : 19/2/16
Time : 15:00
Weather : Sunny / Fine / Cloudy / Overcast / Drizzle / Rain / Storm / Hazy
Wind : Calm / Light / Breeze / Strong
Temperature : 17°C
Humidity : High / Moderate / Low

Inspected by	CEDD	Contractor / Sub-Contractor	ET
Signature:			Mark
Name:	C. L. FION	Eric Wan	Mark Sei Wan
Title	A20W / P3 (1)	EO	E.T

		Implementation Stages*			Remark
		Yes	No	N/A	
Fugitive Dust Emission					
▪	Dust control / mitigation measures shall be provided to prevent dust nuisance.	√			
▪	A buffer zone of at least 100m shall be maintained between the edge of the stockpiling area and the nearest ASRs at the TKO Industrial Estate. Within the buffer zone, no dusty material shall be stockpiled and no loading / unloading and similar activities should be allowed.	√			
▪	Water sprays shall be provided and used to dampen materials.	√			
▪	Regular cleaning and watering the site shall be provided to minimize the fugitive dust emissions.	√			
▪	All vehicles shall be restrict to a maximum speed of 10 km per hour.	√			
▪	Any vehicle with open load carrying area used for moving materials which has the potential to create dust shall have properly fitting side and tail boards. Material having the potential to create dust shall not be loaded to a level higher than the side and tail boards, and shall be covered by a clean tarpaulin.	√			
▪	The designated site main haul road shall be paved or regular watering.	√			
▪	Frequent watering of work site shall be at least three times per day.	√			
▪	Wheel washing facilities including high-pressure water jet shall be provided at the entrance of work site.	√			
▪	Every vehicle shall be washed to remove any dusty materials from its body and wheels before leaving the fill bank.	√			
▪	All plant and equipment should be well maintained e.g. without black smoke emission.	√			
▪	Open burning should be prohibited.	√			
▪	The temporary slope surfaces, especially those facing to the north of the site shall be covered with impermeable sheet or sprayed with water or protected by other method approved by CEDD.	√			
▪	Final slope surfaces, especially those facing to the north of the site shall be treated by compaction, followed by hydroseeding, vegetation planting or sealing with shot concrete, latex, vinyl, bitumen, or other suitable surface stabilizer approved by CEDD.	√			
▪	When fill material is transfer by belt conveyor systems, the conveyors shall be enclosed on top and 2 sides.	√			
▪	The belt scraper shall be equipped with bottom plates or other similar means to prevent falling of material from the return belt.	√			
▪	The level of stockpiling belt conveyor shall be adjustable such that the vertical distance between the belt conveyor and the material landing point is maintained at no more than 1m.	√			
▪	Approval or exemption Non-road Mobile Machinery (NRM/M) labels should be painted or securely fixed on regulated machines and non-road vehicles at a conspicuous position according to the Air Pollution Control (Non-road Mobile Machinery) (Emission) Regulation (APCO Cap.311).	√			
Noise Impact					
▪	The approved method of working, equipment and sound-reducing measures (e.g. use of silenced type of equipment, etc.) shall be adapted.	√			
▪	Only well maintained plant should be operated on-site and plant should be serviced regularly during the construction works.	√			
▪	Powered mechanical equipment (PME) should be covered or shielded by appropriate acoustic materials.	√			
▪	Air compressors and hand held breakers should have noise labels.	√			
▪	Machines and plants that may be in intermittent use should be shut down between work periods or should be throttled down to a minimum.	√			
▪	Noisy equipment and mobile plant shall always be site away from NSRs.	√			

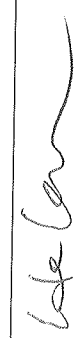
		Implementation Stages*			Remark
		Yes	No	N/A	
Water Quality					
▪	Drainage system should be adequate and well maintained to prevent flooding and overflow, especially after rain storms.	✓			
▪	The permanent drainage channels should have sediment basin, traps and baffles and maintain properly.	✓			
▪	Temporary intercepting drains should be used at the stockpiling area to divert polluted stormwater to the intercepting channels. Earth bunds and sand bay barriers shall be used to assist the diversion of polluted stormwater to the intercepting channels.	✓			
▪	Manholes should be covered and sealed.	✓			
▪	Unnecessary water retained in receptacles and standing water should be avoided to prevent mosquito breeding.	✓			
▪	A buffer distance of at least 100m shall be maintained between the boundary of the public fill stockpiling area and the sea front.	✓			
▪	A buffer distance of at least 20m shall be maintained between the boundary of the C&DMSF and the seafront.	✓			
▪	The stormwater intercepting system shall be effective to collect of runoff and remove suspended solids before discharge.	✓			
▪	The temporary slope surfaces, especially those facing to the north of the site shall be treated by compaction, followed by hydroseeding, vegetation planting or sealing with shotconcrete, latex, vinyl, bitumen, or other suitable surface stabilizer approved by CEDD.	✓			
▪	Final slope surfaces, especially those facing to the north of the site shall be treated by compaction, followed by hydroseeding, vegetation planting or sealing with shotconcrete, latex, vinyl, bitumen, or other suitable surface stabilizer approved by CEDD.	✓			
▪	Existing and newly constructed Catchpits, sand and silt removal facilities and intercepting channels shall be maintained, and the deposited silt and grit shall be removed weekly and on a need basis especially at the onset of and after each rainstorm to ensure that these facilities are functioning properly at all times.	✓			
▪	A wheel washing bay shall be provided at the site exit and wash-water shall have sand and silt settled out or removed before being discharged into storm drains.	✓			
▪	The section of construction road between wheel washing bay and the public road shall be paved with concrete, bituminous materials or hardcores to reduce vehicle tracking of soil and to prevent site run-off from entering public road drains.	✓			
▪	Sewage from toilets shall be discharged in to a foul sewer, or chemical toilets shall be provided. The chemical toilets (if use) shall be provided by a licensed contractor, who will be responsible for disposal and maintenance of these facilities.	✓			
▪	Oil intercept in addition of sand / silt removal facilities shall be provided at the car parking areas.	✓			
▪	Oil interceptor shall be provided at work shop.	✓			
▪	Tipping halls enclosed with top and 3-side to prevent spillage of material into marine water.	✓			
▪	The barges shall be in right size such that adequate clearance is maintained between the vessels and the seabed at all states of the tide to ensure the undue turbidity is not generated by turbulence from vessel movement or propeller wash.	✓			
▪	All vessels used for transportation of fill material shall have tight fitting seals to their bottom openings to prevent leakage of material during transport.	✓			
▪	Adequate environmental control measures shall be provided to prevent / avoid dropping of fill material into the sea during the transfer.	✓			Item 1
▪	Barges shall not be filled to a level which may cause the overflow of material during loading or transportation. Barge effluents shall be properly collected and treated before disposal.	✓			
▪	The work activities shall not cause any visible foam, oil, grease, scum, litter or other objectionable matters to be present on the water in the vicinity of the barging facilities.	✓			
▪	Existing silt curtain at the outward side of the basin near the Barging Handling Area throughout the period shall be repair, maintain and service when there is public fill intake by barges to the Fill Bank in accordance with PS Clause 1.68. The total length of the silt curtains shall not be less than 160m, and a gap of about 80m shall be left open for access of barges. The silt curtain shall be properly maintained such that it can also serve the function of refuse containment boom to confine floating refuse.	✓			
▪	A waste collection vessel shall be deployed to remove floating debris.	✓			

Environmental Checklist		Implementation Stages*			Remark
		Yes	No	N/A	
Landscape and Visual					
▪	The design of the fill bank and platform heights adopted should allow the fill bank to fit into the general topography of the surrounding land. Straight edged slopes should be avoided.	√			
▪	The maximum stockpiling height at the fill bank shall be limited to a maximum of +35.2mPD.	√			
▪	Surface of outer slopes of the fill bank shall preferably be hydroseeded or covered with geo-textile matting of appropriate colour (e.g. dark green / brown) once completed.	√			
▪	The barging point and the C&DMSF at the fill bank shall not be in operation from 07:00 pm to 08:00 am daily to avoid potential visual impact from glare.	√			
Other Environmental Factors					
▪	C&D waste sorted from mixed C&D material shall be removed from the temporary buffer storage area on a daily basis and transfer to SENT landfill for disposal.	√			
▪	Plan and stock construction materials carefully to minimise amount of waste generated and avoid unnecessary generation of waste.	√			
▪	Any unused materials or those with remaining functional capacity should be recycled and stored properly.	√			
▪	All generators, fuel and oil storage are within bundle areas.	√			
▪	Oil leakage from machinery, vehicle and plant is prevented.	√			
▪	The Environmental Permit should be displaced conspicuously on site.	√			
▪	Good site practices should be adopted to clean the rubbish and litter on a regular basis so as to prevent the rubbish and litter from dropping into the nearby environment.	√			
▪	To encourage collection of aluminium cans by individual collectors, separate labelled bins should be provided to segregate this waste from other general refuse generated by the workforce.	√			

Summary of the Weekly Site Inspection:

Item	Details of defective works or observations	Proposed Follow Up Action	Photo Ref.	Further Action Required (Yes/No)	Target Completion Date
1	Fill materials were observed on the concrete pavement along the Pier at A8.	To clear the mud properly and provide appropriate mitigation measures to avoid the dropping of fill materials into the sea.	160219_001	Yes	24/02/16

Remark

Name	Title	Signature	Date
Checked by Linda Law	Senior Environmental Officer		19 February 2016

Photos

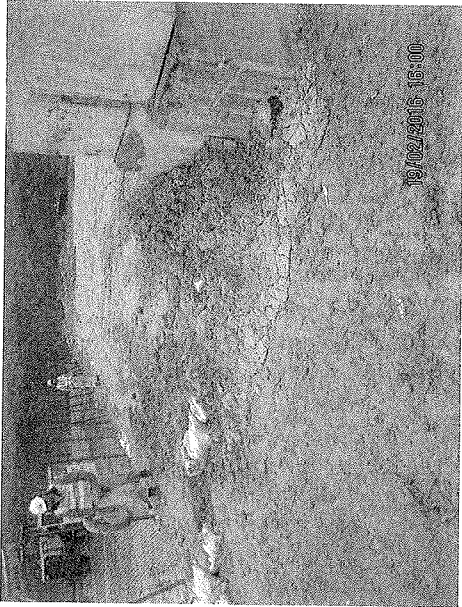


Photo 160219_001 (Pier at A8)

Item: A8碼頭位置清積泥和加沙包



CEDD Contract No.: CV/2013/06

Handling of Surplus Public Fill (2014-2016) - Tseung Kwan O Area 137 Fill Bank

Inspection Date : 11 - Feb - 2016




Time : 14:00

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

Wind : Calm / Light / Breeze / Strong

Temperature : 22°C

Humidity : High / Moderate / Low

Inspected by	CEDD	Contractor / Sub-Contractor	ET
Signature:			
Name:	FUNG CHAN KIN	Eric Wan	KAM KEN
Title	A10W	EO	ET

Environmental Checklist		Implementation Stages*		Remark
		Yes	No / N/A	
Fugitive Dust Emission				
▪	Dust control / mitigation measures shall be provided to prevent dust nuisance.	✓		
▪	A buffer zone of at least 100m shall be maintained between the edge of the stockpiling area and the nearest ASRs at the TKO Industrial Estate. Within the buffer zone, no dusty material shall be stockpiled and no loading / unloading and similar activities should be allowed.	✓		
▪	Water sprays shall be provided and used to dampen materials.	✓		
▪	Regular cleaning and watering the site shall be provided to minimize the fugitive dust emissions.	✓		
▪	All vehicles shall be restrict to a maximum speed of 10 km per hour.	✓		
▪	Any vehicle with open load carrying area used for moving materials which has the potential to create dust shall have properly fitting side and tail boards. Material having the potential to create dust shall not be loaded to a level higher than the side and tail boards, and shall be covered by a clean tarpaulin.	✓		
▪	The designated site main haul road shall be paved or regular watering.	✓		
▪	Frequent watering of work site shall be at least three times per day.	✓		
▪	Wheel washing facilities including high-pressure water jet shall be provided at the entrance of work site.	✓		
▪	Every vehicle shall be washed to remove any dusty materials from its body and wheels before leaving the fill bank.	✓		
▪	All plant and equipment should be well maintained e.g. without black smoke emission.	✓		
▪	Open burning should be prohibited.	✓		
▪	The temporary slope surfaces, especially those facing to the north of the site shall be covered with impermeable sheet or sprayed with water or protected by other method approved by CEDD.	✓		
▪	Final slope surfaces, especially those facing to the north of the site shall be treated by compaction, followed by hydroseeding, vegetation planting or sealing with shot concrete, latex, vinyl, bitumen, or other suitable surface stabilizer approved by CEDD.	✓		
▪	When fill material is transfer by belt conveyor systems, the conveyors shall be enclosed on top and 2 sides.	✓		
▪	The belt scraper shall be equipped with bottom plates or other similar means to prevent falling of material from the return belt.	✓		
▪	The level of stockpiling belt conveyor shall be adjustable such that the vertical distance between the belt conveyor and the material landing point is maintained at no more than 1m.	✓		
▪	Approval or exemption Non-road Mobile Machinery (NRMM) labels should be painted or securely fixed on regulated machines and non-road vehicles at a conspicuous position according to the Air Pollution Control (Non-road Mobile Machinery) (Emission) Regulation (APCO Cap.311).	✓		
Noise Impact				
▪	The approved method of working, equipment and sound-reducing measures (e.g. use of silenced type of equipment, etc.) shall be adapted.	✓		
▪	Only well maintained plant should be operated on-site and plant should be serviced regularly during the construction works.	✓		
▪	Powered mechanical equipment (PME) should be covered or shielded by appropriate acoustic materials.	✓		
▪	Air compressors and hand held breakers should have noise labels.	✓		
▪	Machines and plants that may be in intermittent use should be shut down between work periods or should be throttled down to a minimum.	✓		
▪	Noisy equipment and mobile plant shall always be site away from NSRs.	✓		

	Implementation Stages*		Remark
	Yes	No / N/A	
Water Quality			
▪ Drainage system should be adequate and well maintained to prevent flooding and overflow, especially after rain storms.	√		
▪ The permanent drainage channels should have sediment basin, traps and baffles and maintain properly.	√		
▪ Temporary intercepting drains should be used at the stockpiling area to divert polluted stormwater to the intercepting channels. Earth bunds and sand bay barriers shall be used to assist the diversion of polluted stormwater to the intercepting channels.	√		
▪ Manholes should be covered and sealed.	√		
▪ Unnecessary water retained in receptacles and standing water should be avoided to prevent mosquito breeding.	√		
▪ A buffer distance of at least 100m shall be maintained between the boundary of the public fill stockpiling area and the sea front.	√		
▪ A buffer distance of at least 20m shall be maintained between the boundary of the C&DMSF and the seafront.	√		
▪ The stormwater intercepting system shall be effective to collect of runoff and remove suspended solids before discharge.	√		
▪ The temporary slope surfaces, especially those facing to the north of the site shall be covered with impermeable sheet or sprayed with water or protected by other method approved by CEDD.	√		
▪ Final slope surfaces, especially those facing to the north of the site shall be treated by compaction, followed by hydroseeding, vegetation planting or sealing with shotcrete, latex, vinyl, bitumen, or other suitable surface stabilizer approved by CEDD.	√		
▪ Existing and newly constructed Catchpits, sand and silt removal facilities and intercepting channels shall be maintained, and the deposited silt and grit shall be removed weekly and on a need basis especially at the onset of and after each rainstorm to ensure that these facilities are functioning properly at all times.	√		
▪ A wheel washing bay shall be provided at the site exit and wash-water shall have sand and silt settled out or removed before being discharged into storm drains.	√		
▪ The section of construction road between wheel washing bay and the public road shall be paved with concrete, bituminous materials or hardcore to reduce vehicle tracking of soil and to prevent site run-off from entering public road drains.	√		
▪ Sewage from toilets shall be discharged in to a foul sewer, or chemical toilets shall be provided. The chemical toilets (if use) shall be provided by a licensed contractor, who will be responsible for disposal and maintenance of these facilities.	√		
▪ Oil intercept in addition of sand / silt removal facilities shall be provided at the car parking areas.	√		
▪ Oil interceptor shall be provided at work shop.	√		
▪ Tipping halls enclosed with top and 3-side to prevent spillage of material into marine water.	√		
▪ The barges shall be in tight size such that adequate clearance is maintained between the vessels and the seabed at all states of the tide to ensure the undue turbidity is not generated by turbulence from vessel movement or propeller wash.	√		
▪ All vessels used for transportation of fill material shall have tight fitting seals to their bottom openings to prevent leakage of material during transport.	√		
▪ Adequate environmental control measures shall be provided to prevent / avoid dropping of fill material into the sea during the transfer.	√		
▪ Barges shall not be filled to a level which may cause the overflow of material during loading or transportation. Barge effluents shall be properly collected and treated before disposal.	√		
▪ The work activities shall not cause any visible foam, oil, grease, scum, litter or other objectionable matters to be present on the water in the vicinity of the barging facilities.	√		
▪ Existing silt curtain at the outward side of the basin near the Barging Handling Area throughout the period shall be repair, maintain and service when there is public fill intake by barges to the Fill Bank in accordance with PS Clause 1.68. The total length of the silt curtains shall not be less than 160m, and a gap of about 80m shall be left open for access of barges. The silt curtain shall be properly maintained such that it can also serve the function of refuse containment boom to confine floating refuse.	√		
▪ A waste collection vessel shall be deployed to remove floating debris.	√		



		Implementation Stages*		Remark
		Yes	No	
Environmental Checklist				
Landscape and Visual				
▪	The design of the fill bank and platform heights adopted should allow the fill bank to fit into the general topography of the surrounding land. Straight edged slopes should be avoided.	√		
▪	The maximum stockpiling height at the fill bank shall be limited to a maximum of +35.2mPD.	√		
▪	Surface of outer slopes of the fill bank shall preferably be hydroseeded or covered with geo-textile matting of appropriate colour (e.g. dark green / brown) once completed.	√		
▪	The barging point and the C&DMSF at the fill bank shall not be in operation from 07:00 pm to 08:00 am daily to avoid potential visual impact from glare.	√		
Other Environmental Factors				
▪	C&D waste sorted from mixed C&D material shall be removed from the temporary buffer storage area on a daily basis and transfer to SENT landfill for disposal.	√		
▪	Plan and stock construction materials carefully to minimise amount of waste generated and avoid unnecessary generation of waste.	√		
▪	Any unused materials or those with remaining functional capacity should be recycled and stored properly.	√		
▪	All generators, fuel and oil storage are within bundle areas.	√		
▪	Oil leakage from machinery, vehicle and plant is prevented.	√		
▪	The Environmental Permit should be displaced conspicuously on site.	√		
▪	Good site practices should be adopted to clean the rubbish and litter on a regular basis so as to prevent the rubbish and litter from dropping into the nearby environment.	√		
▪	To encourage collection of aluminium cans by individual collectors, separate labelled bins should be provided to segregate this waste from other general refuse generated by the workforce.	√		



Summary of the Weekly Site Inspection:

Item	Details of defective works or observations	Proposed Follow Up Action	Photo Ref.	Further Action Required (Yes/No)	Target Completion Date
1	Follow up action to item 3 on 03/02/16, pesticide was added to standing water inside the idle sedimentation tank of Weisep at Area A3.	---	160211_001	No	---

Remark

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Name	Title	Signature	Date
Linda Law	Senior Environmental Officer		11 February 2016

Photos

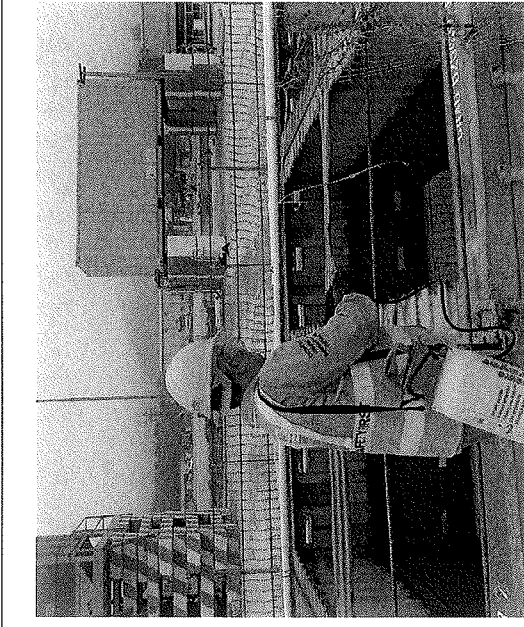


Photo 160211_001 (Idle sedimentation tank of Wetsep at Area A3) (Improved)

Photos

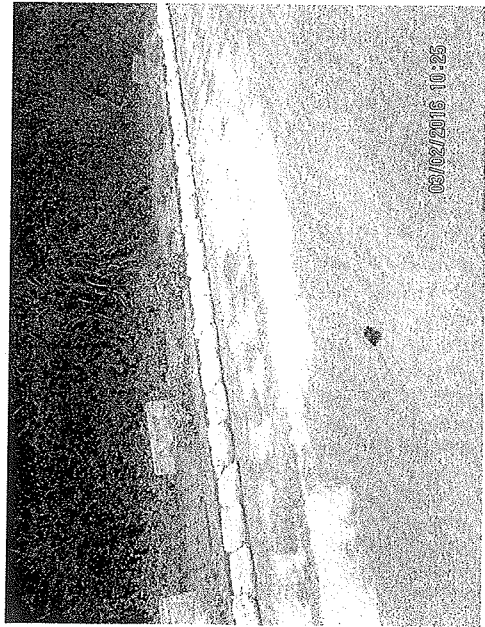


Photo 160203_001 (CP 5) (Improved)



Photo 160203_002 (Dry mud zone) (Improved)

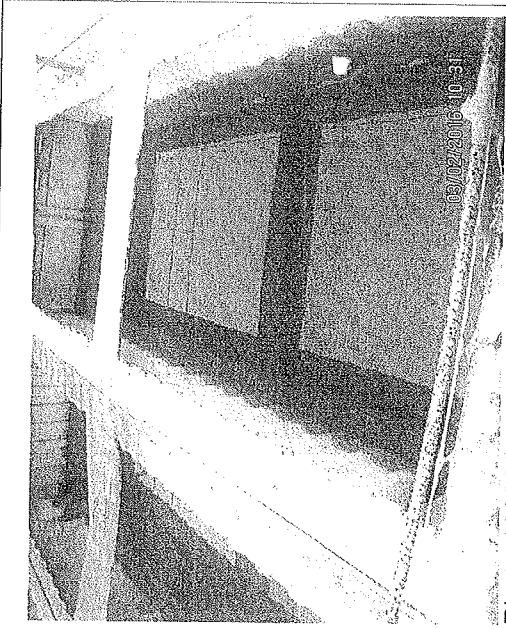


Photo 160203_003 (Idle sedimentation tank of Weisep at Area A3)

已改善



CEDD Contract No.: CV/2013/06

Handling of Surplus Public Fill (2014-2016) - Tseung Kwan O Area 137 Fill Bank

Inspection Date : 3/2/16


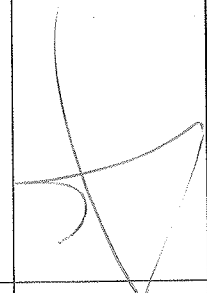

Time : 10:30

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

Wind : Calm / Light / Breeze / Strong

Temperature : 12°C

Humidity : High / Moderate / Low

Inspected by	CEDD	Contractor / Sub-Contractor	ET
Signature:			
Name:	C. L. HON	Eric Wan	Mark Sei Wai
Title	AZOW/P3 (1)	EO	E.T



	Implementation Stages*		Remark
	Yes	No / N/A	
Fugitive Dust Emission			
▪ Dust control / mitigation measures shall be provided to prevent dust nuisance.	√		
▪ A buffer zone of at least 100m shall be maintained between the edge of the stockpiling area and the nearest ASRs at the TKO Industrial Estate. Within the buffer zone, no dusty material shall be stockpiled and no loading / unloading and similar activities should be allowed.	√		
▪ Water sprays shall be provided and used to dampen materials.	√		
▪ Regular cleaning and watering the site shall be provided to minimize the fugitive dust emissions.	√		
▪ All vehicles shall be restrict to a maximum speed of 10 km per hour.	√		
▪ Any vehicle with open load carrying area used for moving materials which has the potential to create dust shall have properly fitting side and tail boards. Material having the potential to create dust shall not be loaded to a level higher than the side and tail boards, and shall be covered by a clean tarpaulin.	√		
▪ The designated site main haul road shall be paved or regular watering.	√		
▪ Frequent watering of work site shall be at least three times per day.	√		
▪ Wheel washing facilities including high-pressure water jet shall be provided at the entrance of work site.	√		
▪ Every vehicle shall be washed to remove any dusty materials from its body and wheels before leaving the fill bank.	√		
▪ All plant and equipment should be well maintained e.g. without black smoke emission.	√		
▪ Open burning should be prohibited.	√		
▪ The temporary slope surfaces, especially those facing to the north of the site shall be covered with impermeable sheet or sprayed with water or protected by other method approved by CEDD.	√		
▪ Final slope surfaces, especially those facing to the north of the site shall be treated by compaction, followed by hydroseeding, vegetation planting or sealing with shot concrete, latex, vinyl, bitumen, or other suitable surface stabilizer approved by CEDD.	√		
▪ When fill material is transfer by belt conveyor systems, the conveyors shall be enclosed on top and 2 sides.	√		
▪ The belt scraper shall be equipped with bottom plates or other similar means to prevent falling of material from the return belt.	√		
▪ The level of stockpiling belt conveyor shall be adjustable such that the vertical distance between the belt conveyor and the material landing point is maintained at no more than 1m.	√		
▪ Approval or exemption Non-road Mobile Machinery (NRMM) labels should be painted or securely fixed on regulated machines and non-road vehicles at a conspicuous position according to the Air Pollution Control (Non-road Mobile Machinery) (Emission) Regulation (APCO Cap.311).	√	Item 3	
Noise Impact			
▪ The approved method of working, equipment and sound-reducing measures (e.g. use of silenced type of equipment, etc.) shall be adapted.	√		
▪ Only well maintained plant should be operated on-site and plant should be serviced regularly during the construction works.	√		
▪ Powered mechanical equipment (PME) should be covered or shielded by appropriate acoustic materials.	√		
▪ Air compressors and hand held breakers should have noise labels.	√		
▪ Machines and plants that may be in intermittent use should be shut down between work periods or should be throttled down to a minimum.	√		
▪ Noisy equipment and mobile plant shall always be site away from NSRs.	√		



Handling of Surplus Public Fill (2014-2016) - Tseung Kwan O Area 137 Fill Bank

		Implementation Stages*		Remark
		Yes	No / N/A	
Water Quality				
▪	Drainage system should be adequate and well maintained to prevent flooding and overflow, especially after rain storms.	√		
▪	The permanent drainage channels should have sediment basin, traps and baffles and maintain properly.	√		
▪	Temporary intercepting drains should be used at the stockpiling area to divert polluted stormwater to the intercepting channels. Earth bunds and sand bay barriers shall be used to assist the diversion of polluted stormwater to the intercepting channels.	√		
▪	Manholes should be covered and sealed.	√		
▪	Unnecessary water retained in receptacles and standing water should be avoided to prevent mosquito breeding.	√	√	Item 3
▪	A buffer distance of at least 100m shall be maintained between the boundary of the public fill stockpiling area and the sea front.	√		
▪	A buffer distance of at least 20m shall be maintained between the boundary of the C&DMSF and the seafront.	√		
▪	The stormwater intercepting system shall be effective to collect of runoff and remove suspended solids before discharge.	√		
▪	The temporary slope surfaces, especially those facing to the north of the site shall be covered with impermeable sheet or sprayed with water or protected by other method approved by CEDD.	√		
▪	Final slope surfaces, especially those facing to the north of the site shall be treated by compaction, followed by hydroseeding, vegetation planting or sealing with shotcrete, latex, vinyl, bitumen, or other suitable surface stabilizer approved by CEDD.	√		
▪	Existing and newly constructed Catchpits, sand and silt removal facilities and intercepting channels shall be maintained, and the deposited silt and grit shall be removed weekly and on a need basis especially at the onset of and after each rainstorm to ensure that these facilities are functioning properly at all times.	√		
▪	A wheel washing bay shall be provided at the site exit and wash-water shall have sand and silt settled out or removed before being discharged into storm drains.	√		
▪	The section of construction road between wheel washing bay and the public road shall be paved with concrete, bituminous materials or hardcore to reduce vehicle tracking of soil and to prevent site run-off from entering public road drains.	√		
▪	Sewage from toilets shall be discharged in to a foul sewer, or chemical toilets shall be provided. The chemical toilets (if use) shall be provided by a licensed contractor, who will be responsible for disposal and maintenance of these facilities.	√		
▪	Oil intercept in addition of sand / silt removal facilities shall be provided at the car parking areas.	√		
▪	Oil interceptor shall be provided at work shop.	√		
▪	Tipping halls enclosed with top and 3-side to prevent spillage of material into marine water.	√		
▪	The barges shall be in right size such that adequate clearance is maintained between the vessels and the seabed at all states of the tide to ensure the undue turbidity is not generated by turbulence from vessel movement or propeller wash.	√		
▪	All vessels used for transportation of fill material shall have tight fitting seals to their bottom openings to prevent leakage of material during transport.	√		
▪	Adequate environmental control measures shall be provided to prevent / avoid dropping of fill material into the sea during the transfer.	√		
▪	Barges shall not be filled to a level which may cause the overflow of material during loading or transportation. Barge effluents shall be properly collected and treated before disposal.	√		
▪	The work activities shall not cause any visible foam, oil, grease, scum, litter or other objectionable matters to be present on the water in the vicinity of the barging facilities.	√		
▪	Existing silt curtain at the outward side of the basin near the Barging Handling Area throughout the period shall be repair, maintain and service when there is public fill intake by barges to the Fill Bank in accordance with PS Clause 1.68. The total length of the silt curtains shall not be less than 160m, and a gap of about 80m shall be left open for access of barges. The silt curtain shall be properly maintained such that it can also serve the function of refuse containment boom to confine floating refuse.	√		
▪	A waste collection vessel shall be deployed to remove floating debris.	√		



Environmental Checklist		Implementation Stages*			Remark
		Yes	No	N/A	
Landscape and Visual					
▪	The design of the fill bank and platform heights adopted should allow the fill bank to fit into the general topography of the surrounding land. Straight edged slopes should be avoided.	√			
▪	The maximum stockpiling height at the fill bank shall be limited to a maximum of +35.2mPD.	√			
▪	Surface of outer slopes of the fill bank shall preferably be hydroseeded or covered with geo-textile matting of appropriate colour (e.g. dark green / brown) once completed.	√			
▪	The barging point and the C&DMSF at the fill bank shall not be in operation from 07:00 pm to 08:00 am daily to avoid potential visual impact from glare.	√			
Other Environmental Factors					
▪	C&D waste sorted from mixed C&D material shall be removed from the temporary buffer storage area on a daily basis and transfer to SENT landfill for disposal.	√			
▪	Plan and stock construction materials carefully to minimise amount of waste generated and avoid unnecessary generation of waste.	√			
▪	Any unused materials or those with remaining functional capacity should be recycled and stored properly.	√			
▪	All generators, fuel and oil storage are within bundle areas.	√			
▪	Oil leakage from machinery, vehicle and plant is prevented.	√			
▪	The Environmental Permit should be displaced conspicuously on site.	√			
▪	Good site practices should be adopted to clean the rubbish and litter on a regular basis so as to prevent the rubbish and litter from dropping into the nearby environment.	√			
▪	To encourage collection of aluminium cans by individual collectors, separate labelled bins should be provided to segregate this waste from other general refuse generated by the workforce.	√			




Summary of the Weekly Site Inspection:

Item	Details of defective works or observations	Proposed Follow Up Action	Photo Ref.	Further Action Required (Yes/No)	Target Completion Date
1	Follow up action to item 2 on 27/01/16, mud accumulated near drainage channel at CP5 was cleared.	---	160203_001	No	---
2	Follow up action to item 2 on 27/01/16, appropriate NRRMM label was provided for Generator No.9 at dry mud zone.	---	160203_002	No	---
3	Standing water was noted inside the idle sedimentation tank of Wetsep at Area A3.	To provide appropriate measure(s), e.g. adding pesticide, to avoid mosquito breeding.	160203_003	Yes	11/02/16

Remark

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Name	Title	Signature	Date
Linda Law	Senior Environmental Officer		03 February 2016

Photos



Photo 160203_001 (CP 5) (Improved)



Photo 160203_002 (Dry mud zone) (Improved)



Photo 160203_003 (Idle sedimentation tank of Wetsep at Area A3)



Summary of the Weekly Site Inspection:

Item	Details of defective works or observations	Proposed Follow Up Action	Photo Ref.	Further Action Required (Yes/No)	Target Completion Date
1	Follow up action to item 1 on 20/01/16, mud accumulated on the concrete pavement along the barge handling area (BHA) was cleared and sand bags were provided. 已改善, 清了瀘泥 (553)	---	160127_001	No	---
2	Mud was found accumulated near drainage channel at CP5. 已改善, 加了 Redel (560)	To clear the accumulated mud properly.	160127_002	Yes	03/02/16
3	Generator No.9 at dry mud zone was found without NRMM label.	To provide appropriate NRMM label as soon as possible.	160127_003	Yes	03/02/16

Remark

Item 1: 貨和寫字樓附近這塊地方泥積在船位油桶處有積水 (547, 548)
 Item 2: ~~貨和寫字樓~~ 附近位置船位有積水 (556)
 Item 3: 泥積位置 sedimentation tank 要噴蚊油 (557)

Name	Title	Signature	Date
Linda Law	Senior Environmental Officer		27 January 2016

Water Quality Monitoring - Data Record Sheet - Tseung Kwan O Area 137 Fill Bank

Sampling Date: 29.2.16
Weather Condition: Cloudy
Tide status: Mid - Flood
Ambient Temperature (°C): 16.2
Station: TKO-C1
Duration: 9:00 to 9:18
Depth of Water (meter): 19.1

Depth (meter)	SURFACE			MIDDLE			BOTTOM			REMARK
	Value	Ave.	Std. Dev.	Value	Ave.	Std. Dev.	Value	Ave.	Std. Dev.	
Temp. (°C)	15.5			15.3			15.2			
Salinity (ppt)	27.4	27.5	27.7	27.6	27.7	27.7	27.7	27.7	27.9	
D.O. (mg/L)	6.43	6.44	6.77	6.77	6.76	6.58	6.60	6.59	6.54	
D.O.S. (%)	82.2	81.3	79.8	79.8	79.7	77.4	77.6	77.3	77.3	
Turbidity (NTU)	2.37	2.41	2.55	2.57	2.56	2.64	2.66	2.65	2.54	
S.S. (mg/L)	3.1	3.1	4.1	4.0	4.0	4.0	4.0	3.9	3.7	

Station: TKO-M4
Duration: 10:36 to 11:00
Depth of Water (meter): 10.5

Depth (meter)	SURFACE			MIDDLE			BOTTOM			REMARK
	Value	Ave.	Std. Dev.	Value	Ave.	Std. Dev.	Value	Ave.	Std. Dev.	
Temp. (°C)	15.4			15.2			15.0			
Salinity (ppt)	27.5	27.6	27.7	27.6	27.6	27.2	27.2	27.2	27.2	
D.O. (mg/L)	6.85	6.83	6.65	6.67	6.66	6.42	6.42	6.41	6.41	
D.O.S. (%)	81.2	81.0	78.5	78.0	78.6	75.5	75.3	75.4	75.4	
Turbidity (NTU)	2.45	2.47	2.58	2.60	2.59	2.73	2.73	2.74	2.60	
S.S. (mg/L)	2.9	3.5	4.4	4.0	3.7	3.6	3.6	3.7	3.5	

Parameter	Action Level*	Limit Level*
DO (mg/L)	Surface & Middle <5.45 mg/L (5%-ile of baseline data) Bottom <4.72 mg/L (5%-ile of baseline data)	Surface & Middle <5.10 mg/L (1%-ile of baseline data) Bottom <2.00 mg/L
SS (mg/L) (Depth-averaged)	>6.74 mg/L (95%-ile of baseline data) or >120% of the upstream control station's SS at the same tide on the same day	>7.67 mg/L (99%-ile of baseline data) or >130% of the upstream control station's SS at the same tide on the same day
Turbidity (NTU) (Depth-averaged)	>4.28 NTU (95%-ile of baseline data) or >120% of the upstream control station's turbidity at the same tide on the same day	>4.58 NTU (99%-ile of baseline data) or >130% of the upstream control station's turbidity at the same tide on the same day

* Traceable to Method Statement (Marine Water Quality Monitoring and Audit Manual) of Contract No. CV/2002/08, Rev. 2, Section 3.1 - 3.21

Any notable discoloration of water? Y / N If yes, elaboration is as follows:

Any notable pollutant by others near monitoring site? Y / N If yes, elaboration is as follows:

Field Operator	Name	Signature	Date
Checked by	Tung Ching-hy C. Chan	<i>[Signature]</i>	29.2.16
Laboratory Staff	Pei-yan	<i>[Signature]</i>	01/03/2016
Checked by	Chun-tan	<i>[Signature]</i>	1/3/16

Water Quality Monitoring - Data Record Sheet - Tseung Kwan O Area 137 Fill Bank

Sampling Date : 24.2.16
Weather Condition : Cloudy
Tide status : High - 6.66
Ambient Temperature (°C) : 16.2
Station: TKO-C1 Duration: 15.30 to 15.45 Depth of Water (meter): 18.5

Depth (meter)	SURFACE			MIDDLE			BOTTOM			DEPTH AVERAGE	REMARK
	1.07	15.4	17.5	4.3	15.2	17.5	15.1	17.5			
Salinity (ppt)	27.5	27.6	27.7	27.8	27.8	27.9	27.9	28.0	Ave.: 28.0		
D.O. (mg/L)	6.74	6.73	6.53	6.54	6.54	6.37	6.37	6.37	Ave.: 6.37		
D.O.S. (%)	75.9	77.8	77.3	77.1	77.2	74.8	74.9	74.9	Ave.: 74.9		
Turbidity (NTU)	2.49	2.51	2.64	2.67	2.67	2.74	2.74	2.74	Ave.: 2.74		
S.S. (mg/L)	3.7	3.5	3.7	3.8	3.8	3.9	3.9	3.9	Ave.: 3.8		

Station: TKO-M4 Duration: 17.06 to 17.30 Depth of Water (meter): 9.7

Depth (meter)	SURFACE			MIDDLE			BOTTOM			DEPTH AVERAGE	REMARK
	1.0	15.5	15.3	5.0	15.3	15.0	8.9	15.0			
Salinity (ppt)	27.6	27.7	27.8	27.8	27.9	28.0	28.0	28.0	Ave.: 28.0		
D.O. (mg/L)	6.65	6.67	6.43	6.44	6.35	6.35	6.35	6.34	Ave.: 6.34		
D.O.S. (%)	78.1	79.0	78.8	78.9	78.9	74.7	74.5	74.6	Ave.: 74.6		
Turbidity (NTU)	2.56	2.58	2.63	2.64	2.71	2.71	2.73	2.72	Ave.: 2.72		
S.S. (mg/L)	3.6	3.6	3.2	3.7	3.5	3.5	3.7	3.4	Ave.: 3.4		

Parameter	Action Level*
DO (mg/L)	Surface & Middle <5.45 mg/L (5%-ile of baseline data) Bottom <4.72 mg/L (5%-ile of baseline data)
SS (mg/L) (Depth-averaged)	>6.74 mg/L (95%-ile of baseline data) or >120% of the upstream control station's SS at the same tide on the same day
Turbidity (NTU) (Depth-averaged)	>4.28 NTU (95%-ile of baseline data) or >130% of the upstream control station's turbidity at the same tide on the same day

* Traceable to Method Statement (Marine Water Quality Monitoring and Audit Manual) of Contract No. CV2002/08, Rev. 2, Section 3.1 - 3.21

Any notable discoloration of water? Y / N If yes, elaboration is as follows:

Any notable pollutant by others near monitoring site? Y / N If yes, elaboration is as follows:

Field Operator	Name	Signature	Date
Checked by	Toy Sing Ho	<i>[Signature]</i>	24.2.16
Laboratory Staff	Jeanette C. L. Lam	<i>[Signature]</i>	01.03.2016
Checked by	De Lan	<i>[Signature]</i>	1/3/16

Water Quality Monitoring - Data Record Sheet - Tseung Kwan O Area 137 Fill Bank

Sampling Date : 4/3/16
Weather Condition : Fine
Tide status : Mid-Flood
Ambient Temperature (°C) : 18
Station: TKO-C1 Duration: 12:30 to 12:46
Depth of Water (meter): 17.8

	SURFACE	MIDDLE	BOTTOM	DEPTH AVERAGE	REMARK
Depth (meter)	1.0	7.8	16.8		
Temp. (°C)	15.6	15.5	15.2		
Salinity (ppt)	28.0 Ave.: 28.0	28.1 Ave.: 28.1	28.5 Ave.: 28.5		
D.O. (mg/L)	7.17 Ave.: 7.16	7.27 Ave.: 7.26	6.97 Ave.: 6.97		
D.O.S. (%)	85.6 Ave.: 85.3	85.2 Ave.: 85.0	82.3 Ave.: 82.0		
Turbidity (NTU)	1.17 Ave.: 1.25	1.19 Ave.: 1.22	1.56 Ave.: 1.53	1.33	
S.S. (mg/L)	1.7 Ave.: 1.8	1.7 Ave.: 1.8	2.3 Ave.: 2.1	1.9	

Station: TKO-M4 Duration: 13:48 to 14:06
Depth of Water (meter): 10.6

	SURFACE	MIDDLE	BOTTOM	DEPTH AVERAGE	REMARK
Depth (meter)	1.0	5.3	7.6		
Temp. (°C)	15.5	15.5	15.3		
Salinity (ppt)	28.1 Ave.: 28.1	28.1 Ave.: 28.1	28.3 Ave.: 28.3		
D.O. (mg/L)	7.17 Ave.: 7.12	7.21 Ave.: 7.23	6.95 Ave.: 6.94		
D.O.S. (%)	84.9 Ave.: 84.6	84.0 Ave.: 83.8	81.9 Ave.: 82.2		
Turbidity (NTU)	1.05 Ave.: 1.08	1.13 Ave.: 1.14	1.31 Ave.: 1.28	1.17	
S.S. (mg/L)	1.5 Ave.: 1.6	1.7 Ave.: 1.7	2.0 Ave.: 2.0	1.7	

Parameter	Action Level*	Limit Level*
DO (mg/L)	Surface & Middle <5.45 mg/L (5%-ile of baseline data) Bottom >6.74 mg/L (95%-ile of baseline data)	Surface & Middle <5.10 mg/L (1%-ile of baseline data) Bottom <2.00 mg/L
SS (mg/L) (Depth-averaged)	>4.72 mg/L (5%-ile of baseline data)	>7.67 mg/L (99%-ile of baseline data) or >130% of the upstream control station's SS at the same tide on the same day
Turbidity (NTU) (Depth-averaged)	>4.28 NTU (95%-ile of baseline data) or >120% of the upstream control station's SS at the same tide on the same day	>4.58 NTU (99%-ile of baseline data) or >130% of the upstream control station's turbidity at the same tide on the same day

* Traceable to Method Statement (Marine Water Quality Monitoring and Audit Manual) of Contract No. CV/2002/08, Rev. 2, Section 3.1 - 3.21

Any notable discoloration of water? Y / N If yes, elaboration is as follows:
Any notable pollutant by others near monitoring site? Y / N If yes, elaboration is as follows:

Name	Signature	Date
Field Operator Andrew	<i>Andrew</i>	4/3/16
Checked by Laboratory Staff Idea	<i>Idea</i>	4/5/16
Checked by Laboratory Staff Idea	<i>Idea</i>	7/3/16

Water Quality Monitoring - Data Record Sheet - Tseung Kwan O Area 137 Fill Bank

Sampling Date : 4/3/16
Weather Condition : Fine
Tide status : Mid-Ebb
Ambient Temperature (°C) : 18
Station: TKO-C1 Duration: 08:05 to 08:21
Depth of Water (meter): 19.2

Depth (meter)	SURFACE			MIDDLE			BOTTOM			DEPTH AVERAGE	REMARK
	Value	Ave.	Value	Ave.	Value	Ave.	Value	Ave.			
Temp. (°C)	15.4		15.3		11.0		18.2				
Salinity (ppt)	78.2	Ave.: 78.2	78.3	Ave.: 78.3	78.5	Ave.: 78.6	78.6	Ave.: 78.6			
D.O. (mg/L)	6.94	Ave.: 6.92	6.88	Ave.: 6.87	6.79	Ave.: 6.82	6.81	Ave.: 6.81			
D.O.S. (%)	81.5	Ave.: 81.1	81.2	Ave.: 81.4	80.2	Ave.: 80.5	80.5	Ave.: 80.5			
Turbidity (NTU)	1.24	Ave.: 1.32	1.41	Ave.: 1.37	1.70	Ave.: 1.66	1.46	Ave.: 1.66			
S.S. (mg/L)	2.0	Ave.: 2.1	2.1	Ave.: 2.1	2.2	Ave.: 2.3	2.3	Ave.: 2.3			

Station: TKO-M4 Duration: 09:19 to 09:36
Depth of Water (meter): 19.2

Depth (meter)	SURFACE			MIDDLE			BOTTOM			DEPTH AVERAGE	REMARK
	Value	Ave.	Value	Ave.	Value	Ave.	Value	Ave.			
Temp. (°C)	15.3		15.3		9.2		15.1				
Salinity (ppt)	78.2	Ave.: 78.2	78.2	Ave.: 78.3	78.4	Ave.: 78.4	78.4	Ave.: 78.4			
D.O. (mg/L)	7.02	Ave.: 7.01	6.94	Ave.: 6.93	6.85	Ave.: 6.86	6.86	Ave.: 6.86			
D.O.S. (%)	83.3	Ave.: 83.1	82.3	Ave.: 82.1	81.1	Ave.: 81.3	81.3	Ave.: 81.3			
Turbidity (NTU)	1.21	Ave.: 1.19	1.21	Ave.: 1.24	1.41	Ave.: 1.39	1.27	Ave.: 1.39			
S.S. (mg/L)	1.5	Ave.: 1.7	1.8	Ave.: 1.8	2.3	Ave.: 2.1	1.8	Ave.: 2.1			

Parameter	Action Level*	Limit Level*
DO (mg/L)	Surface & Middle <5.45 mg/L (5%-ile of baseline data) Bottom <4.72 mg/L (5%-ile of baseline data)	Surface & Middle <5.10 mg/L (1%-ile of baseline data) Bottom <2.00 mg/L
SS (Depth-averaged) (mg/L)	>6.74 mg/L (95%-ile of baseline data) or >120% of the upstream control station's SS at the same tide on the same day	>7.67 mg/L (99%-ile of baseline data) or >130% of the upstream control station's SS at the same tide on the same day
Turbidity (NTU) (Depth-averaged)	>4.28 NTU (95%-ile of baseline data) or >120% of the upstream control station's turbidity at the same tide on the same day	>4.58 NTU (99%-ile of baseline data) or >130% of the upstream control station's turbidity at the same tide on the same day

* Traceable to Method Statement (Marine Water Quality Monitoring and Audit Manual) of Contract No. CV/2002/08, Rev. 2, Section 3.1 - 3.21

Any notable discoloration of water? Y / N If yes, elaboration is as follows: _____
Any notable pollutant by others near monitoring site? Y / N If yes, elaboration is as follows: _____

Name	Signature	Date
Field Operator	Andrew	4/3/16
Checked by	Joe Lam	4/3/16
Laboratory Staff	Joe Lam	4/3/16
Checked by	Joe Lam	4/3/16

Contract No. : CV/2013/06
Handling of Surplus Public Fill

Water Quality Monitoring - Data Record Sheet - Tseung Kwan O Area 137 Fill Bank

Sampling Date : 23/2016
Weather Condition : Cloudy
Tide status : Mid flood
Ambient Temperature (°C) : 15
Station: TKO-C1 Duration: 10:30 to 10:45 Depth of Water (meter): 2.0

Depth (meter)	SURFACE			MIDDLE			BOTTOM			DEPTH AVERAGE	REMARK
		Ave.:			Ave.:			Ave.:			
Temp. (°C)	15.6		10.0	15.14		19.0					
Salinity (ppt)	28.1	Ave.: 28.1	28.3	28.3	Ave.: 28.3	28.5	Ave.: 28.5	28.5	Ave.: 28.5		
D.O. (mg/L)	7.21	Ave.: 7.20	7.14	7.10	Ave.: 7.12	7.01	Ave.: 7.00	7.00	Ave.: 7.00		
D.O.S. (%)	85.9	Ave.: 85.8	85.0	84.6	Ave.: 84.8	83.0	Ave.: 82.9	82.9	Ave.: 82.9		
Turbidity (NTU)	2.14	Ave.: 2.12	2.11	2.17	Ave.: 2.19	2.37	Ave.: 2.40	2.37	Ave.: 2.40		
S.S. (mg/L)	3.2	Ave.: 3.0	3.3	3.3	Ave.: 3.4	3.9	Ave.: 3.6	3.9	Ave.: 3.6		

Station: TKO-M4 Duration: 12:10 to 12:30 Depth of Water (meter): 10.8

Depth (meter)	SURFACE			MIDDLE			BOTTOM			DEPTH AVERAGE	REMARK
		Ave.:			Ave.:		Ave.:				
Temp. (°C)	15.5		5.4	15.4		9.8					
Salinity (ppt)	28.0	Ave.: 28.1	28.1	28.1	Ave.: 28.1	28.3	Ave.: 28.3	28.3	Ave.: 28.3		
D.O. (mg/L)	7.07	Ave.: 7.06	7.02	7.00	Ave.: 7.01	6.93	Ave.: 6.92	6.93	Ave.: 6.92		
D.O.S. (%)	84.1	Ave.: 83.9	85.2	85.0	Ave.: 85.1	82.2	Ave.: 82.1	82.2	Ave.: 82.1		
Turbidity (NTU)	2.03	Ave.: 2.07	2.17	2.13	Ave.: 2.15	2.28	Ave.: 2.31	2.28	Ave.: 2.31		
S.S. (mg/L)	3.2	Ave.: 3.2	3.3	2.8	Ave.: 3.1	3.2	Ave.: 3.4	3.2	Ave.: 3.4		

Parameter	Action Level*		Limit Level*	
	Surface & Middle	Bottom	Surface & Middle	Bottom
DO (mg/L)	<5.45 mg/L (5%-ile of baseline data)	<4.72 mg/L (5%-ile of baseline data)	<5.10 mg/L (1%-ile of baseline data)	<2.00 mg/L
SS (mg/L) (Depth-averaged)	>6.74 mg/L (95%-ile of baseline data) or >120% of the upstream control station's SS at the same tide on same day	>4.28 mg/L (95%-ile of baseline data) or >120% of the upstream control station's SS at the same tide on the same day	>7.67 mg/L (99%-ile of baseline data) or >130% of the upstream control station's SS at the same tide on the same day	>4.58 NTU (99%-ile of baseline data) or >130% of the upstream control station's turbidity at the same tide on the same day

* Traceable to Method Statement (Maine Water Quality Monitoring and Audit Manual) of Contract No. CV/2002/08, Rev. 2, Section 3.1 - 3.21

Any notable discoloration of water? X / N If yes, elaboration is as follows: _____

Any notable pollutant by others near monitoring site? X / N If yes, elaboration is as follows: _____

Field Operator	Name	Signature	Date
Checked by	Bianco	Bianco	23/03/2016
Laboratory Staff	C. Chikham	[Signature]	5/2/16
Checked by	[Signature]	[Signature]	4/3/16

Contract No. : CV/2013/06
Handling of Surplus Public Fill

Water Quality Monitoring - Data Record Sheet - Tseung Kwan O Area 137 Fill Bank

Sampling Date : 2/3/2016
Weather Condition : cloudy
Tide status : mid Ebb
Ambient Temperature (°C) : 15
Station: TKO-C1 Duration: 18:00 to 18:10 Depth of Water (meter): 19.4

Depth (meter)	SURFACE		MIDDLE		BOTTOM		DEPTH AVERAGE	REMARK
		Ave.:		Ave.:		Ave.:		
Temp. (°C)	1.0		9.7		18.4			
	15.3		15.2		15.0			
Salinity (ppt)	28.3	28.3	28.4	28.3	28.6	28.6	Ave.: 28.6	
D.O. (mg/L)	2.07	2.06	2.02	2.00	6.91	6.89	Ave.: 6.90	
D.O.S. (%)	83.9	83.8	83.2	82.8	81.7	81.4	Ave.: 81.6	
Turbidity (NTU)	2.20	2.22	2.29	2.31	2.50	2.47	Ave.: 2.49	
S.S. (mg/L)	3.1	3.3	3.0	3.5	3.8	3.5	Ave.: 3.7	

Station: TKO-M4 Duration: 19:15 to 19:30 Depth of Water (meter): 10.2

Depth (meter)	SURFACE		MIDDLE		BOTTOM		DEPTH AVERAGE	REMARK
		Ave.:		Ave.:		Ave.:		
Temp. (°C)	1.0		5.1		9.2			
	15.4		15.2		15.1			
Salinity (ppt)	28.2	28.2	28.2	28.2	28.4	28.4	Ave.: 28.4	
D.O. (mg/L)	6.47	6.96	6.93	6.90	6.87	6.85	Ave.: 6.86	
D.O.S. (%)	82.9	82.7	82.1	81.7	80.9	80.9	Ave.: 81.1	
Turbidity (NTU)	2.16	2.18	2.21	2.29	2.41	2.45	Ave.: 2.43	
S.S. (mg/L)	2.8	3.0	2.9	3.2	3.7	3.9	Ave.: 3.7	

Parameter	Action Level*		Limit Level*
	Surface & Middle	Bottom	
DO (mg/L)	<5.45 mg/L (5%-ile of baseline data)	<2.00 mg/L	Surface & Middle: <5.10 mg/L (1%-ile of baseline data) Bottom: <2.00 mg/L
SS (mg/L) (Depth-averaged)	>6.74 mg/L (95%-ile of baseline data) or >120% of the upstream control station's SS at the same tide on the same day	>7.67 mg/L (99%-ile of baseline data) or >130% of the upstream control station's SS at the same tide on the same day	
Turbidity (NTU) (Depth-averaged)	>4.28 NTU (95%-ile of baseline data) or >120% of the upstream control station's turbidity at the same tide on the same day	>4.58 NTU (99%-ile of baseline data) or >130% of the upstream control station's turbidity at the same tide on the same day	

* Traceable to Method Statement (Maine Water Quality Monitoring and Audit Manual) of Contract No. CV2002/08, Rev. 2, Section 3.1 - 3.21

Any notable discoloration of water? N If yes, elaboration is as follows: _____
Any notable pollutant by others near monitoring site? N If yes, elaboration is as follows: _____

	Name	Signature	Date
Field Operator	Stanley	[Signature]	2/3/2016
Checked by	C. h. fan	[Signature]	08/03/2016
Laboratory Staff	[Signature]	[Signature]	4/3/16
Checked by	[Signature]	[Signature]	

Water Quality Monitoring - Data Record Sheet - Tseung Kwan O Area 137 Fill Bank

Sampling Date : 16/12/16
Weather Condition : Cloudy

Tide status : Mid-Ebb
Ambient Temperature (°C) : 15.2

Station: TKO-C1 Duration: 13:30 to 13:47 Depth of Water (meter): 19.1

Depth (meter)	SURFACE	MIDDLE	BOTTOM	DEPTH AVERAGE	REMARK
Temp. (°C)	1.0 15.6	9.6 15.6	18.1 15.6		
Salinity (ppt)	77.1 Ave.: 77.7	77.3 Ave.: 77.3	77.5 Ave.: 77.5		
D.O. (mg/L)	6.32 Ave.: 6.33	6.26 Ave.: 6.25	6.13 Ave.: 6.13		
D.O.S. (%)	79.3 Ave.: 79.4	78.2 Ave.: 78.4	76.7 Ave.: 76.7		
Turbidity (NTU)	2.73 Ave.: 2.76	2.84 Ave.: 2.88	3.04 Ave.: 3.01		
S.S. (mg/L)	3.8 Ave.: 3.7	4.0 Ave.: 4.1	4.5 Ave.: 4.7		

Station: TKO-M4 Duration: 14:54 to 15:13 Depth of Water (meter): 9.7

Depth (meter)	SURFACE	MIDDLE	BOTTOM	DEPTH AVERAGE	REMARK
Temp. (°C)	1.0 15.2	4.9 15.6	8.7 15.5		
Salinity (ppt)	77.7 Ave.: 77.3	77.1 Ave.: 77.2	77.1 Ave.: 77.1		
D.O. (mg/L)	6.43 Ave.: 6.44	6.32 Ave.: 6.36	6.26 Ave.: 6.18		
D.O.S. (%)	80.6 Ave.: 80.8	79.9 Ave.: 79.7	78.8 Ave.: 78.7		
Turbidity (NTU)	2.37 Ave.: 2.35	2.48 Ave.: 2.45	2.61 Ave.: 2.58		
S.S. (mg/L)	3.6 Ave.: 3.4	3.6 Ave.: 3.6	3.4 Ave.: 3.5		

Parameter	Action Level*	Limit Level*
DO (mg/L)	Surface & Middle <5.45 mg/L (5%-ile of baseline data) Bottom <4.72 mg/L (5%-ile of baseline data)	Surface & Middle <5.10 mg/L (1%-ile of baseline data) Bottom <2.00 mg/L
SS (mg/L) (Depth-averaged)	>6.74 mg/L (95%-ile of baseline data) or >120% of the upstream control station's SS at the same tide on the same day	>7.67 mg/L (99%-ile of baseline data) or >130% of the upstream control station's SS at the same tide on the same day
Turbidity (NTU) (Depth-averaged)	>4.28 NTU (95%-ile of baseline data) or >120% of the upstream control station's turbidity at the same tide on the same day	>4.58 NTU (99%-ile of baseline data) or >130% of the upstream control station's turbidity at the same tide on the same day

* Traceable to Method Statement (Marine Water Quality Monitoring and Audit Manual) of Contract No. CV/2002/08, Rev. 2, Section 3.1 - 3.21

Any notable discoloration of water? Y/ N If yes, elaboration is as follows: _____
Any notable pollutant by others near monitoring site? Y/ N If yes, elaboration is as follows: _____

Field Operator	Name	Signature	Date
Checked by	A. Hui	<i>[Signature]</i>	26/12/16
Laboratory Staff	C. K. Lam	<i>[Signature]</i>	27/02/2016
Checked by	C. K. Lam	<i>[Signature]</i>	27/12/16
			28/02/2016

Water Quality Monitoring - Data Record Sheet - Tseung Kwan O Area 137 Fill Bank

Sampling Date : 6/2/16
 Weather Condition : cloudy

Tide status : Mid-Flood
 Ambient Temperature (°C) : 15°C

Station: TKO-C1 Duration: 08:15 to 08:32 Depth of Water (meter): 19.4

Depth (meter)	SURFACE			MIDDLE			BOTTOM			DEPTH AVERAGE	REMARK
	Ave.	Min	Max	Ave.	Min	Max	Ave.	Min	Max		
Temp. (°C)	15.8			15.6			15.4				
Salinity (ppt)	27.4	27.5	27.5	27.7	27.7	27.8	27.9	27.9	28.0	Ave.: 28.0	
D.O. (mg/L)	6.87	6.85	6.86	6.67	6.67	6.68	6.52	6.52	6.55	Ave.: 6.54	
D.O.S. (%)	86.4	86.1	86.3	83.5	84.3	84.1	81.9	81.9	82.4	Ave.: 82.2	
Turbidity (NTU)	2.26	2.14	2.10	2.37	2.44	2.41	2.63	2.63	2.69	Ave.: 2.66	7.42
S.S. (mg/L)	3.6	3.2	3.4	3.1	3.7	3.4	4.2	4.2	3.8	Ave.: 3.9	3.6

Station: TKO-M4 Duration: 09:34 to 09:50 Depth of Water (meter): 10.3

Depth (meter)	SURFACE			MIDDLE			BOTTOM			DEPTH AVERAGE	REMARK
	Ave.	Min	Max	Ave.	Min	Max	Ave.	Min	Max		
Temp. (°C)	15.6			15.7			15.5				
Salinity (ppt)	27.6	27.5	27.6	27.7	27.7	27.8	27.8	27.8	27.8	Ave.: 27.8	
D.O. (mg/L)	6.63	6.64	6.64	6.56	6.56	6.57	6.49	6.49	6.46	Ave.: 6.48	
D.O.S. (%)	83.4	83.5	83.5	81.5	81.7	81.7	81.6	81.6	81.3	Ave.: 81.5	
Turbidity (NTU)	2.03	2.02	2.00	2.15	2.15	2.15	2.31	2.31	2.24	Ave.: 2.28	2.16
S.S. (mg/L)	3.0	2.9	3.0	3.2	3.2	3.2	2.8	2.8	2.9	Ave.: 2.9	2.9

Parameter	Action Level*	Limit Level*
DO (mg/L)	Surface & Middle <5.45 mg/L (5%-ile of baseline data) Bottom <4.72 mg/L (5%-ile of baseline data)	Surface & Middle <5.10 mg/L (1%-ile of baseline data) Bottom <2.00 mg/L
SS (mg/L) (Depth-averaged)	>6.74 mg/L (95%-ile of baseline data) or >120% of the upstream control station's SS at the same tide on the same day	>7.67 mg/L (99%-ile of baseline data) or >130% of the upstream control station's SS at the same tide on the same day
Turbidity (NTU) (Depth-averaged)	>4.28 NTU (95%-ile of baseline data) or >120% of the upstream control station's turbidity at the same tide on the same day	>4.58 NTU (99%-ile of baseline data) or >130% of the upstream control station's turbidity at the same tide on the same day

* Traceable to Method Statement (Marine Water Quality Monitoring and Audit Manual) of Contract No. CV2002/08, Rev. 2, Section 3.1 - 3.21

Any notable discoloration of water? Y/N If yes, elaboration is as follows:

Any notable pollutant by others near monitoring site? Y/N If yes, elaboration is as follows:

Field Operator	Name	Signature	Date
Checked by	Andrew	<i>[Signature]</i>	7/2/16
Laboratory Staff	Chik-lan	<i>[Signature]</i>	27/02/2016
Checked by	C. L. Fan	<i>[Signature]</i>	27/02/16
			28/02/2016



Contract No. : CV/2013/06
Handling of Surplus Public Fill

Water Quality Monitoring - Data Record Sheet - Tseung Kwan O Area 137 Fill Bank

Sampling Date : 24.12.16
Weather Condition : Cloudy
Tide status : Mid-Flood
Ambient Temperature (°C) : 16.2
Station: TKO-C1 Duration: 8:18 to 8:18 Depth of Water (meter): 11.8

Depth (meter)	SURFACE			MIDDLE			BOTTOM			DEPTH AVERAGE	REMARK
	Ave.:	Ave.:	Ave.:	Ave.:	Ave.:	Ave.:	Ave.:	Ave.:	Ave.:		
Temp. (°C)	16.0	15.4	15.2	15.2	15.1	15.1	15.1	15.1	15.1		
Salinity (ppt)	27.9	28.0	28.1	28.2	28.2	28.3	28.4	28.4	28.4		
D.O. (mg/L)	7.19	7.20	7.11	7.09	7.10	6.92	6.94	6.93	6.93		
D.O.S. (%)	85.4	85.5	84.1	84.9	84.0	81.7	81.9	81.8	81.8		
Turbidity (NTU)	2.31	2.30	2.45	2.47	2.46	2.55	2.57	2.56	2.57		
S.S. (mg/L)	3.5	3.4	2.7	3.5	3.3	3.2	3.4	3.6	3.4		

Station: TKO-M4 Duration: 9:37 to 10:00 Depth of Water (meter): 10.5

Depth (meter)	SURFACE			MIDDLE			BOTTOM			DEPTH AVERAGE	REMARK
	Ave.:	Ave.:	Ave.:	Ave.:	Ave.:	Ave.:	Ave.:	Ave.:			
Temp. (°C)	15.0	15.5	15.3	15.3	15.1	15.1	15.1	15.1	15.1		
Salinity (ppt)	28.1	28.0	27.9	28.0	28.0	28.3	28.3	28.3	28.3		
D.O. (mg/L)	7.36	7.35	7.21	7.15	7.10	6.99	7.02	7.00	7.00		
D.O.S. (%)	87.5	87.4	85.3	85.1	85.2	82.4	82.6	82.5	82.5		
Turbidity (NTU)	2.24	2.25	2.35	2.35	2.34	2.48	2.46	2.47	2.47		
S.S. (mg/L)	3.1	2.9	3.7	3.7	3.5	3.2	3.2	3.2	3.2		

Parameter	Action Level*	Limit Level*
DO (mg/L)	Surface & Middle <5.45 mg/L (5%-ile of baseline data) Bottom <4.72 mg/L (5%-ile of baseline data)	Surface & Middle <5.10 mg/L (1%-ile of baseline data) Bottom <2.00 mg/L
SS (mg/L) (Depth-averaged)	>6.74 mg/L (95%-ile of baseline data) or >120% of the upstream control station's SS at the same tide on the same day	>7.67 mg/L (99%-ile of baseline data) or >130% of the upstream control station's SS at the same tide on the same day
Turbidity (NTU) (Depth-averaged)	>4.28 NTU (95%-ile of baseline data) or >120% of the upstream control station's turbidity at the same tide on the same day	>4.58 NTU (99%-ile of baseline data) or >130% of the upstream control station's turbidity at the same tide on the same day

* Traceable to Method Statement (Marine Water Quality Monitoring and Audit Manual) of Contract No. CV/2002/08, Rev. 2, Section 3.1 - 3.21

Any notable discoloration of water? X / N If yes, elaboration is as follows:
Any notable pollutant by others near monitoring site? X / N If yes, elaboration is as follows:

Name	Signature	Date
Field Operator	<i>Tung Cheung Hei</i>	24.12.16
Checked by	<i>John Chan</i>	25/12/16
Laboratory Staff	<i>by</i>	25/12/16
Checked by	<i>C. Chan</i>	25/12/2016

Water Quality Monitoring - Data Record Sheet - Tseung Kwan O Area 137 Fill Bank

Sampling Date: 24.2.16
Weather Condition: Cloudy
Tide status: Mid - 6.66
Ambient Temperature (°C): 16.0
Station: TKO-C1 Duration: 12.30 to 17.48 Depth of Water (meter): 19.6

Depth (meter)	SURFACE			MIDDLE			BOTTOM			DEPTH AVERAGE	REMARK
	1.0	1.5	Ave.	1.0	1.5	Ave.	18.6	15.2	Ave.		
Temp. (°C)	28.2	28.2	28.2	28.4	28.4	28.4	28.5	28.5	28.5		
Salinity (ppt)	6.4	6.4	6.4	6.7	6.7	6.7	6.67	6.67	6.67		
D.O. (mg/L)	8.5	8.5	8.5	8.0	8.0	8.0	7.87	7.87	7.87		
D.O.S. (%)	2.4	2.4	2.4	2.5	2.5	2.5	2.66	2.66	2.66		
Turbidity (NTU)	3.4	3.4	3.4	3.5	3.5	3.5	3.2	3.2	3.2		
S.S. (mg/L)											

Station: TKO-M4 Duration: 14.06 to 14.30 Depth of Water (meter): 10.1

Depth (meter)	SURFACE			MIDDLE			BOTTOM			DEPTH AVERAGE	REMARK
	1.0	1.5	Ave.	5.1	5.3	Ave.	9.2	15.1	Ave.		
Temp. (°C)	27.9	28.0	28.0	28.2	28.2	28.2	28.3	28.3	28.3		
Salinity (ppt)	7.1	7.1	7.1	6.9	6.9	6.9	6.73	6.73	6.73		
D.O. (mg/L)	8.5	8.5	8.5	8.2	8.2	8.2	7.94	7.94	7.94		
D.O.S. (%)	2.3	2.3	2.3	2.5	2.5	2.5	2.72	2.72	2.72		
Turbidity (NTU)	3.8	3.8	3.8	3.8	3.8	3.8	4.4	4.4	4.4		
S.S. (mg/L)											

Parameter	Action Level *
DO (mg/L)	Surface & Middle <5.45 mg/L (5%-ile of baseline data) Bottom <4.72 mg/L (5%-ile of baseline data)
SS (mg/L) (Depth-averaged)	>6.74 mg/L (95%-ile of baseline data) or >120% of the upstream control station's SS at the same tide on the same day
Turbidity (NTU) (Depth-averaged)	>4.28 NTU (95%-ile of baseline data) or >120% of the upstream control station's turbidity at the same tide on the same day
	>4.58 NTU (99%-ile of baseline data) or >130% of the upstream control station's turbidity at the same tide on the same day

* Traceable to Method Statement (Marine Water Quality Monitoring and Audit Manual) of Contract No. CV2002/08, Rev. 2, Section 3.1 - 3.21

Any notable discoloration of water? N If yes, elaboration is as follows: _____
Any notable pollutant by others near monitoring site? N If yes, elaboration is as follows: _____

Field Operator	Name	Signature	Date
Checked by	Tyng Cheung	<i>[Signature]</i>	24/2/16
Laboratory Staff	<i>[Signature]</i>	<i>[Signature]</i>	23/2/16
Checked by	C. L. Lam	<i>[Signature]</i>	24/02/2016

Water Quality Monitoring - Data Record Sheet - Tseung Kwan O Area 137 Fill Bank

Sampling Date : 22-2-2016
Weather Condition : fog
Tide status : Mid-Hood
Ambient Temperature (°C) : 16.2

Station: TKO-CL Duration: 17:00 to 17:17 Depth of Water (meter): 19.6

Depth (meter)	SURFACE			MIDDLE			BOTTOM			REMARK
	1.0	1.5	2.0	1.8	1.5	1.2	1.6	1.3	1.0	
Temp. (°C)	21.1	21.1	21.1	21.4	21.4	21.4	21.6	21.6	21.7	
Salinity (ppt)	7.43	7.43	7.43	6.99	6.99	6.99	6.96	6.96	6.98	
D.O. (mg/L)	8.47	8.47	8.47	8.33	8.33	8.33	8.30	8.30	8.31	
Turbidity (NTU)	2.44	2.44	2.44	2.66	2.66	2.66	2.71	2.71	2.84	
S.S. (mg/L)	3.4	3.4	3.4	3.7	3.7	3.7	3.5	3.5	4.0	
Ave.:	21.1	21.1	21.1	21.4	21.4	21.4	21.6	21.6	21.7	
Ave.:	7.43	7.43	7.43	6.99	6.99	6.99	6.96	6.96	6.98	
Ave.:	8.47	8.47	8.47	8.33	8.33	8.33	8.30	8.30	8.31	
Ave.:	2.44	2.44	2.44	2.66	2.66	2.66	2.71	2.71	2.84	
Ave.:	3.4	3.4	3.4	3.7	3.7	3.7	3.5	3.5	4.0	

Station: TKO-M4 Duration: 18:32 to 18:50 Depth of Water (meter): 10.4

Depth (meter)	SURFACE			MIDDLE			BOTTOM			REMARK
	1.0	1.5	2.0	1.2	1.5	1.8	1.4	1.4	1.4	
Temp. (°C)	21.2	21.2	21.2	21.2	21.2	21.2	21.4	21.4	21.4	
Salinity (ppt)	7.48	7.48	7.48	7.29	7.29	7.29	7.24	7.24	7.18	
D.O. (mg/L)	8.91	8.91	8.91	8.68	8.68	8.68	8.63	8.63	8.57	
Turbidity (NTU)	1.34	1.34	1.34	1.66	1.66	1.66	1.75	1.75	1.92	
S.S. (mg/L)	1.9	1.9	1.9	2.3	2.3	2.3	2.6	2.6	3.0	
Ave.:	21.2	21.2	21.2	21.2	21.2	21.2	21.4	21.4	21.4	
Ave.:	7.48	7.48	7.48	7.29	7.29	7.29	7.24	7.24	7.18	
Ave.:	8.91	8.91	8.91	8.68	8.68	8.68	8.63	8.63	8.57	
Ave.:	1.34	1.34	1.34	1.66	1.66	1.66	1.75	1.75	1.92	
Ave.:	1.9	1.9	1.9	2.3	2.3	2.3	2.6	2.6	3.0	

Parameter	Action Level *	Limit Level *
DO (mg/L)	Surface & Middle <5.45 mg/L (5%-ile of baseline data) Bottom <4.72 mg/L (5%-ile of baseline data)	Surface & Middle <5.10 mg/L (1%-ile of baseline data) Bottom <2.00 mg/L
SS (mg/L) (Depth-averaged)	>6.74 mg/L (95%-ile of baseline data) or >120% of the upstream control station's SS at the same tide on the same day	>7.67 mg/L (99%-ile of baseline data) or >130% of the upstream control station's SS at the same tide on the same day
Turbidity (NTU) (Depth-averaged)	>4.28 NTU (95%-ile of baseline data) or >120% of the upstream control station's turbidity at the same tide on the same day	>4.58 NTU (99%-ile of baseline data) or >130% of the upstream control station's turbidity at the same tide on the same day

* Traceable to Method Statement (Marine Water Quality Monitoring and Audit Manual) of Contract No. CV2002/08, Rev. 2, Section 3.1 - 3.21

Any notable discoloration of water? Y / N () If yes, elaboration is as follows:

Any notable pollutant by others near monitoring site? Y / N () If yes, elaboration is as follows:

Name	Signature	Date
Field Operator	K M Kwan	22-2-2016
Checked by	(Signature)	22/2/16
Laboratory Staff	(Signature)	23/2/16
Checked by	(Signature)	23/2/2016

Water Quality Monitoring - Data Record Sheet - Tseung Kwan O Area 137 Fill Bank

Sampling Date : 22-2-2016
Weather Condition : Fog

Tide status : Mid-Ebb
Ambient Temperature (°C) : 16.2

Station: TKO-C1 Duration: 11:30 to 12:47 Depth of Water (meter): 19.3

Depth (meter)	SURFACE		MIDDLE		BOTTOM		DEPTH AVERAGE	REMARK
	Ave.	Std	Ave.	Std	Ave.	Std		
Temp. (°C)	28.3	15.6	28.4	15.5	28.7	18.3		
Salinity (ppt)	28.3	28.3	28.4	28.5	28.7	28.4		
D.O. (mg/L)	7.94	7.02	6.87	6.88	6.83	6.81		
D.O.S. (%)	84.6	83.4	81.8	82.3	81.6	81.3		
Turbidity (NTU)	2.68	2.75	2.84	2.93	2.72	2.78		
S.S. (mg/L)	3.2	4.1	3.7	4.7	3.9	3.9		

Station: TKO-M4 Duration: 13:25 to 13:23 Depth of Water (meter): 10.2

Depth (meter)	SURFACE		MIDDLE		BOTTOM		DEPTH AVERAGE	REMARK
	Ave.	Std	Ave.	Std	Ave.	Std		
Temp. (°C)	28.3	15.6	28.2	15.6	28.4	18.3		
Salinity (ppt)	28.3	28.3	28.2	28.2	28.4	28.5		
D.O. (mg/L)	7.41	7.36	7.19	7.22	7.14	7.11		
D.O.S. (%)	83.3	87.7	85.7	86.0	85.2	84.8		
Turbidity (NTU)	1.83	6.66	1.75	1.83	2.04	1.95		
S.S. (mg/L)	2.9	2.3	2.5	2.6	3.1	2.9		

Parameter	Action Level *	Limit Level *
DO (mg/L)	Surface & Middle <5.45 mg/L (5%-ile of baseline data) Bottom <4.72 mg/L (5%-ile of baseline data)	Surface & Middle <5.10 mg/L (1%-ile of baseline data) Bottom <2.00 mg/L
SS (mg/L) (Depth-averaged)	>6.74 mg/L (95%-ile of baseline data) or >120% of the upstream control station's SS at the same tide on the same day	>7.67 mg/L (99%-ile of baseline data) or >130% of the upstream control station's SS at the same tide on the same day
Turbidity (NTU) (Depth-averaged)	>4.28 NTU (95%-ile of baseline data) or >120% of the upstream control station's turbidity at the same tide on the same day	>4.58 NTU (99%-ile of baseline data) or >130% of the upstream control station's turbidity at the same tide on the same day

* Traceable to Method Statement (Marine Water Quality Monitoring and Audit Manual) of Contract No. CV/2002/08, Rev. 2, Section 3.1 - 3.21

Any notable discoloration of water? Y / N If yes, elaboration is as follows:
Any notable pollutant by others near monitoring site? Y / N If yes, elaboration is as follows:

Name	Signature	Date
Field Operator	<i>K. Luk</i>	22-2-2016
Checked by	<i>J. Chan</i>	22/2/16
Laboratory Staff	<i>J. Chan</i>	23/2/16
Checked by	<i>C. H. Lam</i>	23/02/2016

Water Quality Monitoring - Data Record Sheet - Tseung Kwan O Area 137 Fill Bank

Sampling Date: 19/12/16 Tide status: M.S-Flood
 Weather Condition: cloudy Ambient Temperature (°C): 15.2
 Station: TKO-C1 Duration: 14:30 to 14:41 Depth of Water (meter): 19.6

Depth (meter)	SURFACE			MIDDLE			BOTTOM			REMARK
	Ave.:	Ave.:	Ave.:	Ave.:	Ave.:	Ave.:	Ave.:	Ave.:		
Temp. (°C)	15.3	15.2	15.1	15.2	15.2	15.1	15.1	15.1		
Salinity (ppt)	28.4	28.4	28.5	28.6	28.6	28.7	28.7	28.7		
D.O. (mg/L)	7.27	7.18	7.23	7.27	7.27	7.19	7.17	7.18		
D.O.S. (%)	86.4	86.5	85.7	85.4	85.6	85.1	84.9	85.0		
Turbidity (NTU)	2.34	2.37	2.43	2.56	2.50	2.64	2.61	2.63		
S.S. (mg/L)	3.7	3.6	2.9	3.2	3.1	3.7	3.2	4.0		

Station: TKO-M4 Duration: 15:28 to 15:39 Depth of Water (meter): 10.6

Depth (meter)	SURFACE			MIDDLE			BOTTOM			REMARK
	Ave.:	Ave.:	Ave.:	Ave.:	Ave.:	Ave.:	Ave.:	Ave.:		
Temp. (°C)	15.1	15.1	15.1	15.1	15.1	15.1	15.1	15.1		
Salinity (ppt)	28.3	28.3	28.3	28.2	28.3	28.4	28.3	28.4		
D.O. (mg/L)	7.64	7.61	7.63	7.68	7.61	7.51	7.53	7.57		
D.O.S. (%)	91.0	90.9	90.2	89.7	86.0	86.5	86.5	86.7		
Turbidity (NTU)	0.15	1.05	1.23	1.29	1.26	1.38	1.42	1.49		
S.S. (mg/L)	1.2	1.4	1.7	1.8	1.8	1.9	1.8	1.9		

Parameter	Action Level *	Limit Level *
DO (mg/L)	Surface & Middle <5.45 mg/L (5%-ile of baseline data) Bottom <4.72 mg/L (5%-ile of baseline data)	Surface & Middle <5.10 mg/L (1%-ile of baseline data) Bottom <2.00 mg/L
SS (mg/L) (Depth-averaged)	>6.74 mg/L (95%-ile of baseline data) or >120% of the upstream control station's SS at the same tide on the same day	>7.67 mg/L (99%-ile of baseline data) or >130% of the upstream control station's SS at the same tide on the same day
Turbidity (NTU) (Depth-averaged)	>4.28 NTU (95%-ile of baseline data) or >120% of the upstream control station's turbidity at the same tide on the same day	>4.58 NTU (99%-ile of baseline data) or >130% of the upstream control station's turbidity at the same tide on the same day

* Traceable to Method Statement (Marine Water Quality Monitoring and Audit Manual) of Contract No. CV/2002/08, Rev. 2, Section 3.1 - 3.21

Any notable discoloration of water? Y / / N
 Any notable pollutant by others near monitoring site? Y / / N
 If yes, elaboration is as follows: _____

Name	Signature	Date
Field Operator	<i>Hauken</i>	19/12/16
Checked by	<i>De Lan</i>	19/12/16
Laboratory Staff	<i>De Lan</i>	20/12/16
Checked by	<i>De Lan</i>	22/12/16

Water Quality Monitoring - Data Record Sheet - Tseung Kwan O Area 137 Fill Bank

Sampling Date : 19/12/16
Weather Condition : cloudy
Tide status : Mid-Ebb
Ambient Temperature (°C) : 15.5
Station: TKO-C1
Duration: 09:30 to 09:48
Depth of Water (meter): 17.4

Depth (meter)	SURFACE			MIDDLE			BOTTOM			REMARK
	1.0	15.3	18.4	9.7	15.6	15.5	18.2	6.05	2.37	
Salinity (ppt)	17.8	17.9	17.8	15.1	15.3	15.3	15.7	6.03	2.33	
D.O. (mg/L)	6.18	6.19	6.17	6.12	6.10	6.03	6.07	6.05	7.64	
D.O.S. (%)	77.9	78.1	78.0	77.7	76.9	76.1	76.6	76.6	2.37	
Turbidity (NTU)	2.54	2.57	2.61	2.69	2.65	2.86	2.51	2.37	3.7	
S.S. (mg/L)	3.7	3.9	3.6	3.2	3.6	4.0	3.8	3.7	9.5	

Station: TKO-M4
Duration: 11:04 to 11:22
Depth of Water (meter): 9.5

Depth (meter)	SURFACE			MIDDLE			BOTTOM			REMARK
	1.0	15.5	15.7	4.3	15.7	15.6	7.5	15.6	28.0	
Salinity (ppt)	27.7	27.8	27.9	27.8	27.9	28.0	28.0	28.0	15.55	
D.O. (mg/L)	6.13	6.10	6.07	6.06	6.07	6.02	6.02	6.02	25.8	
D.O.S. (%)	77.3	76.9	76.6	76.5	76.6	76.1	75.4	75.4	2.37	
Turbidity (NTU)	2.47	2.44	2.55	2.52	2.47	2.76	2.67	2.67	3.7	
S.S. (mg/L)	3.0	3.1	3.6	3.5	3.6	3.8	3.2	3.2	9.5	

Parameter	Action Level *	Limit Level *
DO (mg/L)	Surface & Middle <5.45 mg/L (5%-ile of baseline data) Bottom <4.72 mg/L (5%-ile of baseline data)	Surface & Middle <5.10 mg/L (1%-ile of baseline data) Bottom <2.00 mg/L
SS (mg/L) (Depth-averaged)	>6.74 mg/L (95%-ile of baseline data) or >120% of the upstream control station's SS at the same tide on same day	>7.67 mg/L (99%-ile of baseline data) or >130% of the upstream control station's SS at the same tide on the same day
Turbidity (NTU) (Depth-averaged)	>4.28 NTU (95%-ile of baseline data) or >120% of the upstream control station's turbidity at the same tide on the same day	>4.58 NTU (99%-ile of baseline data) or >130% of the upstream control station's turbidity at the same tide on the same day

* Traceable to Method Statement (Marine Water Quality Monitoring and Audit Manual) of Contract No. CV2002/08, Rev. 2, Section 3.1 - 3.21

Any notable discoloration of water? Y / N? If yes, elaboration is as follows:

Any notable pollutant by others near monitoring site? Y / N? If yes, elaboration is as follows:

Field Operator	Name	Signature	Date
Checked by	Andrew	[Signature]	17/12/16
Laboratory Staff	[Signature]	[Signature]	19/12/16
Checked by	[Signature]	[Signature]	20/12/16
			22/12/16

Water Quality Monitoring - Data Record Sheet - Tseung Kwan O Area 137 Fill Bank

Sampling Date: 17-Feb-2016
Weather Condition: Cloudy
Tide status: Mid - Flood
Ambient Temperature (°C): 14.0

Station: TKO-C1 Duration: 12:30 to 12:47 Depth of Water (meter): 18.6

Depth (meter)	SURFACE			MIDDLE			BOTTOM			DEPTH AVERAGE	REMARK
	Ave.	Ave.	Ave.	Ave.	Ave.	Ave.	Ave.	Ave.	Ave.		
Temp. (°C)	10			9.8			15.3			15.2	
Salinity (ppt)	27.3	27.4	27.6	27.6	27.6	27.6	27.6	27.6	27.6	27.6	
D.O. (mg/L)	6.56	6.54	6.43	6.43	6.40	6.42	6.42	6.26	6.21	6.24	
D.O.S. (%)	77.5	77.2	76.0	76.0	75.6	75.8	75.8	73.9	73.4	73.7	
Turbidity (NTU)	2.98	3.06	3.39	3.39	3.44	3.42	3.42	3.68	3.77	3.73	
S.S. (mg/L)	3.6	4.1	4.4	4.4	5.5	5.5	5.5	5.2	4.9	5.1	

Station: TKO-M4 Duration: 14:05 to 14:24 Depth of Water (meter): 8.8

Depth (meter)	SURFACE			MIDDLE			BOTTOM			DEPTH AVERAGE	REMARK
	Ave.	Ave.	Ave.	Ave.	Ave.	Ave.	Ave.	Ave.	Ave.		
Temp. (°C)	10			9.4			15.3			15.2	
Salinity (ppt)	27.3	27.3	27.4	27.4	27.5	27.5	27.5	27.7	27.7	27.7	
D.O. (mg/L)	6.73	6.69	6.71	6.58	6.57	6.57	6.38	6.35	6.35	6.37	
D.O.S. (%)	79.5	78.1	77.3	77.8	77.4	77.6	75.4	75.1	75.1	75.3	
Turbidity (NTU)	2.83	2.95	3.08	3.08	3.16	3.12	3.49	3.56	3.56	3.53	
S.S. (mg/L)	4.5	3.8	4.3	4.3	3.7	4.1	4.5	4.6	4.6	4.6	

Parameter	Action Level*		Limit Level*	
	Surface & Middle	Bottom	Surface & Middle	Bottom
DO (mg/L)	>5.45 mg/L (5%-ile of baseline data)	>4.72 mg/L (5%-ile of baseline data)	<5.10 mg/L (1%-ile of baseline data)	<2.00 mg/L
SS (mg/L) (Depth-averaged)	>6.74 mg/L (95%-ile of baseline data) or >120% of the upstream control station's SS at the same tide on the same day	>6.74 mg/L (95%-ile of baseline data) or >120% of the upstream control station's SS at the same tide on the same day	>7.67 mg/L (99%-ile of baseline data) or >130% of the upstream control station's SS at the same tide on the same day	>4.68 NTU (99%-ile of baseline data) or >130% of the upstream control station's turbidity at the same tide on the same day
Turbidity (NTU) (Depth-averaged)	>4.28 NTU (95%-ile of baseline data) or >120% of the upstream control station's turbidity at the same tide on the same day	>4.28 NTU (95%-ile of baseline data) or >120% of the upstream control station's turbidity at the same tide on the same day	>4.68 NTU (99%-ile of baseline data) or >130% of the upstream control station's turbidity at the same tide on the same day	>4.68 NTU (99%-ile of baseline data) or >130% of the upstream control station's turbidity at the same tide on the same day

* Traceable to Method Statement (Marine Water Quality Monitoring and Audit Manual) of Contract No. CV/2002/08, Rev. 2, Section 3.1 - 3.21

Any notable discoloration of water? Y/N If yes, elaboration is as follows:

Any notable pollutant by others near monitoring site? Y/N If yes, elaboration is as follows:

Field Operator	Name	Signature	Date
Checked by	Kim Kwan	[Signature]	17 Feb 2016
Laboratory Staff	[Signature]	[Signature]	18/2/16
Checked by	[Signature]	[Signature]	20/2/16

Water Quality Monitoring - Data Record Sheet - Tseung Kwan O Area 137 Fill Bank

Sampling Date : 17 Feb 2016
Weather Condition : cloudy
Tide status : Mid-tide
Ambient Temperature (°C) : 13.0

Station: TKO-C1 Duration: 19:20 to 19:27 Depth of Water (meter): 19.3

Depth (meter)	SURFACE		MIDDLE		BOTTOM		DEPTH AVERAGE	REMARK
	Temp. (°C)	Salinity (ppt)	Temp. (°C)	Salinity (ppt)	Temp. (°C)	Salinity (ppt)		
1.0	27.3	27.2	27.4	27.5	27.7	27.8	27.8	
1.5	6.47	6.44	6.52	6.30	6.20	6.16	6.18	
2.0	76.5	76.1	74.7	74.5	73.3	72.8	73.1	
3.0	3.24	3.14	3.49	3.53	3.86	3.75	3.81	
4.0	4.4	4.4	4.5	5.0	5.4	5.3	5.4	
5.0							5.0	

Station: TKO-M4 Duration: 20:28 to 20:56 Depth of Water (meter): 2.4

Depth (meter)	SURFACE		MIDDLE		BOTTOM		DEPTH AVERAGE	REMARK
	Temp. (°C)	Salinity (ppt)	Temp. (°C)	Salinity (ppt)	Temp. (°C)	Salinity (ppt)		
1.0	27.2	27.2	27.3	27.3	27.6	27.5	27.6	
1.5	6.58	6.47	6.43	6.45	6.33	6.30	6.32	
2.0	78.2	77.7	76.5	76.0	74.8	74.4	74.6	
3.0	3.64	3.07	3.24	3.22	3.67	3.73	3.70	
4.0	4.6	4.2	4.2	4.4	5.5	5.6	5.6	
5.0							4.7	

Parameter	DO (mg/L)	SS (mg/L) (Depth-averaged)	Turbidity (NTU) (Depth-averaged)
Surface & Middle	<5.45 mg/L (5%-ile of baseline data)	>6.74 mg/L (95%-ile of baseline data) or >120% of the upstream control station's SS at the same tide on the same day	>4.28 NTU (95%-ile of baseline data) or >120% of the upstream control station's turbidity at the same tide on the same day
Bottom	<4.72 mg/L (5%-ile of baseline data)	>7.67 mg/L (99%-ile of baseline data) or >130% of the upstream control station's SS at the same tide on the same day	>4.68 NTU (99%-ile of baseline data) or >130% of the upstream control station's turbidity at the same tide on the same day
Limit Level*	Surface & Middle <5.10 mg/L (1%-ile of baseline data) Bottom <2.00 mg/L		

* Traceable to Method Statement (Marine Water Quality Monitoring and Audit Manual) of Contract No. CV/2002/08, Rev. 2, Section 3.1 - 3.21

Any notable discoloration of water? Y/N If yes, elaboration is as follows: _____
Any notable pollutant by others near monitoring site? Y/N If yes, elaboration is as follows: _____

Name	Signature	Date
Field Operator K M Kwan	<i>[Signature]</i>	17 Feb 2016
Checked by Laboratory Staff	<i>[Signature]</i>	17/2/16
Checked by	<i>[Signature]</i>	20/2/16

Water Quality Monitoring - Data Record Sheet - Tseung Kwan O Area 137 Fill Bank

Sampling Date : 15/12/16
 Weather Condition : cloudy
 Tide status : mid-flotid
 Ambient Temperature (°C) : 13.0
 Station: TKO-C1 Duration: 10:30 to 10:45 Depth of Water (meter): 2.14

Depth (meter)	SURFACE		MIDDLE		BOTTOM		DEPTH AVERAGE	REMARK
	Value	Ave.	Value	Ave.	Value	Ave.		
Temp. (°C)	10		10.7		10.4			
Salinity (ppt)	27.7	27.9	27.9	28.0	28.0	28.0		
D.O. (mg/L)	6.04	5.87	5.82	5.74	5.70	5.72		
D.O.S. (%)	12.8	11.1	10.7	10.9	10.2	10.0		
Turbidity (NTU)	3.12	3.07	3.04	3.08	3.33	3.35		
S.S. (mg/L)	4.7	4.0	4.6	4.3	5.3	5.2	4.6	

Station: TKO-M4 Duration: 11:55 to 12:10 Depth of Water (meter): 4.6

Depth (meter)	SURFACE		MIDDLE		BOTTOM		DEPTH AVERAGE	REMARK
	Value	Ave.	Value	Ave.	Value	Ave.		
Temp. (°C)	10		10.8		10.6			
Salinity (ppt)	27.7	27.8	27.8	27.9	27.9	27.9		
D.O. (mg/L)	5.97	5.74	5.70	5.72	5.66	5.68		
D.O.S. (%)	12.1	11.7	11.0	11.3	10.7	10.9		
Turbidity (NTU)	2.95	3.12	3.08	3.10	3.08	3.06	3.03	
S.S. (mg/L)	4.7	4.7	4.5	4.5	4.6	4.5	4.3	

Parameter	Action Level*	Limit Level*
DO (mg/L)	Surface & Middle <5.45 mg/L (5%-ile of baseline data) Bottom <4.72 mg/L (5%-ile of baseline data)	Surface & Middle <5.10 mg/L (1%-ile of baseline data) Bottom <2.00 mg/L
SS (mg/L) (Depth-averaged)	>6.74 mg/L (95%-ile of baseline data) or >120% of the upstream control station's SS at the same tide on the same day	>7.67 mg/L (99%-ile of baseline data) or >130% of the upstream control station's SS at the same tide on the same day
Turbidity (NTU) (Depth-averaged)	>4.28 NTU (95%-ile of baseline data) or >120% of the upstream control station's turbidity at the same tide on the same day	>4.58 NTU (99%-ile of baseline data) or >130% of the upstream control station's turbidity at the same tide on the same day

* Traceable to Method Statement (Marine Water Quality Monitoring and Audit Manual) of Contract No CV2002/08, Rev. 2, Section 3.1 - 3.2.1

Any notable discoloration of water? Y / N If yes, elaboration is as follows: _____
 Any notable pollutant by others near monitoring site? Y / N If yes, elaboration is as follows: _____

Field Operator	Name	Signature	Date
Checked by	<u>John Yip Wai</u>	<u>[Signature]</u>	<u>15/12/16</u>
Laboratory Staff	<u>[Signature]</u>	<u>[Signature]</u>	<u>16/12/16</u>
Checked by	<u>[Signature]</u>	<u>[Signature]</u>	<u>17/12/16</u>

Water Quality Monitoring - Data Record Sheet - Tseung Kwan O Area 137 Fill Bank

Sampling Date : 15/12/16
 Weather Condition : Partly cloudy

Tide status : Mid-ebb
 Ambient Temperature (°C) : 13.0

Station: TKO-C1 Duration: 17:00 to 17:15

Depth of Water (meter): 20.6

Depth (meter)	SURFACE			MIDDLE			BOTTOM			REMARK
	Temp. (°C)	Salinity (ppt)	D.O. (mg/L)	Temp. (°C)	Salinity (ppt)	D.O. (mg/L)	Temp. (°C)	Salinity (ppt)	D.O. (mg/L)	
	1.0	27.2	5.99	10.3	27.9	5.73	19.6	28.0	5.66	
	16.4	7.24	3.11	16.7	7.06	3.22	16.8	6.87	3.35	
	Ave.: 27.8	Ave.: 5.97	Ave.: 3.13	Ave.: 27.9	Ave.: 5.71	Ave.: 3.20	Ave.: 28.0	Ave.: 5.65	Ave.: 3.37	
	Ave.: 4.7	Ave.: 3.8	Ave.: 4.2	Ave.: 9.1	Ave.: 4.8	Ave.: 4.7	Ave.: 4.0	Ave.: 4.4	Ave.: 4.5	

Station: TKO-M4 Duration: 18:25 to 18:40

Depth of Water (meter): 3.8

Depth (meter)	SURFACE			MIDDLE			BOTTOM			REMARK
	Temp. (°C)	Salinity (ppt)	D.O. (mg/L)	Temp. (°C)	Salinity (ppt)	D.O. (mg/L)	Temp. (°C)	Salinity (ppt)	D.O. (mg/L)	
	1.9	27.7	6.02	4.4	27.8	5.82	7.8	27.9	5.94	
	16.4	7.27	2.87	16.6	7.06	2.91	16.7	7.23	3.12	
	Ave.: 27.8	Ave.: 6.04	Ave.: 2.89	Ave.: 27.8	Ave.: 5.83	Ave.: 2.93	Ave.: 27.9	Ave.: 5.92	Ave.: 3.14	
	Ave.: 4.3	Ave.: 3.8	Ave.: 4.1	Ave.: 4.4	Ave.: 4.0	Ave.: 4.6	Ave.: 4.1	Ave.: 4.6	Ave.: 4.6	

Parameter	Action Level *	Limit Level *
DO (mg/L)	Surface & Middle <5.45 mg/L (5%-ile of baseline data) Bottom >4.72 mg/L (5%-ile of baseline data)	Surface & Middle <5.10 mg/L (1%-ile of baseline data) Bottom <2.00 mg/L
SS (mg/L) (Depth-averaged)	>6.74 mg/L (95%-ile of baseline data) or >120% of the upstream control station's SS at the same tide on the same day	>7.67 mg/L (99%-ile of baseline data) or >130% of the upstream control station's SS at the same tide on the same day
Turbidity (NTU) (Depth-averaged)	>4.28 NTU (95%-ile of baseline data) or >120% of the upstream control station's turbidity at the same tide on the same day	>4.58 NTU (99%-ile of baseline data) or >130% of the upstream control station's turbidity at the same tide on the same day

* Traceable to Method Statement (Marine Water Quality Monitoring and Audit Manual) of Contract No. CV2002/08, Rev. 2, Section 3.1 - 3.21

Any notable discoloration of water ? Y / N If yes, elaboration is as follows : _____

Any notable pollutant by others near monitoring site ? Y / N If yes, elaboration is as follows : _____

Name	Signature	Date
Field Operator	<i>Mak Mei Wai</i>	15/12/16
Checked by	<i>De Gem</i>	15/12/16
Laboratory Staff	<i>De Gem</i>	16/12/16
Checked by	<i>De Gem</i>	17/12/16

Water Quality Monitoring - Data Record Sheet - Tseung Kwan O Area 137 Fill Bank

Sampling Date : 12/2/2016
 Weather Condition : cloudy
 Tide status : Mid-flood
 Ambient Temperature (°C) : 17

Station: TKO-C1 Duration: 09:00 to 09:30 Depth of Water (meter): 19.8

Depth (meter)	SURFACE			MIDDLE			BOTTOM			DEPTH AVERAGE	REMARK
	Ave.	Ave.	Ave.	Ave.	Ave.	Ave.	Ave.	Ave.	Ave.		
Temp. (°C)	11.9	11.9	11.9	11.8	11.8	11.8	11.8	11.8	11.8		
Salinity (ppt)	31.5	31.6	31.7	31.7	31.7	31.7	31.7	31.7	31.7		
D.O. (mg/L)	6.21	6.23	6.14	6.16	6.15	6.15	6.15	6.15	6.15		
D.O.S. (%)	79.2	79.4	78.3	78.5	78.4	78.3	78.3	78.3	78.3		
Turbidity (NTU)	2.1	2.52	2.50	2.45	2.45	2.45	2.45	2.44	2.45		
S.S. (mg/L)	3.1	3.0	3.5	3.2	3.4	3.4	3.4	4.6	3.8		

Station: TKO-M4 Duration: 10:15 to 10:30 Depth of Water (meter): 8.6

Depth (meter)	SURFACE			MIDDLE			BOTTOM			DEPTH AVERAGE	REMARK
	Ave.	Ave.	Ave.	Ave.	Ave.	Ave.	Ave.	Ave.	Ave.		
Temp. (°C)	17.8	17.8	17.7	17.7	17.7	17.7	17.7	17.6	17.6		
Salinity (ppt)	31.7	31.6	31.7	31.7	31.7	31.7	31.7	31.7	31.7		
D.O. (mg/L)	6.32	6.36	6.45	6.44	6.45	6.45	6.45	6.45	6.45		
D.O.S. (%)	80.7	81.2	82.2	82.1	82.3	82.3	82.3	82.0	82.0		
Turbidity (NTU)	2.42	2.46	2.49	2.56	2.53	2.53	2.53	2.49	2.55		
S.S. (mg/L)	3.1	3.9	3.7	3.3	3.5	3.5	3.5	4.4	3.7		

Parameter	Action Level*	Limit Level*
DO (mg/L)	Surface & Middle <5.45 mg/L (5%-ile of baseline data) Bottom <4.72 mg/L (5%-ile of baseline data)	Surface & Middle <5.10 mg/L (1%-ile of baseline data) Bottom <2.00 mg/L
SS (mg/L) (Depth-averaged)	>6.74 mg/L (95%-ile of baseline data) or >120% of the upstream control station's SS at the same tide on same day	>7.67 mg/L (99%-ile of baseline data) or >130% of the upstream control station's SS at the same tide on the same day
Turbidity (NTU) (Depth-averaged)	>4.28 NTU (95%-ile of baseline data) or >120% of the upstream control station's turbidity at the same tide on the same day	>4.58 NTU (99%-ile of baseline data) or >130% of the upstream control station's turbidity at the same tide on the same day

* Traceable to Method Statement (Marine Water Quality Monitoring and Audit Manual) of Contract No. CV2002/08, Rev. 2, Section 3.1-3.21

Any notable discoloration of water? Y/N If yes, elaboration is as follows:

Any notable pollutant by others near monitoring site? Y/N If yes, elaboration is as follows:

Field Operator	Name	Signature	Date
Checked by	Jacky Cheung	<i>Jacky Cheung</i>	12/2/16
Laboratory Staff		<i>[Signature]</i>	13/2/16
Checked by		<i>[Signature]</i>	15/2/16

Water Quality Monitoring - Data Record Sheet - Tseung Kwan O Area 137 Fill Bank

Sampling Date : 12 / 2 / 2016
 Weather Condition : cloudy
 Tide status : Mid - Ebb
 Ambient Temperature (°C) : 17

Station: TKO-C1 Duration: 11:00 to 14:18 Depth of Water (meter): 1.94

Depth (meter)	SURFACE		MIDDLE		BOTTOM		DEPTH AVERAGE	REMARK
	Ave.:	Ave.:	Ave.:	Ave.:	Ave.:	Ave.:		
Temp. (°C)	31.7	31.3	31.3	31.3	31.3	31.3	31.3	
Salinity (ppt)	31.6	31.6	31.6	31.6	31.6	31.6	31.6	
D.O. (mg/L)	6.14	6.13	6.05	6.07	6.06	5.97	5.91	
D.O.S. (%)	18.1	18.2	17.2	17.4	17.3	16.5	15.4	
Turbidity (NTU)	2.67	2.56	2.56	2.58	2.54	3.09	2.74	
S.S. (mg/L)	3.5	3.9	3.7	3.8	4.0	3.9	3.7	

Station: TKO-M4 Duration: 15:40 to 16:00 Depth of Water (meter): 8.2

Depth (meter)	SURFACE		MIDDLE		BOTTOM		DEPTH AVERAGE	REMARK
	Ave.:	Ave.:	Ave.:	Ave.:	Ave.:	Ave.:		
Temp. (°C)	31.7	31.9	31.1	31.6	31.6	31.6	31.6	
Salinity (ppt)	31.6	31.6	31.6	31.6	31.6	31.6	31.6	
D.O. (mg/L)	6.23	6.27	6.34	6.35	6.03	6.02	6.02	
D.O.S. (%)	19.6	19.8	18.1	18.0	16.9	16.7	16.7	
Turbidity (NTU)	2.48	2.51	2.55	2.59	2.12	2.15	2.15	
S.S. (mg/L)	5.5	3.3	3.4	3.9	4.1	4.7	4.7	

Parameter	Action Level*	Limit Level*
DO (mg/L)	Surface & Middle <5.45 mg/L (5%-ile of baseline data) Bottom <4.72 mg/L (5%-ile of baseline data)	Surface & Middle <5.10 mg/L (1%-ile of baseline data) Bottom <2.00 mg/L
SS (mg/L) (Depth-averaged)	>6.74 mg/L (95%-ile of baseline data) or >120% of the upstream control station's SS at the same tide on the same day	>7.67 mg/L (99%-ile of baseline data) or >130% of the upstream control station's SS at the same tide on the same day
Turbidity (NTU) (Depth-averaged)	>4.28 NTU (95%-ile of baseline data) or >120% of the upstream control station's turbidity at the same tide on the same day	>4.58 NTU (99%-ile of baseline data) or >130% of the upstream control station's turbidity at the same tide on the same day

* Traceable to Method Statement (Marine Water Quality Monitoring and Audit Manual) of Contract No. CV/2002/08, Rev. 2, Section 3.1 - 3.21

Any notable discoloration of water? Y/N If yes, elaboration is as follows:

Any notable pollutant by others near monitoring site? Y/N If yes, elaboration is as follows:

Name	Signature	Date
Field Operator Jauky Chau	<i>Jauky Chau</i>	12/2/16
Checked by Laboratory Staff	<i>Dee Tan</i>	13/2/16
Checked by	<i>Dee Tan</i>	15/2/16

Water Quality Monitoring - Data Record Sheet - Tseung Kwan O Area 137 Fill Bank

Sampling Date : 5. 2. 2016
Weather Condition : cloudy
Tide status : Mid - Ebb
Ambient Temperature (°C) : 13

Station: TKO-C1 Duration: 09:00 to 09:18 Depth of Water (meter): 19.2

Depth (meter)	SURFACE			MIDDLE			BOTTOM			DEPTH AVERAGE	REMARK
	Ave.:	Ave.:	Ave.:	Ave.:	Ave.:	Ave.:	Ave.:	Ave.:	Ave.:		
Temp. (°C)	11.7	11.7	11.7	11.6	11.6	11.6	11.6	11.6	11.6		
Salinity (ppt)	31.3	31.4	31.5	31.5	31.5	31.5	31.5	31.5	31.5		
D.O. (mg/L)	6.09	6.11	6.10	6.03	6.04	6.03	6.03	6.03	6.03		
D.O.S. (%)	11.6	11.5	11.7	11.7	11.6	11.5	11.5	11.5	11.5		
Turbidity (NTU)	3.19	3.10	3.15	3.63	3.63	3.63	3.63	3.63	3.63		
S.S. (mg/L)	5.7	5.2	5.5	5.2	5.4	5.3	5.2	5.4	5.3		

Station: TKO-M4 Duration: 10:40 to 11:00 Depth of Water (meter): 8.2

Depth (meter)	SURFACE			MIDDLE			BOTTOM			DEPTH AVERAGE	REMARK
	Ave.:	Ave.:	Ave.:	Ave.:	Ave.:	Ave.:	Ave.:	Ave.:			
Temp. (°C)	11.6	11.6	11.6	11.6	11.6	11.6	11.6	11.6	11.6		
Salinity (ppt)	31.4	31.5	31.5	31.4	31.5	31.5	31.5	31.5	31.5		
D.O. (mg/L)	6.20	6.24	6.22	6.33	6.33	6.33	6.33	6.33	6.33		
D.O.S. (%)	11.6	11.5	11.7	11.7	11.6	11.5	11.5	11.5	11.5		
Turbidity (NTU)	3.10	3.14	3.12	3.74	3.74	3.74	3.74	3.74	3.74		
S.S. (mg/L)	4.7	4.7	4.7	5.1	5.2	5.2	5.0	5.1	5.1		

Parameter	Action Level*	Limit Level*
DO (mg/L)	Surface & Middle <5.45 mg/L (5%-ile of baseline data) Bottom	Surface & Middle <5.10 mg/L (1%-ile of baseline data) Bottom
SS (mg/L) (Depth-averaged)	>4.72 mg/L (5%-ile of baseline data)	>7.67 mg/L (99%-ile of baseline data) or >130% of the upstream control station's SS at the same tide on the same day
Turbidity (NTU) (Depth-averaged)	>4.28 NTU (95%-ile of baseline data) or >120% of the upstream control station's turbidity at the same tide on the same day	>4.58 NTU (99%-ile of baseline data) or >130% of the upstream control station's turbidity at the same tide on the same day

* Traceable to Method Statement (Marine Water Quality Monitoring and Audit Manual) of Contract No. CV/2002/08, Rev. 2, Section 3.1 - 3.21

Any notable discoloration of water? Y / N If yes, elaboration is as follows:

Any notable pollutant by others near monitoring site? Y / N If yes, elaboration is as follows:

Field Operator	Name	Signature	Date
Checked by	Jeddy Cheung	<i>Jeddy Cheung</i>	5. 2. 2016
Laboratory Staff			5/2/16
Checked by			6/2/16
			5/2/16

Water Quality Monitoring - Data Record Sheet - Tseung Kwan O Area 137 Fill Bank

Sampling Date : 5. 2. 2016
Weather Condition : cloudy
Tide status : Mid-flood
Ambient Temperature (°C) : 13

Station: TKO-C1 Duration: 14:00 to 14:18 Depth of Water (meter): 19.6

Depth (meter)	SURFACE			MIDDLE			BOTTOM			REMARK
	1.0	1.5	1.8	1.7	2.0	2.5	3.0	3.5	4.0	
Temp. (°C)	31.4	31.5	31.6	31.7	31.7	31.7	31.7	31.7	31.7	
Salinity (ppt)	6.15	6.16	6.08	6.10	6.08	6.08	6.08	6.08	6.08	
D.O. (mg/L)	16.4	16.5	17.5	17.7	17.7	17.7	17.7	17.7	17.7	
D.O.S. (%)	3.70	3.66	3.58	3.54	3.54	3.54	3.54	3.54	3.54	
Turbidity (NTU)	5.6	5.4	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
S.S. (mg/L)										

Station: TKO-M4 Duration: 15:40 to 16:00 Depth of Water (meter): 6.4

Depth (meter)	SURFACE			MIDDLE			BOTTOM			REMARK
	1.0	1.5	1.8	1.7	2.0	2.5	3.0	3.5	4.0	
Temp. (°C)	31.5	31.6	31.5	31.6	31.6	31.6	31.6	31.6	31.6	
Salinity (ppt)	6.26	6.28	6.39	6.38	6.37	6.37	6.37	6.37	6.37	
D.O. (mg/L)	19.8	20.1	21.4	21.3	21.3	21.3	21.3	21.3	21.3	
D.O.S. (%)	3.51	3.53	3.58	3.65	3.65	3.65	3.65	3.65	3.65	
Turbidity (NTU)	5.6	5.3	4.7	5.5	5.5	5.5	5.5	5.5	5.5	
S.S. (mg/L)										

Parameter	Action Level *		Limit Level *	
	Surface & Middle	Bottom	Surface & Middle	Bottom
DO (mg/L)	<5.45 mg/L (5%-ile of baseline data)	<4.72 mg/L (5%-ile of baseline data)	<5.10 mg/L (1%-ile of baseline data)	<2.00 mg/L
SS (mg/L) (Depth-averaged)	>6.74 mg/L (95%-ile of baseline data) or >120% of the upstream control station's SS at the same tide on the same day	>4.72 mg/L (5%-ile of baseline data)	>7.67 mg/L (99%-ile of baseline data) or >130% of the upstream control station's SS at the same tide on the same day	>4.58 NTU (99%-ile of baseline data) or >130% of the upstream control station's turbidity at the same tide on the same day
Turbidity (NTU) (Depth-averaged)	>4.28 NTU (95%-ile of baseline data) or >120% of the upstream control station's turbidity at the same tide on the same day	>4.28 NTU (95%-ile of baseline data) or >120% of the upstream control station's turbidity at the same tide on the same day	>4.58 NTU (99%-ile of baseline data) or >130% of the upstream control station's turbidity at the same tide on the same day	>4.58 NTU (99%-ile of baseline data) or >130% of the upstream control station's turbidity at the same tide on the same day

* Traceable to Method Statement (Marine Water Quality Monitoring and Audit Manual) of Contract No. CV/2002/08, Rev. 2, Section 3.1 - 3.21

Any notable discoloration of water? N If yes, elaboration is as follows: _____

Any notable pollutant by others near monitoring site? N If yes, elaboration is as follows: _____

Field Operator	Name	Signature	Date
Checked by	Jacky Cheung	<i>Jacky Cheung</i>	5. 2. 2016
Laboratory Staff			
Checked by		<i>de la</i>	6/2/16
			16/2/16

Water Quality Monitoring - Data Record Sheet - Tseung Kwan O Area 137 Fill Bank

Sampling Date : 3/2/16
 Weather Condition : cloudy
 Station: TKO-C1
 Duration: 08:10 to 08:23
 Tide status : Mid-Ebb
 Ambient Temperature (°C) : 17.0
 Depth of Water (meter): 11.7

Depth (meter)	SURFACE			MIDDLE			BOTTOM			DEPTH AVERAGE	REMARK
	1.0	17.3		9.9			18.7				
Temp. (°C)	31.2	31.3	Ave.: 31.4	31.4	31.3	Ave.: 31.3	31.8	31.8	Ave.: 31.8		
Salinity (ppt)	6.05	6.04	Ave.: 6.05	6.07	6.07	Ave.: 6.07	5.82	5.82	Ave.: 5.82		
D.O. (mg/L)	7.68	7.73	Ave.: 7.70	7.72	7.66	Ave.: 7.69	7.40	7.40	Ave.: 7.40		
Turbidity (NTU)	3.23	3.69	Ave.: 3.46	3.68	3.70	Ave.: 3.69	4.06	4.06	Ave.: 4.06		
S.S. (mg/L)	4.4	5.0	Ave.: 4.7	4.8	5.1	Ave.: 4.95	6.5	6.5	Ave.: 6.5		

Station: TKO-M4
 Duration: 09:14 to 09:29
 Depth of Water (meter): 8.6

Depth (meter)	SURFACE			MIDDLE			BOTTOM			DEPTH AVERAGE	REMARK
	1.0	17.7		4.3			7.6				
Temp. (°C)	31.3	31.4	Ave.: 31.4	31.4	31.4	Ave.: 31.4	31.4	31.4	Ave.: 31.4		
Salinity (ppt)	6.14	6.16	Ave.: 6.15	6.07	6.07	Ave.: 6.07	5.91	5.91	Ave.: 5.91		
D.O. (mg/L)	7.82	7.87	Ave.: 7.84	7.72	7.73	Ave.: 7.72	7.52	7.52	Ave.: 7.52		
Turbidity (NTU)	3.57	3.53	Ave.: 3.55	3.61	3.65	Ave.: 3.63	3.84	3.84	Ave.: 3.84		
S.S. (mg/L)	4.6	5.7	Ave.: 5.15	5.4	5.1	Ave.: 5.25	6.1	6.1	Ave.: 6.1		

Parameter	Action Level*		Limit Level*
	Surface & Middle	Bottom	
DO (mg/L)	>6.74 mg/L (5%-ile of baseline data)	<5.10 mg/L (1%-ile of baseline data)	
SS (mg/L) (Depth-averaged)	>8.74 mg/L (95%-ile of baseline data) or >120% of the upstream control station's SS at the same tide on the same day	<4.72 mg/L (5%-ile of baseline data)	
Turbidity (NTU) (Depth-averaged)	>4.28 NTU (95%-ile of baseline data) or >120% of the upstream control station's turbidity at the same tide on the same day	>4.58 NTU (99%-ile of baseline data) or >130% of the upstream control station's turbidity at the same tide on the same day	

* Traceable to Method Statement (Marine Water Quality Monitoring and Audit Manual) of Contract No. CV/2002/08, Rev. 2, Section 3.1 - 3.21

Any notable discoloration of water? Y / N If yes, elaboration is as follows:
 Any notable pollutant by others near monitoring site? Y / N If yes, elaboration is as follows:

Field Operator	Name	Signature	Date
Checked by	Andrew	<i>[Signature]</i>	3/2/16
Laboratory Staff		<i>[Signature]</i>	3/2/16
Checked by		<i>[Signature]</i>	3/2/16

Water Quality Monitoring - Data Record Sheet - Tseung Kwan O Area 137 Fill Bank

Sampling Date: 3/2/16
Weather Condition: cloudy
Tide status: Mid-Flod
Ambient Temperature (°C): 12.2

Station: TKO-C1 Duration: 12:30 to 12:44 Depth of Water (meter): 1.9

Depth (meter)	SURFACE			MIDDLE			BOTTOM			DEPTH AVERAGE	REMARK
	Ave.	Min	Max	Ave.	Min	Max	Ave.	Min	Max		
Temp. (°C)	17.9			17.7			18.5				
Salinity (ppt)	31.5	31.4	31.5	31.6	31.7	31.7	31.8	31.9	31.9		
D.O. (mg/L)	6.28	6.16	6.25	6.17	6.14	6.16	6.11	6.07	6.09		
D.O.S. (%)	80.1	79.8	80.5	78.7	78.3	78.5	77.9	77.5	77.7		
Turbidity (NTU)	3.57	3.57	3.55	3.42	3.46	3.45	3.77	3.70	3.74		
S.S. (mg/L)	5.3	4.6	5.0	4.4	4.5	4.5	6.0	5.2	5.6		

Station: TKO-M4 Duration: 13:59 to 14:17 Depth of Water (meter): 8.9

Depth (meter)	SURFACE			MIDDLE			BOTTOM			DEPTH AVERAGE	REMARK
	Ave.	Min	Max	Ave.	Min	Max	Ave.	Min	Max		
Temp. (°C)	17.8			17.7			17.9				
Salinity (ppt)	31.6	31.5	31.6	31.7	31.6	31.7	31.7	31.8	31.8		
D.O. (mg/L)	6.73	6.70	6.72	6.55	6.18	6.17	6.12	6.11	6.12		
D.O.S. (%)	77.1	77.1	77.3	78.5	78.7	78.7	78.1	78.0	78.1		
Turbidity (NTU)	3.41	3.48	3.45	3.53	3.45	3.51	3.68	3.73	3.71		
S.S. (mg/L)	4.8	4.4	4.4	4.6	4.5	4.6	6.8	5.2	5.0		

Parameter	Action Level*	Limit Level*
DO (mg/L)	Surface & Middle <5.45 mg/L (5%-ile of baseline data) Bottom <4.72 mg/L (5%-ile of baseline data)	Surface & Middle <5.10 mg/L (1%-ile of baseline data) Bottom <2.00 mg/L
SS (mg/L) (Depth-averaged)	>6.74 mg/L (95%-ile of baseline data) or >120% of the upstream control station's SS at the same tide on the same day	>7.67 mg/L (99%-ile of baseline data) or >130% of the upstream control station's SS at the same tide on the same day
Turbidity (NTU) (Depth-averaged)	>4.28 NTU (95%-ile of baseline data) or >120% of the upstream control station's turbidity at the same tide on the same day	>4.58 NTU (99%-ile of baseline data) or >130% of the upstream control station's turbidity at the same tide on the same day

* Traceable to Method Statement (Marine Water Quality Monitoring and Audit Manual) of Contract No. CV/2002/08, Rev. 2, Section 3.1 - 3.21

Any notable discoloration of water? Y / N if yes, elaboration is as follows:

Any notable pollutant by others near monitoring site? Y / N If yes, elaboration is as follows:

Name	Signature	Date
Andrew	<i>[Signature]</i>	3/2/16
Laber	<i>[Signature]</i>	3/2/16
Laber	<i>[Signature]</i>	3/2/16

Water Quality Monitoring - Data Record Sheet - Tseung Kwan O Area 137 Fill Bank

Sampling Date : 1-2-16
Weather Condition : Cloudy
Tide status : M.L - L.L.L
Ambient Temperature (°C) : 12.0
Station: TKO-C1 Duration: 17:00 to 17:18 Depth of Water (meter): 19.4

Depth (meter)	SURFACE			MIDDLE			BOTTOM			DEPTH AVERAGE	REMARK
	Value	Ave.	Value	Ave.	Value	Ave.	Value	Ave.			
Temp. (°C)	1.0	17.0	9.7	16.8	16.5	16.5	16.5	16.5	16.5		
Salinity (ppt)	30.0	30.1	30.2	30.3	30.4	30.5	30.5	30.5	30.5		
D.O. (mg/L)	6.37	6.39	6.25	6.23	6.17	6.15	6.16	6.16	6.16		
D.O.S. (%)	78.4	79.1	77.2	77.0	75.9	75.7	75.1	75.1	75.1		
Turbidity (NTU)	4.16	4.18	4.33	4.35	4.50	4.52	4.51	4.51	4.34		
S.S. (mg/L)	6.0	6.0	5.7	5.9	5.9	5.9	5.9	5.9	5.9		

Station: TKO-M4 Duration: 18:39 to 19:00 Depth of Water (meter): 8.3

Depth (meter)	SURFACE			MIDDLE			BOTTOM			DEPTH AVERAGE	REMARK
	Value	Ave.	Value	Ave.	Value	Ave.	Value	Ave.			
Temp. (°C)	1.0	17.1	4.2	16.7	16.6	16.6	16.6	16.6	16.6		
Salinity (ppt)	30.1	30.2	30.3	30.4	30.5	30.6	30.6	30.6	30.6		
D.O. (mg/L)	6.50	6.51	6.30	6.32	6.23	6.23	6.24	6.24	6.24		
D.O.S. (%)	80.8	80.6	77.8	77.0	76.7	76.7	76.1	76.1	76.1		
Turbidity (NTU)	3.55	3.33	4.12	4.14	4.30	4.32	4.31	4.31	4.13		
S.S. (mg/L)	4.7	4.2	5.8	5.4	6.9	6.0	6.5	6.5	5.8		

Parameter	Action Level *	Limit Level *
DO (mg/L)	Surface & Middle <5.45 mg/L (5%-ile of baseline data) Bottom <4.72 mg/L (5%-ile of baseline data)	Surface & Middle <5.10 mg/L (1%-ile of baseline data) Bottom >2.00 mg/L
SS (mg/L) (Depth-averaged)	>6.74 mg/L (95%-ile of baseline data) or >120% of the upstream control station's SS at the same tide on the same day	>7.67 mg/L (99%-ile of baseline data) or >130% of the upstream control station's SS at the same tide on the same day
Turbidity (NTU) (Depth-averaged)	>4.28 NTU (95%-ile of baseline data) or >120% of the upstream control station's turbidity at the same tide on the same day	>4.58 NTU (99%-ile of baseline data) or >130% of the upstream control station's turbidity at the same tide on the same day

* Traceable to Method Statement (Marine Water Quality Monitoring and Audit Manual) of Contract No. CV/2002/08, Rev. 2, Section 3.1 - 3.21

Any notable discoloration of water? Y/N If yes, elaboration is as follows:
Any notable pollutant by others near monitoring site? Y/N If yes, elaboration is as follows:

Field Operator	Name	Signature	Date
Checked by	Wing Yip	[Signature]	1-2-16
Laboratory Staff	Wing Yip	[Signature]	01/02/16
Checked by	Wing Yip	[Signature]	2/2/16
		[Signature]	4/2/16

Water Quality Monitoring - Data Record Sheet - Tseung Kwan O Area 137 Fill Bank

Sampling Date : 12.16
Weather Condition : Cloudy
Tide status : High Flood
Ambient Temperature (°C) : 20.2

Station: TKO-C1 Duration: 10:30 to 10:48 Depth of Water (meter): 4.7

Depth (meter)	SURFACE		MIDDLE		BOTTOM		DEPTH AVERAGE	REMARK
Temp. (°C)	17.1	17.1	9.1	16.7	10.7	16.8		
Salinity (ppt)	30.1 Ave.: 30.1	30.2 Ave.: 30.3	30.3 Ave.: 30.3	30.4 Ave.: 30.5	30.5 Ave.: 30.5	30.5 Ave.: 30.5		
D.O. (mg/L)	6.45 Ave.: 6.46	6.30 Ave.: 6.31	6.33 Ave.: 6.33	6.25 Ave.: 6.26	6.27 Ave.: 6.27	6.26 Ave.: 6.26		
D.O.S. (%)	77.9 Ave.: 80.0	77.8 Ave.: 77.7	78.0 Ave.: 77.7	76.9 Ave.: 77.0	77.1 Ave.: 77.0	77.0 Ave.: 77.0		
Turbidity (NTU)	4.06 Ave.: 4.07	4.15 Ave.: 4.16	4.17 Ave.: 4.16	4.30 Ave.: 4.31	4.32 Ave.: 4.31	4.18 Ave.: 4.18		
S.S. (mg/L)	5.7 Ave.: 5.7	6.3 Ave.: 6.2	6.0 Ave.: 6.2	6.0 Ave.: 6.0	4.9 Ave.: 4.9	5.5 Ave.: 5.5		

Station: TKO-M4 Duration: 12:04 to 12:30 Depth of Water (meter): 8.6

Depth (meter)	SURFACE		MIDDLE		BOTTOM		DEPTH AVERAGE	REMARK
Temp. (°C)	17.6	17.6	4.3	16.8	7.6	16.6		
Salinity (ppt)	30.1 Ave.: 30.1	30.2 Ave.: 30.2	30.2 Ave.: 30.2	30.4 Ave.: 30.4	30.3 Ave.: 30.4	30.4 Ave.: 30.4		
D.O. (mg/L)	6.63 Ave.: 6.65	6.36 Ave.: 6.37	6.38 Ave.: 6.37	6.29 Ave.: 6.30	6.31 Ave.: 6.30	6.30 Ave.: 6.30		
D.O.S. (%)	82.2 Ave.: 82.3	78.5 Ave.: 78.6	78.7 Ave.: 78.6	77.4 Ave.: 77.5	77.6 Ave.: 77.5	77.5 Ave.: 77.5		
Turbidity (NTU)	3.80 Ave.: 3.82	3.54 Ave.: 3.55	3.56 Ave.: 3.55	4.13 Ave.: 4.14	4.15 Ave.: 4.14	3.97 Ave.: 3.97		
S.S. (mg/L)	6.3 Ave.: 6.3	5.9 Ave.: 5.9	5.9 Ave.: 5.9	5.9 Ave.: 5.9	5.9 Ave.: 5.9	5.9 Ave.: 5.9		

Parameter	Action Level*	Limit Level*
DO (mg/L)	Surface & Middle <5.45 mg/L (5%-ile of baseline data) Bottom >4.72 mg/L (5%-ile of baseline data)	Surface & Middle <5.10 mg/L (1%-ile of baseline data) Bottom >2.00 mg/L
SS (mg/L) (Depth-averaged)	>6.74 mg/L (95%-ile of baseline data) or >120% of the upstream control station's SS at the same tide on the same day	>7.67 mg/L (99%-ile of baseline data) or >130% of the upstream control station's SS at the same tide on the same day
Turbidity (NTU) (Depth-averaged)	>4.28 NTU (95%-ile of baseline data) or >120% of the upstream control station's turbidity at the same tide on the same day	>4.58 NTU (99%-ile of baseline data) or >130% of the upstream control station's turbidity at the same tide on the same day

* Traceable to Method Statement (Marine Water Quality Monitoring and Audit Manual) of Contract No. CV/2002/08, Rev. 2, Section 3.1 - 3.21

Any notable discoloration of water? N If yes, elaboration is as follows:

Any notable pollutant by others near monitoring site? N If yes, elaboration is as follows:

Field Operator	Name	Signature	Date
Checked by	Tung Chai King	<i>Tung Chai King</i>	12/16
Laboratory Staff	Ying Yee Chan	<i>Ying Yee Chan</i>	12/16
Checked by	Yee Lan	<i>Yee Lan</i>	12/16



Contract No. CV/2013/06
Handling of Surplus Public Fill


Tseung Kwan O Area 137

Noise Monitoring - Field Record Sheet


Location		N1			
Date of Monitoring		17/2/16			
Sound Level Meter		ET / EN / 003 / 15 .			
Sound Level Calibrator		ET / EN / 002 / 07 .			
Time of Monitoring (hh:mm)		Start	1130	Finish	12:00
Calibration, dB(A) (94dB(A) + 1.0dB(A))		Before	94.0	After	94.0
Weather Conditions		Cloudy			
Wind Speed (m/s)		0.4			
Result, dB(A)		L _{eq} (30min)	67.3		
		L ₁₀ (30min)	71.2		
		L ₉₀ (30min)	63.6		
Major Construction Noise Source(s) During Monitoring		Vehicle passing			
Other Noise Source(s) During Monitoring					
Remarks					

Time Period	Action Level	Limit Level
0700-1900 hrs on normal Weekdays	When one documented complaint is received	75 dB(A)

Tested by:


Date: 17.2.16

Checked by:


Date: 17/2/16



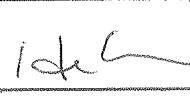
CEDD Contract No. CV / 2013 / 06
Handling of Surplus Public Fill

Tseung Kwan O Area 137

Impact 1-Hour TSP Monitoring

Monitoring Date	29-2-16	
Monitoring Location	TKO-A1	TKO-A2a
Details of Location	Site Egress	CREO
High Vol. Sampler Serial No.	10381	1172
Sampler Identification	ET/EA/ 003 / 22	ET/EA/ 003 / 11
Calibration Due Date of HVS	4-4-16	4-4-16
Sampling Start Time	8:45	8:55
Sampling End Time	9:45	9:55
Initial Elapsed Time Reading (hr)	24441.33	24450.64
Final Elapsed Time Reading (hr)	24442.33	24451.64
Average Indicated Flow Rate (cfm)	32	32
Average Actual Flow Rate (m ³ /min)	1.0307	1.0430
Total Sampling Time (min)	60.0	60.0
Total Volume (m ³)	61.84	62.58
Initial Weight of Filter Paper (g)	2.7952	2.8061
Final Weight of Filter Paper (g)	2.8076	2.8168
Weight of Particulate (g)	0.0124	0.0107
TSP Results (ug/m ³)	201	171
Remarks	The result was not exceeded the Action/Limit Level (Action Level=376ug/m ³ , Limit Level=500ug/m ³)	The result was not exceeded the Action/Limit Level (Action Level=376ug/m ³ , Limit Level=500ug/m ³)

Prepared by : 

Checked By : 

Date : 1-3-16

Date : 4/3/16



CEDD Contract No. CV / 2013 / 06
Handling of Surplus Public Fill

Tseung Kwan O Area 137

Impact 1-Hour TSP Monitoring

Monitoring Date	26.2.16	
Monitoring Location	TKO-A1	TKO-A2a
Details of Location	Site Egress	CREO
High Vol. Sampler Serial No.	10381	1172
Sampler Identification	ET/EA/ 003 / 22	ET/EA/ 003 / 11
Calibration Due Date of HVS	4.4.16	4.4.16
Sampling Start Time	16:10	16:15
Sampling End Time	17:10	17:15
Initial Elapsed Time Reading (hr)	24440.33	24449.64
Final Elapsed Time Reading (hr)	24441.33	24450.64
Average Indicated Flow Rate (cfm)	32	32
Average Actual Flow Rate (m ³ /min)	1.0307	1.0430
Total Sampling Time (min)	60.0	60.0
Total Volume (m ³)	61.84	62.58
Initial Weight of Filter Paper (g)	2.7888	2.8761
Final Weight of Filter Paper (g)	2.7999	2.8890
Weight of Particulate (g)	0.0111	0.0129
TSP Results (ug/m ³)	179	206
Remarks	The result was/ was not exceeded the Action/Limit Level (Action Level=376ug/m ³ , Limit Level=500ug/m ³)	The result was/ was not exceeded the Action/Limit Level (Action Level=376ug/m ³ , Limit Level=500ug/m ³)

Prepared by : 

Checked By : 

Date : 27.2.16

Date : 4/3/16



CEDD Contract No. CV / 2013 / 06
Handling of Surplus Public Fill

Tseung Kwan O Area 137

Impact 1-Hour TSP Monitoring

Monitoring Date	24.2.16	
Monitoring Location	TKO-A1	TKO-A2a
Details of Location	Site Egress	CREO
High Vol. Sampler Serial No.	10381	1172
Sampler Identification	ET/EA/ 003 / 22	ET/EA/ 003 / 11
Calibration Due Date of HVS	4.4.16	4.4.16
Sampling Start Time	13:40	13:45
Sampling End Time	14:40	14:45
Initial Elapsed Time Reading (hr)	24439.33	24448.64
Final Elapsed Time Reading (hr)	24440.33	24449.64
Average Indicated Flow Rate (cfm)	32	32
Average Actual Flow Rate (m ³ /min)	1.0307	1.0430
Total Sampling Time (min)	60.0	60.0
Total Volume (m ³)	61.84	62.58
Initial Weight of Filter Paper (g)	2.7866	2.8213
Final Weight of Filter Paper (g)	2.7983	2.8337
Weight of Particulate (g)	0.0117	0.0124
TSP Results (ug/m ³)	189	198
Remarks	The result was / was not exceeded the Action/Limit Level (Action Level=376ug/m ³ , Limit Level=500ug/m ³)	The result was / was not exceeded the Action/Limit Level (Action Level=376ug/m ³ , Limit Level=500ug/m ³)

Prepared by : 

Checked By : 

Date : 27.2.16

Date : 4/3/16



CEDD Contract No. CV / 2013 / 06
Handling of Surplus Public Fill

Tseung Kwan O Area 137

Impact 1-Hour TSP Monitoring

Monitoring Date	24.2.16	
Monitoring Location	TKO-A1	TKO-A2a
Details of Location	Site Egress	CREO
High Vol. Sampler Serial No.	10381	1172
Sampler Identification	ET/EA/ 003 / 22	ET/EA/ 003 / 11
Calibration Due Date of HVS	4.4.16	4.4.16
Sampling Start Time	8:05	8:10
Sampling End Time	9:05	9:10
Initial Elapsed Time Reading (hr)	24438.33	24447.64
Final Elapsed Time Reading (hr)	24439.33	24448.64
Average Indicated Flow Rate (cfm)	32	32
Average Actual Flow Rate (m ³ /min)	1.0307	1.0430
Total Sampling Time (min)	60.0	60.0
Total Volume (m ³)	61.84	62.58
Initial Weight of Filter Paper (g)	2.8052	2.7934
Final Weight of Filter Paper (g)	2.8177	2.8064
Weight of Particulate (g)	0.0125	0.0130
TSP Results (ug/m ³)	202	208
Remarks	The result was/ was not exceeded the Action/Limit Level (Action Level=376ug/m ³ , Limit Level=500ug/m ³)	The result was/ was not exceeded the Action/Limit Level (Action Level=376ug/m ³ , Limit Level=500ug/m ³)

Prepared by : 

Checked By : 

Date : 27.2.16

Date : 4/3/16



CEDD Contract No. CV / 2013 / 06
Handling of Surplus Public Fill

Tseung Kwan O Area 137

Impact 1-Hour TSP Monitoring

Monitoring Date	22.2.16	
Monitoring Location	TKO-A1	TKO-A2a
Details of Location	Site Egress	CREO
High Vol. Sampler Serial No.	10381	1172
Sampler Identification	ET/EA/ 003 / 22	ET/EA/ 003 / 11
Calibration Due Date of HVS	4.4.16	4.4.16
Sampling Start Time	13:20	13:30
Sampling End Time	14:20	14:30
Initial Elapsed Time Reading (hr)	24413.33	24422.64
Final Elapsed Time Reading (hr)	24414.33	24423.64
Average Indicated Flow Rate (cfm)	32	32
Average Actual Flow Rate (m ³ /min)	1.0307	1.0430
Total Sampling Time (min)	60.0	60.0
Total Volume (m ³)	61.84	62.58
Initial Weight of Filter Paper (g)	2.7999	2.8066
Final Weight of Filter Paper (g)	2.8106	2.8179
Weight of Particulate (g)	0.0107	0.0113
TSP Results (ug/m ³)	173	181
Remarks	The result was / was not exceeded the Action/Limit Level (Action Level=376ug/m ³ , Limit Level=500ug/m ³)	The result was / was not exceeded the Action/Limit Level (Action Level=376ug/m ³ , Limit Level=500ug/m ³)

Prepared by : 

Checked By : 

Date : 23.2.16

Date : 25/2/16



CEDD Contract No. CV / 2013 / 06
Handling of Surplus Public Fill

Tseung Kwan O Area 137

Impact 1-Hour TSP Monitoring

Monitoring Date	19.12.16	
Monitoring Location	TKO-A1	TKO-A2a
Details of Location	Site Egress	CREO
High Vol. Sampler Serial No.	10381	1172
Sampler Identification	ET/EA/ 003 / 22	ET/EA/ 003 / 11
Calibration Due Date of HVS	4.4.16	4.4.16
Sampling Start Time	8:15	8:25
Sampling End Time	9:15	9:25
Initial Elapsed Time Reading (hr)	24412.33	24421.64
Final Elapsed Time Reading (hr)	24413.33	24422.64
Average Indicated Flow Rate (cfm)	32	32
Average Actual Flow Rate (m ³ /min)	1.0307	1.0430
Total Sampling Time (min)	60.0	60.0
Total Volume (m ³)	61.84	62.58
Initial Weight of Filter Paper (g)	2.7865	2.8001
Final Weight of Filter Paper (g)	2.7989	2.8138
Weight of Particulate (g)	0.0124	0.0137
TSP Results (ug/m ³)	201	219
Remarks	The result was / was not exceeded the Action/Limit Level (Action Level=376ug/m ³ , Limit Level=500ug/m ³)	The result was / was not exceeded the Action/Limit Level (Action Level=376ug/m ³ , Limit Level=500ug/m ³)

Prepared by : 

Checked By : 

Date : 23.12.16

Date : 25/12/16



CEDD Contract No. CV / 2013 / 06
Handling of Surplus Public Fill

Tseung Kwan O Area 137

Impact 1-Hour TSP Monitoring

Monitoring Date	17.2.16	
Monitoring Location	TKO-A1	TKO-A2a
Details of Location	Site Egress	CREO
High Vol. Sampler Serial No.	10381	1172
Sampler Identification	ET/EA/ 003 / 22	ET/EA/ 003 / 11
Calibration Due Date of HVS	4.4.16	4.4.16
Sampling Start Time	9:45	9:50
Sampling End Time	10:45	10:50
Initial Elapsed Time Reading (hr)	24387.33	24396.64
Final Elapsed Time Reading (hr)	24388.33	24397.64
Average Indicated Flow Rate (cfm)	32	32
Average Actual Flow Rate (m ³ /min)	1.0307	1.0430
Total Sampling Time (min)	60.0	60.0
Total Volume (m ³)	61.84	62.58
Initial Weight of Filter Paper (g)	2.7851	2.7694
Final Weight of Filter Paper (g)	2.7979	2.7829
Weight of Particulate (g)	0.0128	0.0135
TSP Results (ug/m ³)	207	216
Remarks	The result was / was not exceeded the Action/Limit Level (Action Level=376ug/m ³ , Limit Level=500ug/m ³)	The result was / was not exceeded the Action/Limit Level (Action Level=376ug/m ³ , Limit Level=500ug/m ³)

Prepared by : 

Checked By : 

Date : 19.2.16

Date : 26/2/16



CEDD Contract No. CV / 2013 / 06
Handling of Surplus Public Fill

Tseung Kwan O Area 137

Impact 1-Hour TSP Monitoring

Monitoring Date	15.2.16	
Monitoring Location	TKO-A1	TKO-A2a
Details of Location	Site Egress	CREO
High Vol. Sampler Serial No.	10381	1172
Sampler Identification	ET/EA/ 003 / 22	ET/EA/ 003 / 11
Calibration Due Date of HVS	4.4.16	4.4.16
Sampling Start Time	11:25	11:30
Sampling End Time	12:25	12:30
Initial Elapsed Time Reading (hr)	24386.33	24395.64
Final Elapsed Time Reading (hr)	24387.33	24396.64
Average Indicated Flow Rate (cfm)	32	32
Average Actual Flow Rate (m ³ /min)	1.0307	1.0430
Total Sampling Time (min)	60.0	60.0
Total Volume (m ³)	61.84	62.58
Initial Weight of Filter Paper (g)	2.7799	2.8079
Final Weight of Filter Paper (g)	2.7905	2.8192
Weight of Particulate (g)	0.0108	0.0113
TSP Results (ug/m ³)	171	181
Remarks	The result was / was not exceeded the Action/Limit Level (Action Level=376ug/m ³ , Limit Level=500ug/m ³)	The result was / was not exceeded the Action/Limit Level (Action Level=376ug/m ³ , Limit Level=500ug/m ³)

Prepared by : 

Checked By : 

Date : 19.2.16

Date : 25/2/16



CEDD Contract No. CV / 2013 / 06
Handling of Surplus Public Fill

Tseung Kwan O Area 137

Impact 1-Hour TSP Monitoring

F

Monitoring Date	17.2.16	
Monitoring Location	TKO-A1	TKO-A2a
Details of Location	Site Egress	CREO
High Vol. Sampler Serial No.	10381	1172
Sampler Identification	ET/EA/ 003 / 22	ET/EA/ 003 / 11
Calibration Due Date of HVS	4.4.16	4.4.16
Sampling Start Time	10:15	10:20
Sampling End Time	11:15	11:20
Initial Elapsed Time Reading (hr)	24385.33	24394.64
Final Elapsed Time Reading (hr)	24386.33	24395.64
Average Indicated Flow Rate (cfm)	32	32
Average Actual Flow Rate (m ³ /min)	1.0307	1.0430
Total Sampling Time (min)	60.0	60.0
Total Volume (m ³)	61.84	62.58
Initial Weight of Filter Paper (g)	2.7966	2.8041
Final Weight of Filter Paper (g)	2.8088	2.8148
Weight of Particulate (g)	0.0122	0.0107
TSP Results (ug/m ³)	197	171
Remarks	The result was/ was not exceeded the Action/Limit Level (Action Level=376ug/m ³ , Limit Level=500ug/m ³)	The result was/ was not exceeded the Action/Limit Level (Action Level=376ug/m ³ , Limit Level=500ug/m ³)

Prepared by : 

Checked By : 

Date : 19.2.16

Date : 25/2/16



CEDD Contract No. CV / 2013 / 06
Handling of Surplus Public Fill

Tseung Kwan O Area 137

Impact 1-Hour TSP Monitoring

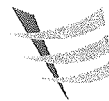
Monitoring Date	11.2.16	
Monitoring Location	TKO-A1	TKO-A2a
Details of Location	Site Egress	CREO
High Vol. Sampler Serial No.	10381	1172
Sampler Identification	ET/EA/ 003 / 22	ET/EA/ 003 / 11
Calibration Due Date of HVS	4.4.16	4.4.16
Sampling Start Time	10:15	10:20
Sampling End Time	11:15	11:20
Initial Elapsed Time Reading (hr)	24360.33	24369.64
Final Elapsed Time Reading (hr)	24361.33	24370.64
Average Indicated Flow Rate (cfm)	32	32
Average Actual Flow Rate (m ³ /min)	1.0307	1.0430
Total Sampling Time (min)	60.0	60.0
Total Volume (m ³)	61.84	62.58
Initial Weight of Filter Paper (g)	2.7825	2.8003
Final Weight of Filter Paper (g)	2.7946	2.8108
Weight of Particulate (g)	0.0121	0.0105
TSP Results (ug/m ³)	196	168
Remarks	The result was/ was not exceeded the Action/Limit Level (Action Level=376ug/m ³ , Limit Level=500ug/m ³)	The result was/ was not exceeded the Action/Limit Level (Action Level=376ug/m ³ , Limit Level=500ug/m ³)

Prepared by : 

Checked By : 

Date : 19.2.16

Date : 25/2/16



CEDD Contract No. CV / 2013 / 06
Handling of Surplus Public Fill

Tseung Kwan O Area 137

Impact 1-Hour TSP Monitoring

F

Monitoring Date	5.2.16	
Monitoring Location	TKO-A1	TKO-A2a
Details of Location	Site Egress	CREO
High Vol. Sampler Serial No.	10387	1172
Sampler Identification	ET/EA/ 003 / 22	ET/EA/ 003 / 11
Calibration Due Date of HVS	10.2.16	10.2.16
Sampling Start Time	15:16 14:15 2	15:20 14:20 7
Sampling End Time	16:16 15:15 2	16:20 15:20 7
Initial Elapsed Time Reading (hr)	24359.33 24335.22	24368.64 24344.64
Final Elapsed Time Reading (hr)	24360.33 24336.22	24369.64 24345.64
Average Indicated Flow Rate (cfm)	32	32
Average Actual Flow Rate (m ³ /min)	1.0021	1.0724
Total Sampling Time (min)	60.0	60.0
Total Volume (m ³)	60.13	64.34
Initial Weight of Filter Paper (g)	2.7799	2.7880
Final Weight of Filter Paper (g)	2.7903	2.8030
Weight of Particulate (g)	0.0104	0.0150
TSP Results (ug/m ³)	173	233
Remarks	The result was / was not exceeded the Action/Limit Level (Action Level=376ug/m ³ , Limit Level=500ug/m ³)	The result was / was not exceeded the Action/Limit Level (Action Level=376ug/m ³ , Limit Level=500ug/m ³)

Prepared by : [Signature]

Checked By : [Signature]

Date : 12-2-16

Date : 13/2/16




CEDD Contract No. CV / 2013 / 06
Handling of Surplus Public Fill

Tseung Kwan O Area 137

Impact 1-Hour TSP Monitoring

Monitoring Date	5.2.16	
Monitoring Location	TKO-A1	TKO-A2a
Details of Location	Site Egress	CREO
High Vol. Sampler Serial No.	10387	1172
Sampler Identification	ET/EA/ 003 / 22	ET/EA/ 003 / 11
Calibration Due Date of HVS	10.2.16	10.2.16
Sampling Start Time	14:16	14:20
Sampling End Time	15:16	15:20
Initial Elapsed Time Reading (hr)	24358.33 24334.33	24367.64 24343.64
Final Elapsed Time Reading (hr)	24359.33 24355.33	24368.64 24344.64
Average Indicated Flow Rate (cfm)	32	32
Average Actual Flow Rate (m ³ /min)	1.0021	1.0724
Total Sampling Time (min)	60.0	60.0
Total Volume (m ³)	60.13	64.34
Initial Weight of Filter Paper (g)	2.7915	2.7643
Final Weight of Filter Paper (g)	2.8040	2.7750
Weight of Particulate (g)	0.0125	0.0107
TSP Results (ug/m ³)	208	66
Remarks	The result was / was not exceeded the Action/Limit Level (Action Level=376ug/m ³ , Limit Level=500ug/m ³)	The result was / was not exceeded the Action/Limit Level (Action Level=376ug/m ³ , Limit Level=500ug/m ³)

Prepared by : 

Checked By : 

Date : 12.2.16

Date : 13/2/16




CEDD Contract No. CV / 2013 / 06
Handling of Surplus Public Fill

Tseung Kwan O Area 137

Impact 1-Hour TSP Monitoring

Monitoring Date	3.2.16	
Monitoring Location	TKO-A1	TKO-A2a
Details of Location	Site Egress	CREO
High Vol. Sampler Serial No.	10387	1172
Sampler Identification	ET/EA/ 003 / 22	ET/EA/ 003 / 11
Calibration Due Date of HVS	10.2.16	10.2.16
Sampling Start Time	8:15	8:20
Sampling End Time	9:15	9:20
Initial Elapsed Time Reading (hr)	24333.33 24309.33 2	24342.64 24318.64 2
Final Elapsed Time Reading (hr)	24334.33 24310.33 7	24343.64 24319.64 2
Average Indicated Flow Rate (cfm)	32	32
Average Actual Flow Rate (m ³ /min)	1.0021	1.0724
Total Sampling Time (min)	60.0	60.0
Total Volume (m ³)	60.13	64.34
Initial Weight of Filter Paper (g)	2.7854	2.8129
Final Weight of Filter Paper (g)	2.7987	2.8249
Weight of Particulate (g)	0.0133	0.0120
TSP Results (ug/m ³)	221	186 187 12
Remarks	The result was / was not exceeded the Action/Limit Level (Action Level=376ug/m ³ , Limit Level=500ug/m ³)	The result was / was not exceeded the Action/Limit Level (Action Level=376ug/m ³ , Limit Level=500ug/m ³)

Prepared by : 

Checked By : 

Date : 4/2/16

Date : 6/2/16



CEDD Contract No. CV / 2013 / 06
Handling of Surplus Public Fill

Tseung Kwan O Area 137

Impact 1-Hour TSP Monitoring

Monitoring Date	1.2.16	
Monitoring Location	TKO-A1	TKO-A2a
Details of Location	Site Egress	CREO
High Vol. Sampler Serial No.	10387	1172
Sampler Identification	ET/EA/ 003 / 22	ET/EA/ 003 / 11
Calibration Due Date of HVS	10.2.16	10.2.16
Sampling Start Time	9:10	9:15
Sampling End Time	10:10	10:15
Initial Elapsed Time Reading (hr)	24332.33 24308.33 7	24341.64 24317.64 7
Final Elapsed Time Reading (hr)	24333.33 24309.33 7	24342.64 24318.64 7
Average Indicated Flow Rate (cfm)	32	32
Average Actual Flow Rate (m ³ /min)	1.0021	1.0724
Total Sampling Time (min)	60.0	60.0
Total Volume (m ³)	60.13	64.34
Initial Weight of Filter Paper (g)	2.8051	2.7942
Final Weight of Filter Paper (g)	2.8158	2.8067
Weight of Particulate (g)	0.0107	0.0125
TSP Results (ug/m ³)	178	194
Remarks	The result was / was not exceeded the Action/Limit Level (Action Level=376ug/m ³ , Limit Level=500ug/m ³)	The result was / was not exceeded the Action/Limit Level (Action Level=376ug/m ³ , Limit Level=500ug/m ³)

Prepared by : [Signature]

Checked By : [Signature]

Date : 4.2.16

Date : 6/2/16



CEDD Contract No. CV / 2013 / 06
Handling of Surplus Public Fill

Tseung Kwan O Area 137

Impact 24-Hour TSP Monitoring

Monitoring Date	From 29.2.16	to 1-3.16
Monitoring Location	TKO-A1	TKO-A2a
Details of Location	Site Egress	CREO
High Vol. Sampler Serial No.	10381	1172
Sampler Identification	ET/EA/ 003 / 22	ET/EA/ 003 / 11
Calibration Due Date of HVS	4.4.16	4.4.16
Sampling Start Time	9:45	9:55
Sampling End Time	9:45	9:55
Initial Elapsed Time Reading (hr)	24442.33	24451.64
Final Elapsed Time Reading (hr)	24466.33	24475.64
Average Indicated Flow Rate (cfm)	32	32
Average Actual Flow Rate (m ³ /min)	1.0307	1.0430
Total Sampling Time (min)	1440.0	1440.0
Total Volume (m ³)	1484.21	1501.92
Initial Weight of Filter Paper (g)	2.7951	2.8003
Final Weight of Filter Paper (g)	2.8992	2.9008
Weight of Particulate (g)	0.1041	0.1005
TSP Results (ug/m ³)	70	67
Remarks	The result was / was not exceeded the Action/Limit Level (Action Level=210ug/m ³ , Limit Level=260ug/m ³)	The result was / was not exceeded the Action/Limit Level (Action Level=210ug/m ³ , Limit Level=260ug/m ³)

Prepared by : 

Checked By : 

Date : 2-3-16

Date : 4/3/16



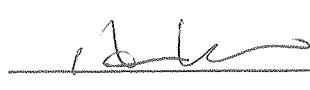
CEDD Contract No. CV / 2013 / 06
Handling of Surplus Public Fill

Tseung Kwan O Area 137

Impact 24-Hour TSP Monitoring

Monitoring Date	From 23.2.16	to 24.2.16
Monitoring Location	TKO-A1	TKO-A2a
Details of Location	Site Egress	CREO
High Vol. Sampler Serial No.	10381	1172
Sampler Identification	ET/EA/ 003 / 22	ET/EA/ 003 / 11
Calibration Due Date of HVS	4.4.16	4.4.16
Sampling Start Time	8:00	8:00
Sampling End Time	8:00	8:00
Initial Elapsed Time Reading (hr)	24414.33	24423.64
Final Elapsed Time Reading (hr)	24438.33	24447.64
Average Indicated Flow Rate (cfm)	32	32
Average Actual Flow Rate (m ³ /min)	1.0307	1.0430
Total Sampling Time (min)	1440.0	1440.0
Total Volume (m ³)	1484.21	1501.92
Initial Weight of Filter Paper (g)	2.7688	2.7742
Final Weight of Filter Paper (g)	2.8787 2.7777 2	2.8952 2.7867
Weight of Particulate (g)	0.01099	0.01150
TSP Results (ug/m ³)	74 75 2	83
Remarks	The result was / was not exceeded the Action/Limit Level (Action Level=210ug/m ³ , Limit Level=260ug/m ³)	The result was / was not exceeded the Action/Limit Level (Action Level=210ug/m ³ , Limit Level=260ug/m ³)

Prepared by : 

Checked By : 

Date : 27.2.16

Date : 27/3/16



CEDD Contract No. CV / 2013 / 06
Handling of Surplus Public Fill

Tseung Kwan O Area 137

Impact 24-Hour TSP Monitoring

Monitoring Date	From 17.2.16	to 18.2.16
Monitoring Location	TKO-A1	TKO-A2a
Details of Location	Site Egress	CREO
High Vol. Sampler Serial No.	10381	1172
Sampler Identification	ET/EA/ 003 / 22	ET/EA/ 003 / 11
Calibration Due Date of HVS	4.4.16	4.4.16
Sampling Start Time	10:45	10:50
Sampling End Time	18:45	18:50
Initial Elapsed Time Reading (hr)	24388.33	24397.64
Final Elapsed Time Reading (hr)	24412.33	24421.04
Average Indicated Flow Rate (cfm)	32	32
Average Actual Flow Rate (m ³ /min)	1.0307	1.0430
Total Sampling Time (min)	1440.0	1440.0
Total Volume (m ³)	1484.21	1501.92
Initial Weight of Filter Paper (g)	2.7761	2.8002
Final Weight of Filter Paper (g)	2.8994	2.9147
Weight of Particulate (g)	0.1033	0.1145
TSP Results (ug/m ³)	70	76
Remarks	The result was / was not exceeded the Action/Limit Level (Action Level=210ug/m ³ , Limit Level=260ug/m ³)	The result was / was not exceeded the Action/Limit Level (Action Level=210ug/m ³ , Limit Level=260ug/m ³)

Prepared by : 

Checked By : 

Date : 19.2.16

Date : 25/2/16



CEDD Contract No. CV / 2013 / 06
Handling of Surplus Public Fill

Tseung Kwan O Area 137

Impact 24-Hour TSP Monitoring

Monitoring Date	From 11.2.16	to 12.2.16
Monitoring Location	TKO-A1	TKO-A2a
Details of Location	Site Egress	CREO
High Vol. Sampler Serial No.	10381	1172
Sampler Identification	ET/EA/ 003 / 22	ET/EA/ 003 / 11
Calibration Due Date of HVS	4.4.16	4.4.16
Sampling Start Time	11:15	11:20
Sampling End Time	11:15	11:20
Initial Elapsed Time Reading (hr)	24361.33	24370.64
Final Elapsed Time Reading (hr)	24385.33	24394.64
Average Indicated Flow Rate (cfm)	32	32
Average Actual Flow Rate (m ³ /min)	1.0307	1.0430
Total Sampling Time (min)	1440.0	1440.0
Total Volume (m ³)	1484.21	1501.92
Initial Weight of Filter Paper (g)	2.7861	2.8433
Final Weight of Filter Paper (g)	2.8910	2.9585
Weight of Particulate (g)	0.1049	0.1152
TSP Results (ug/m ³)	71	77
Remarks	The result was / was not exceeded the Action/Limit Level (Action Level=210ug/m ³ , Limit Level=260ug/m ³)	The result was / was not exceeded the Action/Limit Level (Action Level=210ug/m ³ , Limit Level=260ug/m ³)

Prepared by : 

Checked By : 

Date : 19.2.16

Date : 25/2/16




CEDD Contract No. CV / 2013 / 06
Handling of Surplus Public Fill

Tseung Kwan O Area 137

Impact 24-Hour TSP Monitoring

Monitoring Date	From 3-2-16	to 4-2-16
Monitoring Location	TKO-A1	TKO-A2a
Details of Location	Site Egress	CREO
High Vol. Sampler Serial No.	10381	1172
Sampler Identification	ET/EA/ 003 / 22	ET/EA/ 003 / 11
Calibration Due Date of HVS	10-2-16	10-2-16
Sampling Start Time	9:15	9:20
Sampling End Time	9:55	9:20
Initial Elapsed Time Reading (hr)	24334.33 24340.33 6	24343.64 24349.64 8
Final Elapsed Time Reading (hr)	24358.33 24334.33 7	24361.64 24343.64 7
Average Indicated Flow Rate (cfm)	32	32
Average Actual Flow Rate (m ³ /min)	1.0021	1.0724
Total Sampling Time (min)	1440.0	1440.0
Total Volume (m ³)	1443.02	1544.26
Initial Weight of Filter Paper (g)	2.7952	2.8001
Final Weight of Filter Paper (g)	2.9196	2.9174
Weight of Particulate (g)	0.1244	0.1173
TSP Results (ug/m ³)	86	76
Remarks	The result was / was not exceeded the Action/Limit Level (Action Level=210ug/m ³ , Limit Level=260ug/m ³)	The result was / was not exceeded the Action/Limit Level (Action Level=210ug/m ³ , Limit Level=260ug/m ³)

Prepared by : 

Checked By : 

Date : 19/2/16

Date : 27/2/16

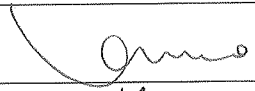
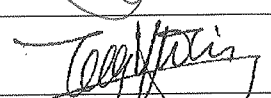
China Harbour Engineering Company Limited

Contract No. HY/2010/02

**Hong Kong – Zhuhai – Macao Bridge
Hong Kong Boundary Crossing
Facilities –
Reclamation Works**

**Impact Water Quality Monitoring Report
for TKO 137 Fill Bank
February 2016**

[03/2016]

	Name	Signature
Prepared & Checked:	Lemon Lam	
Reviewed & Approved:	Y T Tang	

Version:	Rev. 0	Date: 14 March 2016
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TABLE OF CONTENTS

	Page
EXECUTIVE SUMMARY	i
1 INTRODUCTION	1
1.1 Background	1
1.2 Purpose of the Report	1
1.3 Structure of the Report	1
2 WATER QUALITY	2
2.1 Monitoring Requirements	2
2.2 Monitoring Equipment	2
2.3 Monitoring Parameters, Frequency and Duration	2
2.4 Monitoring Locations	2
2.5 Monitoring Methodology	3
2.6 Action and Limit Levels	4
3 MONITORING RESULTS	5
4 CONCLUSIONS	6

List of Tables

Table 2.1	Water Quality Monitoring Equipment.....	2
Table 2.2	Water Quality Monitoring Parameters, Frequency and Duration	2
Table 2.3	Location of Water Quality Impact Stations	3
Table 2.4	Action and Limit Levels for Water Quality	4
Table 2.5	Summary of Marine Water Monitoring Results for Mid-ebb Tide	5
Table 2.6	Summary of Marine Water Monitoring Results for Mid-flood Tide	5
Table 2.7	Summary of Marine Water Monitoring Exceedance.....	5

List of Figures

Figure 1.1	Site Layout Plan for TKO 137 Fill Bank
Figure 2.1	Impact Water Quality Monitoring Stations at TKO 137 Fill Bank

List of Appendices

Appendix A	Calibration Records
Appendix B	Impact Monitoring Schedules
Appendix C	Impact Water Quality Monitoring Results and their Graphical Presentation
Appendix D	QA/QC Report

EXECUTIVE SUMMARY

On-site sorting facilities for imported material (public fill) for reclamation works of the “Contract No. HY/2010/02 – Hong Kong-Zhuhai-Macao Bridge Hong Kong Boundary Crossing Facilities – Reclamation Work (here below, known as “the Project”) were proposed to establish in Tseung Kwan O (TKO) 137 Fill Bank area (here below known as “the Works Area). Impact monitoring of water quality was conducted at the designated monitoring location. This report presents the impact monitoring results regarding water quality aspects performed in February 2016.

According to the Contractor information, the transportation and operation of the mentioned facility was suspended on 16 November 2015.

Water Quality

Impact water quality monitoring was conducted at three monitoring stations, C1a, M4a & M5. Monitoring Station C1a serves as the control station; Monitoring Station M4a and M5 are the impact stations. The impact monitoring was carried out three times per week (from 1 to 29 February 2016) during the operation of the mentioned facilities for both mid-ebb and mid-flood tides. Data of temperature, salinity, dissolved oxygen (DO), turbidity (Tby) and suspended solids (SS) were collected and analysed. Details of the monitoring methodology, locations and results are presented in this report.

Breaches of Action and Limit Levels for Water Quality

No exceedance of Action and Limit Level of water quality monitoring results related to the Project was recorded in the reporting month.

1 INTRODUCTION

1.1 Background

- 1.1.1 Contract No. HY/2010/02 – Hong Kong-Zhuhai-Macao Bridge Hong Kong Boundary Crossing Facilities – Reclamation Work (here below, known as “the Project”) mainly comprises reclamation at the northeast of the Hong Kong International Airport of an area of about 130-hectare for the construction of an artificial island for the development of the Hong Kong Boundary Crossing Facilities (HKBCF), and about 19-hectare for the southern landfall of the Tuen Mun - Chek Lap Kok Link (TMCLKL).
- 1.1.2 On-site sorting facilities for imported material (public fill) for reclamation works of the Project were proposed to establish in Tseung Kwan O (TKO) 137 Fill Bank area (here below, known as “the Works Area”). The proposed sorting facilities together with barging points, tipping halls and associated facilities will be installed at the Works Area.
- 1.1.3 The latest Environmental Permit (EP) for Fill Bank at TKO Area 137 was issued on 4 February 2013 (EP-134/2002/K) by the Environmental Protection Department (EPD) to Civil Engineering and Development Department (CEDD), the Permit Holder, regarding the Project. Condition 3.2 of the EP requires the water quality monitoring frequency and parameters at stations C1a, M4a and M5 shall be same as the requirements set out in the EM&A Manual for TKO 137 Fill Bank (here below, known as “EM&A Manual”) and the monitoring results shall be incorporated in the monthly EM&A reports.
- 1.1.4 According to the Contractor information, the transportation and operation of the mentioned facility was suspended on 16 November 2015.

1.2 Purpose of the Report

- 1.2.1 The purpose of this impact monitoring report is to assess environmental impact and compliance during transportation and operation of the mentioned facilities for the Project. This report presents the impact monitoring requirements, methodologies and results of water quality measurements in accordance with the EM&A Manual.
- 1.2.2 This impact report presents the monitoring works of water quality monitoring, at two monitoring stations (M4a and M5) and one control station (C1a), conducted in February 2016. A layout plan of the Works Area is provided in Figure 1.1.

1.3 Structure of the Report

- 1.3.1 The structure of the report is as follows:

Section 1: Introduction, background, purpose and the structure of the report.

Section 2: Water quality, which describes the impact water quality monitoring requirements, methodology and action/limit level.

Section 3: impact water quality monitoring results.

Section 4: Conclusions.

2 WATER QUALITY

2.1 Monitoring Requirements

2.1.1 Impact marine water quality monitoring at 3 water quality monitoring stations should be established. In accordance with the EM&A Manual, impact water quality monitoring should be conducted 3 days per week during the operation of the facilities in the Works Area. Moreover, as stipulated in the latest EP, water quality monitoring should be conducted since 2 weeks before commencement of operation of the additional barging points. Measurements shall be taken at the 3 designated stations, 2 impact and 1 control stations at mid-flood and mid-ebb tides at three water depths, i.e., 1 m below surface, mid-depth and 1 m from seabed.

2.2 Monitoring Equipment

2.2.1 Equipment used in the impact water quality monitoring programme is summarized in Table 2.1. A copy of the calibration certificates for the water quality monitoring equipment are attached in Appendix A.

Table 2.1 Water Quality Monitoring Equipment

Parameter	Model and Make
Coordinate of Monitoring stations	Garmin etrex 10
Dissolved Oxygen (Saturation), Temperature, Salinity	YSI Dissolved Oxygen, Salinity & Temperature Meter, YSI Pro2030
Turbidity	HACH Model 2100Q Turbid Meter
Water Depth	Speedtech Instrument SM-5A

2.3 Monitoring Parameters, Frequency and Duration

2.3.1 Table 2.2 summarises the monitoring parameters, frequency and duration of impact water quality monitoring. Impact water quality monitoring was carried out at three stations in February 2016. Detailed impact water quality monitoring schedule was provided in Appendix B.

Table 2.2 Water Quality Monitoring Parameters, Frequency and Duration

Monitoring Stations	Parameter, unit	Frequency	No. of Depths
<p><i>Control Stations:</i> C1a</p> <p><i>Impact Stations:</i> M4a – M5</p>	<ul style="list-style-type: none"> • Depth, m • Temperature, °C • Salinity, ppt • DO, mg/L • DO Saturation, % • Turbidity, NTU • Suspended Solids (SS), mg/L 	<p>Three times per week during mid-ebb and mid-flood tides (within ± 1.75 hour of the predicted time)</p>	<p>3 (1 m below water surface, mid-depth and 1 m above sea bed, except where the water depth is less than 6 m, in which case the mid-depth station may be omitted. Should the water depth be less than 3 m, only the mid-depth station will be monitored).</p>

2.4 Monitoring Locations

2.4.1 The measurements were taken at all designated impact and control stations summarized in Table 2.3. The two impact stations were chosen on the basis of their proximity to the Works Area, which would be under the greatest potential for water quality impacts. In addition, a control station was also set up for ebb-tide references respectively of the surrounding ambient.

Table 2.3 Location of Water Quality Impact Stations

Station I.D.	HK 1980 Grid		Status
	Easting	Northing	
C1a	845647	814146	Control Station (Ebb-tide)
M4a	845922	813973	Impact Station (Close to Additional Barging Point, Tipping Halls and Associated Facilities at TKO 137 Fill Bank)
M5	847005	813678	Impact Station (Close to Tai Miu Wan)

2.5 Monitoring Methodology

2.5.1 Instrumentation

- (a) The in-situ water quality parameters, viz. dissolved oxygen, temperature, salinity and turbidity were measured by multi-parameter meters and turbidity was measured by Turbid Meter.

2.5.2 Operating/Analytical Procedures

- (a) A hand-held digital Global Positioning Systems (GPS) were used to ensure that the correct location was selected prior to sample collection.
- (b) Portable, battery-operated echo sounders were used for the determination of water depth at each designated monitoring station.
- (c) All in-situ measurements were taken at 3 water depths, 1 m below water surface, mid-depth and 1 m above sea bed, except where the water depth was less than 6 m, in which case the mid-depth station was omitted. Should the water depth be less than 3 m, only the mid-depth station was monitored.
- (d) At each measurement/sampling depth, two consecutive in-situ monitoring (DO concentration and saturation, temperature, turbidity, salinity) and water sample for SS were collected. For turbidity measurement, the sample was collected by using sampler and then transferred to the cell. The reading of turbidity of the sample was directly recorded from the Turbidimeter (HACH 2100Q) after inserting the cell to the Turbidimeter. For DO concentration and saturation, temperature and salinity, duplicate measurements were performed by dropping the calibrated probes of the corresponding monitoring equipments to the designated depths of the water column and taking readings after stabilized. Where the difference in the value between the first and second readings of DO or turbidity parameters was more than 25% of the value of the first reading, the reading was discarded and further readings were taken.
- (e) Duplicate samples from each independent sampling event were collected for SS measurement. Water samples were collected using the water samplers and the samples were stored in high-density polythene bottles. Water samples collected were well-mixed in the water sampler prior to pre-rinsing and transferring to sample bottles. Sample bottles were pre-rinsed with the same water samples. The sample bottles were then be packed in cool-boxes (cooled at 4°C without being frozen), and delivered to Environmental Laboratory, ETS-Testconsult Ltd. (HOKLAS Registration No. 022) for the analysis of suspended solids concentrations. The laboratory determination work would be started within 24 hours after collection of the water samples. Environmental Laboratory, ETS-Testconsult Ltd., is a HOKLAS accredited laboratory and has comprehensive quality assurance and quality control programmes. For QA/QC procedures, one duplicate samples of every batch of 20 samples was analyzed and attached in Appendix D.

2.5.3 Maintenance and Calibration

- (a) Before each round of monitoring, the dissolved oxygen probe of YSI Pro2030 was calibrated by the wet bulb method.
- (b) The monitoring instruments were checked, calibrated and certified by a laboratory accredited under HOKLAS before use and subsequently re-calibrated at 3-monthly intervals throughout all stages of the water quality monitoring.

2.6 Action and Limit Levels

2.6.1 The Action and Limit Levels (AL levels) have been set in accordance with the derivation criteria specified in the EM&A Manual. This is shown in Table 2.4.

Table 2.4 Action and Limit Levels for Water Quality

Parameters	Action	Limit
DO in mg/L (Surface & Middle, Bottom)	Surface & Middle 5.5 mg/L Bottom 5.2 mg/L	Surface & Middle 4.0 mg/L Bottom 2.0 mg/L
SS in mg/L (depth-averaged)	4.9 mg/L or 120% of upstream control station's SS at the same tide of the same day	5.2 mg/L or 130% of upstream control station's SS at the same tide of the same day and specific sensitive receiver water quality requirements (e.g. required suspended solids level at FCZ)
Turbidity in NTU (depth-averaged)	3.9 NTU or 120% of upstream control station's turbidity at the same tide of the same day	4.2 NTU or 130% of upstream control station's turbidity at the same tide of the same day

- Notes:
1. "depth-averaged" is calculated by taking the arithmetic means of reading of all three depths.
 2. For DO, non-compliance of the water quality limits occurs when monitoring result is lower than the limits.
 3. For turbidity, SS, non-compliance of the water quality limits occurs when monitoring result is higher than the limits.
 4. All the figures given in the table are used for reference only and the EPD may amend the figures whenever it is considered as necessary.

3 MONITORING RESULTS

3.1.1 The impact water quality monitoring results for C1a, M4a and M5 are summarized in Tables 2.5 and 2.6. Detail water quality monitoring results are presented in Appendix C.

Table 2.5 Summary of Marine Water Monitoring Results for Mid-ebb Tide

Monitoring Station	Temperature (°C)	Salinity (ppt)	DO (SM) (mg/L)	DO (Bottom) (mg/L)	DO Saturation (%)	Turbidity (NTU)	SS (mg/L)
C1a	16.2 (15 - 17.9)	29.1 (27.2 - 32.1)	6.4 (5.7 - 7.1)	6.2 (5.7 - 7)	77.5 (69 - 84.7)	3.2 (2.4 - 3.9)	4.0 (2.7 - 5.8)
M4a	16.2 (15 - 17.9)	29.1 (27.1 - 32.1)	6.4 (5.9 - 7.3)	6.3 (5.7 - 7)	78.4 (69.6 - 86.5)	3.1 (2.1 - 3.8)	4.0 (2.5 - 5.7)
M5	16.2 (15.1 - 17.9)	29.1 (27.2 - 32)	6.4 (5.9 - 7.3)	6.2 (5.7 - 6.9)	78.1 (69.7 - 86.6)	3.0 (1.9 - 3.8)	3.9 (2.5 - 5.3)

Table 2.6 Summary of Marine Water Monitoring Results for Mid-flood Tide

Monitoring Station	Temperature (°C)	Salinity (ppt)	DO (SM) (mg/L)	DO (Bottom) (mg/L)	DO Saturation (%)	Turbidity (NTU)	SS (mg/L)
C1a	16.2 (15 - 17.8)	29.2 (27.3 - 32)	6.6 (5.7 - 7.3)	6.4 (5.6 - 7)	79.5 (67.9 - 86.1)	3.1 (2.1 - 3.8)	4.0 (2.4 - 5.3)
M4a	16.1 (15 - 17.8)	29.2 (27.3 - 32)	6.6 (5.6 - 7.4)	6.4 (5.5 - 7.3)	80.1 (67.2 - 88)	3.0 (1.8 - 3.8)	3.8 (2.2 - 5.1)
M5	16.2 (14.9 - 17.9)	29.2 (27.3 - 31.9)	6.6 (5.6 - 7.4)	6.4 (5.4 - 7.1)	79.7 (65.5 - 88.2)	2.9 (1.7 - 3.7)	3.7 (2 - 5)

- 3.1.2 The weather conditions during the monitoring period were generally cloudy. Sea conditions for the majority of monitoring days were generally small wave. No major water pollution source, which might affect the result observed during the impact monitoring period.
- 3.1.3 Since the water depths at all the monitoring stations were generally higher than 6m, sampling was conducted at three water depths at each station.
- 3.1.4 The summary of impact water quality exceedance related to the Project is shown in Table 2.7.

Table 2.7 Summary of Marine Water Monitoring Exceedance

Monitoring Station	Exceedance Level	DO (SM)		DO(Bottom)		Turbidity		SS		Total	
		Flood	Ebb	Flood	Ebb	Flood	Ebb	Flood	Ebb	Flood	Ebb
M4a	Action	0	0	0	0	0	0	0	0	0	0
	Limit	0	0	0	0	0	0	0	0	0	0
M5	Action	0	0	0	0	0	0	0	0	0	0
	Limit	0	0	0	0	0	0	0	0	0	0

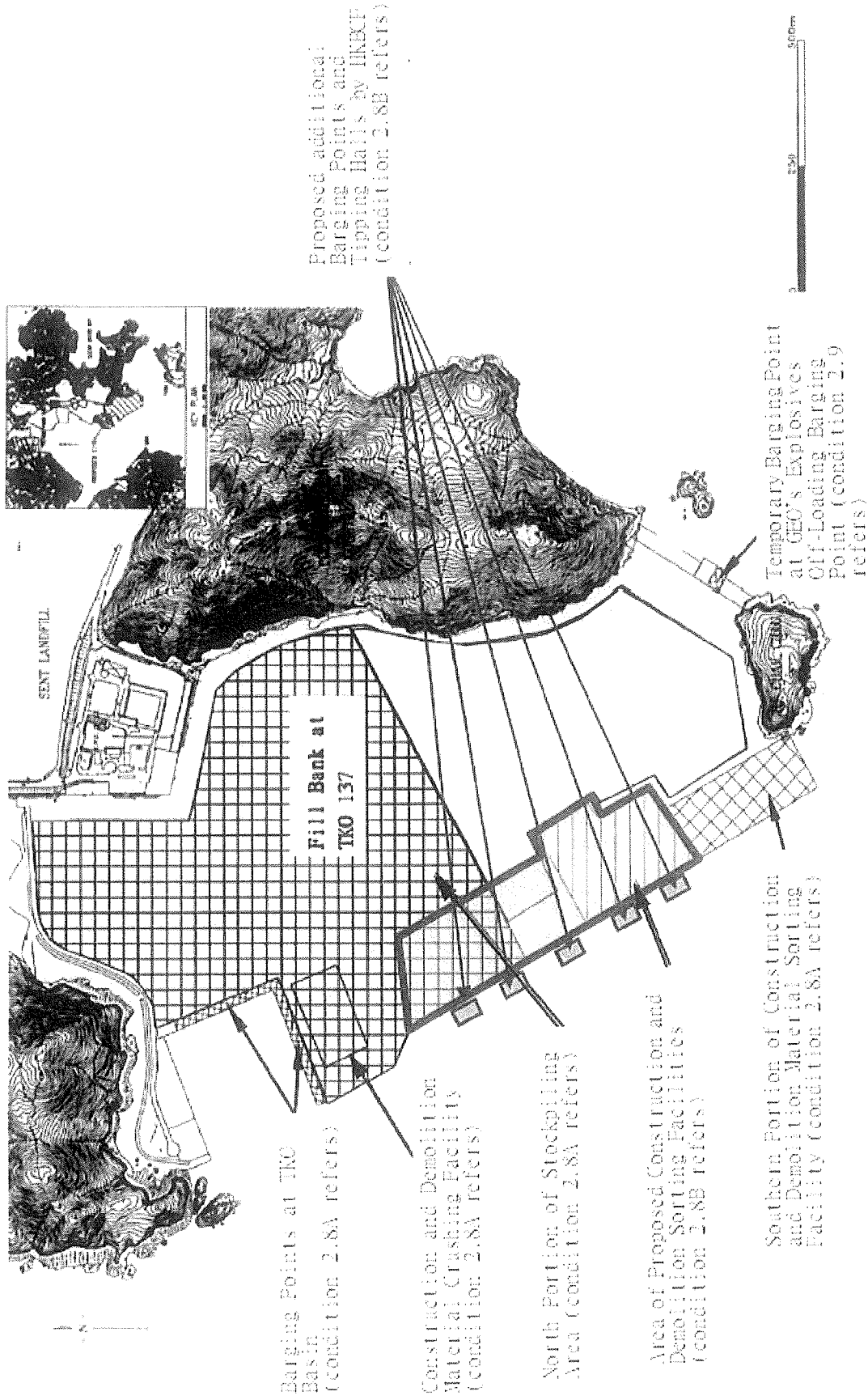
Note: S: Surface; and
 M: Mid-depth.

3.1.5 No exceedance of Action and Limit Level of water quality monitoring results related to the Project was recorded in the reporting month.

4 CONCLUSIONS

- 4.1.1 This impact monitoring report presents impact monitoring results for water quality at designated locations C1a, M4a and M5 in accordance with the EM&A Manual. Monitoring Station C1a serves as the control station; Monitoring Station M4a and M5 are the impact stations.
- 4.1.2 All laboratory results satisfied the QA/QC requirements and all monitoring equipment is properly calibrated and with valid calibration certificates.
- 4.1.3 According to the Contractor information, the transportation and operation of the mentioned facility was suspended on 16 November 2015.
- 4.1.4 No exceedance of Action and Limit Level of water quality monitoring results related to the Project was recorded in the reporting month.

FIGURES



(Plan Originated from Figure 2 of Environmental Permit No.: EP-134/2002(K))

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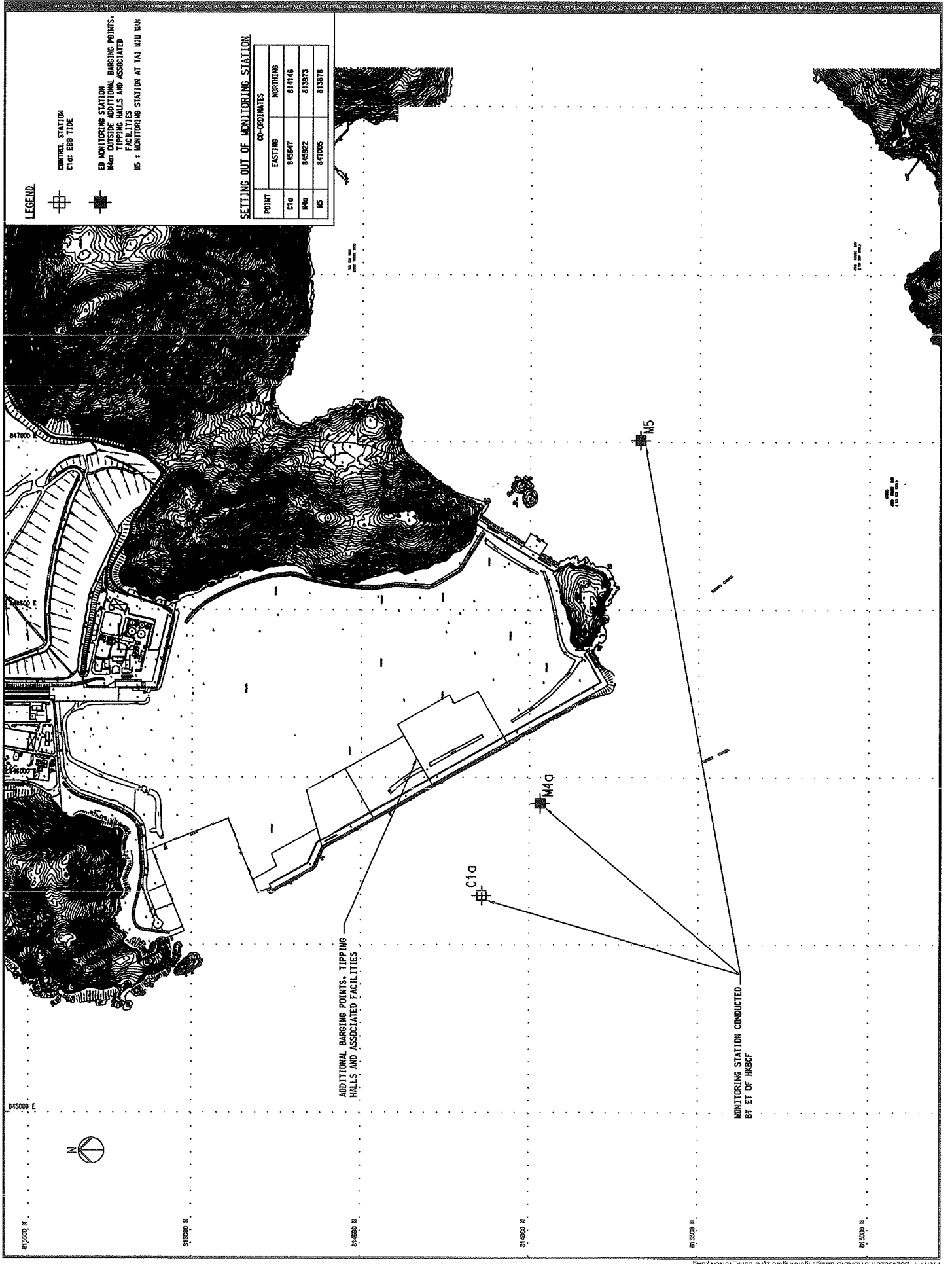
**HONG KONG - ZHUHAI - MACAO BRIDGE
HONG KONG BOUNDARY CROSSING FACILITIES
RECLAMATION WORKS**

Site Layout Plan for TKO 137 Fill Bank

Project No.: 60249820 Date: MAY 2012



Figure 1.1



**APPENDIX A
CALIBRATION RECORDS**



Internal Calibration Report of Dissolved Oxygen Meter

Equipment Ref. No. : <u>ET/EW/008/001</u>	Manufacturer : <u>YSI</u>
Model No. : <u>85</u>	Serial No. : <u>05L 1285</u>
Date of Calibration : <u>30/01/2016</u>	Calibration Due Date : <u>29/04/2016</u>

Temperature Verification

Ref. No. of Reference Thermometer : ET/0521/017
 Ref. No. of Water Bath : ---

		Temperature (°C)		
Reference Thermometer reading	Measured	20.0	Corrected	19.9
DO Meter reading	Measured	20.0	Difference	-0.1

Standardization of sodium thiosulphate (Na₂S₂O₃) solution

Reagent No. of Na ₂ S ₂ O ₃ titrant	CPE/012/4.5/001/13	Reagent No. of 0.025N K ₂ Cr ₂ O ₇	CPE/012/4.4/002/06
		Trial 1	Trial 2
Initial Vol. of Na ₂ S ₂ O ₃ (ml)		0.00	10.20
Final Vol. of Na ₂ S ₂ O ₃ (ml)		10.20	20.50
Vol. of Na ₂ S ₂ O ₃ used (ml)		10.20	10.30
Normality of Na ₂ S ₂ O ₃ solution (N)		0.02451	0.02427
Average Normality (N) of Na ₂ S ₂ O ₃ solution (N)		0.02439	
Acceptance criteria, Deviation		Less than ± 0.001N	

Calculation: Normality of Na₂S₂O₃, N = 0.25 / ml Na₂S₂O₃ used

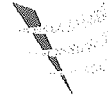
Linearity Checking

Determination of dissolved oxygen content by Winkler Titration *

Purging Time (min)	2		5		10	
	1	2	1	2	1	2
Trial						
Initial Vol. of Na ₂ S ₂ O ₃ (ml)	0.00	11.10	22.00	0.00	6.90	10.40
Final Vol. of Na ₂ S ₂ O ₃ (ml)	11.10	22.00	28.80	6.90	10.40	14.20
Vol. (V) of Na ₂ S ₂ O ₃ used (ml)	11.10	10.90	6.80	6.90	3.50	3.80
Dissolved Oxygen (DO), mg/L	7.27	7.14	4.45	4.52	2.29	2.49
Acceptance criteria, Deviation	Less than + 0.3mg/L		Less than + 0.3mg/L		Less than + 0.3mg/L	

Calculation: DO (mg/L) = V x N x 8000/298

Purging time, min	DO meter reading, mg/L			Winkler Titration result *, mg/L			Difference (%) of DO Content
	1	2	Average	1	2	Average	
2	7.28	7.31	7.30	7.27	7.14	7.21	1.24
5	4.22	4.26	4.24	4.45	4.52	4.49	5.73
10	2.28	2.33	2.31	2.29	2.49	2.39	3.40
Linear regression coefficient				0.9969			



Internal Calibration Report of Dissolved Oxygen Meter

Zero Point Checking

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

Salinity Checking

Reagent No. of NaCl (10ppt)	CPE/012/4.7/003/14	Reagent No. of NaCl (30ppt)	CPE/012/4.8/003/14
-----------------------------	--------------------	-----------------------------	--------------------

Determination of dissolved oxygen content by Winkler Titration **

Salinity (ppt)	10		30	
	1	2	1	2
Initial Vol. of Na ₂ S ₂ O ₃ (ml)	0.00	11.40	22.80	32.50
Final Vol. of Na ₂ S ₂ O ₃ (ml)	11.40	22.80	32.50	42.10
Vol. (V) of Na ₂ S ₂ O ₃ used (ml)	11.40	11.40	9.70	9.60
Dissolved Oxygen (DO), mg/L	7.46	7.46	6.35	6.29
Acceptance criteria, Deviation	Less than + 0.3mg/L		Less than + 0.3mg/L	

Calculation: DO (mg/L) = V x N x 8000/298

Salinity (ppt)	DO meter reading, mg/L			Winkler Titration result**, mg/L			Difference (%) of DO Content
	1	2	Average	1	2	Average	
10	7.22	7.29	7.26	7.46	7.46	7.46	2.72
30	6.44	6.40	6.42	6.35	6.29	6.32	1.57

Acceptance Criteria

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

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

Delete as appropriate

Calibrated by

:

Approved by :



Performance Check of Salinity Meter

Equipment Ref. No. : ET/EW/008/001 Manufacturer : YSI
Model No. : 85 Serial No. : 05L 1285
Date of Calibration : 26/1/2016 Due Date : 25/2/2016

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

S/001/6

Salinity Standard (ppt)	Measured Salinity (ppt)	Difference * (%)
30.0	30.6	2.00

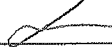
(*) Difference (%) = (Measured Salinity – Salinity Standard value) / Salinity Standard value x 100

Acceptance Criteria

Difference : -10 % to 10 %

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

Checked by : 

Approved by : 



Performance Check of Turbidity Meter

Equipment Ref. No. : ET/0505/010 Manufacturer : HACH
Model No. : 2100Q Serial No. : 11110 C 014260
Date of Calibration : 30/12/2015 Due Date : 29/03/2015 ²⁰¹⁶ *ida*

Ref. No. of Turbidity Standard used (4000NTU)

005/6.1/001/8

Theoretical Value of Turbidity Standard (NTU)	Measured Value (NTU)	Difference % *
20	20.6	3.00
100	97.2	-2.80
800	780	-2.50

(*) Difference = (Measured Value – Theoretical Value) / Theoretical Value x 100

Acceptance Criteria

Difference : -5 % to 5 %

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

Prepared by : *WJ*

Checked by : *[Signature]*

**APPENDIX B
IMPACT MONITORING SCHEDULES**

**Contract No. HY/2010/02 - Hong Kong-Zhuhai-Macao Bridge
 Hong Kong Boundary Crossing Facilities – Reclamation Works
 Impact Water Quality Monitoring (WQM) Schedule for February 2016 (TKO 137 Fill Bank)**

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	01-Feb	02-Feb	03-Feb	04-Feb	05-Feb	06-Feb
	Impact WQM Mid-flood: 11:43 Mid-ebb: 18:25		Impact WQM Mid-ebb: 07:59 * Mid-flood: 13:16		Impact WQM Mid-ebb: 10:08 Mid-flood: 15:06	
07-Feb	08-Feb	09-Feb	10-Feb	11-Feb	12-Feb	13-Feb
					Impact WQM Mid-flood: 09:13 Mid-ebb: 15:12	
14-Feb	15-Feb	16-Feb	17-Feb	18-Feb	19-Feb	20-Feb
	Impact WQM Mid-flood: 11:29 Mid-ebb: 18:21		Impact WQM Mid-flood: 13:21 Mid-ebb: 21:01 **		Impact WQM Mid-ebb: 10:15 Mid-flood: 15:37	
21-Feb	22-Feb	23-Feb	24-Feb	25-Feb	26-Feb	27-Feb
	Impact WQM Mid-ebb: 12:19 Mid-flood: 18:00		Impact WQM Mid-flood: 07:38 *** Mid-ebb: 13:21		Impact WQM Mid-flood: 08:28 Mid-ebb: 14:22	
28-Feb	29-Feb					
	Impact WQM Mid-flood: 09:56 Mid-ebb: 16:20					

The schedule is subject to change due to unforeseeable circumstances (e.g. adverse weather, etc)

(*) Proposed WQM on 03 February 2016 will be carried out between 08:00 to 09:30 because the site works start from 08:00. The proposed WQM period is within the ebb tide (06:25 to 09:33 on 03 February 2015).

(**) Proposed WQM on 17 February 2016 will be carried out between 19:00 to 21:00 because the site works end from 21:00. The proposed WQM period is within the ebb tide (17:36 on 17 February 2015 to 00:26 on 18 February 2015).

(***) Proposed WQM on 24 February 2016 will be carried out between 08:00 to 10:00 because the site works start from 08:00. The proposed WQM period is within the flood tide (04:23 to 10:53 on 24 February 2015).

**APPENDIX C
IMPACT WATER QUALITY MONITORING
RESULTS AND THEIR GRAPHICAL
PRESENTATION**

Mid-Ebb Tide

Monitoring Station : C1a

Date	Sampling Duration	Ambient Temp (°C) / Weather Condition	Sea Condition	Total Water Depth (m)	Monitoring Depth (m)	Water Temp (°C)	Salinity (ppt)		Dissolved Oxygen (mg/L)		Turbidity (NTU)			Suspended Solids (mg/L)		
							Value	Ave.	Value	Average	Depth-average	Value	Average	Depth-average	Value	Average
01/02/16	1724-1742	12/Cloudy	Small Wave	18.7	Surface	17.1	30.1	79.4	30.2	6.4	6.4	3.4	3.5	4.8	4.7	4.5
						17.0	30.2	79.6	30.3	6.3	6.3	3.5	3.5	4.5	4.4	
						16.8	30.3	78.1	30.3	6.3	6.3	3.5	3.5	4.6	4.4	
03/02/16	0826-0839	12/Cloudy	Small Wave	18.4	Surface	16.8	30.3	77.9	30.5	6.2	6.2	3.6	3.6	4.7	4.5	4.4
						16.5	30.4	75.9	31.3	6.1	6.1	3.5	3.5	4.7	4.5	
						16.6	30.5	76.1	31.3	6.1	6.1	3.6	3.6	4.3	4.3	
05/02/16	0924-0942	13/Cloudy	Small Wave	18.2	Surface	17.7	31.3	77.9	31.3	6.1	6.1	3.5	3.6	3.9	4.3	4.9
						17.6	31.3	78.2	31.4	6.1	6.1	3.6	3.6	4.6	4.4	
						17.5	31.4	77.3	31.5	6.1	6.1	3.6	3.7	4.7	4.5	
12/02/16	1424-1442	17/Cloudy	Small Wave	18.6	Surface	17.4	31.6	76.9	31.6	6.0	6.0	3.7	3.7	4.6	4.4	4.6
						17.5	31.5	77.7	31.6	6.1	6.1	3.7	3.7	4.4	4.4	
						17.3	31.7	76.4	31.8	6.0	6.0	3.9	3.9	5.1	4.7	
15/02/16	1720-1735	13/Cloudy	Small Wave	17.8	Surface	17.3	31.7	79.2	31.8	6.2	6.2	2.5	2.5	3.0	3.3	3.3
						17.8	31.8	78.2	31.9	6.1	6.1	2.6	2.6	3.1	3.4	
						17.8	31.9	78.7	32.1	6.2	6.2	2.6	2.6	3.6	3.6	
17/02/16	1923-1940	13/Cloudy	Small Wave	18.4	Surface	17.6	32.0	76.5	27.7	5.9	5.9	3.3	3.4	3.1	3.3	4.2
						16.7	28.0	69.7	28.0	5.8	5.8	3.5	3.5	3.9	4.3	
						16.6	27.9	70.1	27.4	6.2	6.2	3.6	3.6	4.6	4.3	
19/02/16	0952-1020	15/Cloudy	Small Wave	17.3	Surface	16.5	28.0	69.0	27.2	6.4	6.4	3.3	3.3	3.8	3.8	3.5
						16.7	28.1	75.6	27.2	6.4	6.4	3.3	3.3	4.0	3.2	
						15.3	27.2	75.2	27.7	6.1	6.1	3.5	3.5	4.9	5.2	
22/02/16	1152-1209	16/Fog	Small Wave	17.5	Surface	15.2	27.3	73.8	28.2	6.3	6.3	3.5	3.5	5.4	5.4	3.1
						15.2	27.4	73.5	28.2	6.2	6.2	3.6	3.6	5.4	5.4	
						15.1	27.6	72.5	28.7	6.1	6.1	3.8	3.8	5.0	5.4	
					Bottom	15.1	27.7	72.1	28.7	6.1	6.1	2.7	2.7	5.8	5.8	3.3
						15.6	27.6	78.4	28.2	6.2	6.2	2.5	2.5	3.0	3.2	
						15.7	27.7	78.0	28.2	6.2	6.2	2.5	2.5	3.3	3.2	
					Middle	15.8	27.9	77.5	27.7	6.1	6.1	2.6	2.6	3.4	3.4	3.5
						15.7	27.5	77.2	27.7	6.1	6.1	2.6	2.6	3.4	3.4	
						15.6	28.1	76.9	28.2	6.1	6.1	2.7	2.7	4.1	4.0	
					Bottom	15.5	28.2	76.4	28.2	6.1	6.1	2.7	2.7	3.8	3.8	4.8
						15.5	28.2	83.4	28.2	7.0	7.0	2.5	2.4	2.9	2.9	
						15.5	28.2	82.9	28.2	7.0	7.0	2.4	2.4	2.8	2.9	
					Surface	15.5	28.2	81.5	28.4	6.8	6.8	2.5	2.6	3.3	3.2	3.1
						15.4	28.4	81.1	28.4	6.8	6.8	2.6	2.6	3.1	3.1	
						15.4	28.6	79.6	28.7	6.7	6.7	2.9	2.8	3.1	3.3	
					Bottom	15.4	28.7	79.9	28.7	6.7	6.7	2.8	2.8	3.5	3.5	3.1
						15.4	28.7	79.9	28.7	6.7	6.7	2.8	2.8	3.1	3.3	
						15.4	28.7	79.9	28.7	6.7	6.7	2.8	2.8	3.1	3.3	

Mid-Ebb Tide

Monitoring Station : C1a

Date	Sampling Duration	Ambient Temp (°C) / Weather Condition	Sea Condition	Total Water Depth (m)	Monitoring Depth (m)	Water Temp (°C)	Salinity (ppt)		Dissolved Oxygen (mg/L)		Turbidity (NTU)		Suspended Solids (mg/L)	
							Value	Ave.	Value	Average	Value	Average	Value	Depth-average
24/02/16	1254-1312	16/Cloudy	Small Wave	17.5	Surface	15.5	28.1	7.1	84.7	3.3	4.3	3.3	4.1	
						15.4	28.2	7.1	84.5	3.3	3.9			
					Middle	15.3	28.3	7.0	83.2	3.5	4.1	3.4	4.3	
						15.2	28.3	7.0	83.0	3.4	4.5			
					Bottom	15.1	28.4	6.9	81.7	3.5	4.2	3.5	4.2	
						15.0	28.5	7.0	81.9	3.5	4.2			
26/02/16	0836-0852	15/Cloudy	Small Wave	17.4	Surface	15.7	27.5	6.8	85.8	2.5	4.0	2.5	3.7	
						15.6	27.4	6.8	85.5	2.5	3.4			
					Middle	15.7	27.6	6.7	84.7	2.5	3.8	2.6	3.6	
						15.8	27.5	6.7	84.8	2.6	3.3			
					Bottom	15.4	27.9	6.6	82.8	2.8	4.4	2.8	4.4	
						15.4	27.8	6.6	83.2	2.7	4.3			
29/02/16	1554-1612	16/Cloudy	Small Wave	17.1	Surface	15.3	27.6	6.6	78.8	3.2	3.5	3.2	3.7	
						15.4	27.6	6.6	78.6	3.2	3.8			
					Middle	15.3	27.7	6.5	76.3	3.2	4.2	3.3	4.1	
						15.3	27.8	6.5	76.1	3.3	3.9			
					Bottom	15.2	27.9	6.3	74.5	3.3	4.7	3.3	4.6	
						15.1	28.0	6.3	74.3	3.4	4.4			

the sampling time did not tally with the tide schedule as given in Appendix B, please check. Also, please update the figures if the monitoring results recorded in mid-ebb table is revised.

Mid-Flood Tide

Monitoring Station : C1a

Date	Sampling Duration	Ambient Temp (°C) / Weather Condition	Sea Condition	Total Water Depth (m)	Monitoring Depth (m)	Water Temp (°C)	Salinity (ppt)		Dissolved Oxygen (mg/L)			Turbidity (NTU)			Suspended Solids (mg/L)		
							Value	Ave.	Value	Average	Depth-average	Value	Average	Depth-average	Value	Average	Depth-average
01/02/16	1054-1112	12/Cloudy	Small Wave	19.1	Surface	17.0	30.0	29.9	6.6	81.2	81.1	3.4	3.4	5.0	4.5		
					Middle	16.9	29.7	6.5	81.0	81.1	3.4	3.4	4.0				
					Bottom	16.7	30.1	6.4	79.1	79.0	3.4	3.4	4.8				
03/02/16	1252-1309	12/Cloudy	Small Wave	18.8	Surface	16.6	30.2	30.2	6.4	78.9	80.0	3.4	3.4	4.1	4.3		
					Middle	16.5	30.3	6.3	77.1	77.2	3.6	3.6	4.3				
					Bottom	16.5	30.4	6.3	77.3	77.2	3.6	3.6	3.9				
05/02/16	1424-1442	13/Cloudy	Small Wave	18.4	Surface	17.8	31.5	31.5	6.3	80.9	81.1	3.5	3.5	5.2	4.7		
					Middle	17.7	31.4	6.4	81.2	81.1	3.4	3.4	4.1				
					Bottom	17.6	31.6	6.3	80.1	80.0	3.6	3.6	3.9				
12/02/16	0918-0931	17/Cloudy	Small Wave	18.8	Surface	17.5	31.5	31.6	6.3	79.8	79.7	3.5	3.5	4.6	4.4		
					Middle	17.5	31.7	6.2	78.5	78.7	3.6	3.6	4.7				
					Bottom	17.6	31.8	6.2	78.9	78.7	3.6	3.6	4.7				
15/02/16	1050-1105	13/Cloudy	Small Wave	18.6	Surface	17.4	31.8	31.9	6.1	77.2	77.0	3.8	3.8	5.3	5.1		
					Middle	17.4	31.9	6.0	76.8	77.0	3.7	3.7	4.8				
					Bottom	17.7	31.6	6.3	80.3	80.5	2.4	2.4	3.4				
17/02/16	1253-1310	14/Cloudy	Small Wave	18.8	Surface	17.8	31.7	31.7	6.3	80.7	80.5	2.5	2.5	3.2	3.3		
					Middle	17.7	31.7	6.2	79.3	79.6	2.5	2.5	3.0				
					Bottom	17.6	31.8	6.3	79.8	79.6	2.5	2.5	3.3				
19/02/16	1444-1454	15/Cloudy	Small Wave	17.6	Surface	17.5	32.0	32.0	6.1	78.0	77.8	2.7	2.7	3.5	3.5		
					Middle	17.4	31.9	6.1	77.6	77.8	2.6	2.6	3.4				
					Bottom	16.2	27.7	5.9	71.4	71.6	3.0	3.0	3.8				
22/02/16	1724-1735	16/Fog	Small Wave	17.8	Surface	16.3	27.8	27.8	6.0	71.8	71.6	2.9	2.9	4.1	4.0		
					Middle	16.4	27.8	5.7	68.5	68.7	3.3	3.3	4.3				
					Bottom	16.5	27.9	5.7	68.9	68.7	3.2	3.2	4.2				
19/02/16	1444-1454	15/Cloudy	Small Wave	17.6	Surface	16.5	28.0	28.1	5.6	67.9	68.2	3.4	3.4	4.1	4.1		
					Middle	16.6	28.1	5.6	68.4	68.2	3.4	3.4	4.1				
					Bottom	15.4	27.3	6.5	77.1	76.8	3.1	3.1	4.3				
19/02/16	1444-1454	15/Cloudy	Small Wave	17.6	Surface	15.4	27.3	27.3	6.5	76.5	76.8	3.2	3.2	3.8	3.8		
					Middle	15.3	27.5	6.4	75.4	75.2	3.5	3.5	4.5				
					Bottom	15.2	27.6	6.3	74.9	75.2	3.4	3.4	4.1				
19/02/16	1444-1454	15/Cloudy	Small Wave	17.6	Surface	15.2	27.8	27.8	6.2	73.3	73.1	3.7	3.7	4.5	4.6		
					Middle	15.1	27.8	6.2	72.9	73.1	3.6	3.6	4.7				
					Bottom	15.2	28.2	7.1	84.3	84.5	2.1	2.1	2.7				
19/02/16	1444-1454	15/Cloudy	Small Wave	17.6	Surface	15.3	28.3	28.3	7.1	84.7	84.5	2.1	2.1	2.4	2.4		
					Middle	15.1	28.4	7.1	84.1	83.9	2.3	2.3	2.5				
					Bottom	15.2	28.5	7.0	83.7	83.9	2.3	2.3	3.2				
19/02/16	1444-1454	15/Cloudy	Small Wave	17.6	Surface	15.1	28.6	28.7	6.9	83.2	83.3	2.4	2.4	3.2	3.2		
					Middle	15.1	28.7	7.0	83.3	83.3	2.5	2.5	3.2				
					Bottom	15.6	28.1	7.2	85.6	85.4	2.2	2.2	3.3				
22/02/16	1724-1735	16/Fog	Small Wave	17.8	Surface	15.6	28.2	28.2	7.2	85.2	85.4	2.2	2.2	2.7	2.7		
					Middle	15.5	28.3	7.1	83.6	83.8	2.4	2.4	2.9				
					Bottom	15.5	28.4	7.1	84.0	83.8	2.5	2.5	2.9				
22/02/16	1724-1735	16/Fog	Small Wave	17.8	Surface	15.5	28.6	28.6	7.0	83.1	82.9	2.6	2.6	3.1	3.1		
					Middle	15.5	28.6	6.9	82.7	82.9	2.7	2.7	3.0				
					Bottom	15.4	28.6	6.9	82.7	82.9	2.7	2.7	3.0				

Mid-Flood Tide

Monitoring Station : C1a

Date	Sampling Duration	Ambient Temp (°C) / Weather Condition	Sea Condition	Total Water Depth (m)	Monitoring Depth (m)	Water Temp (°C)	Salinity (ppt)		Dissolved Oxygen (mg/L)			Turbidity (NTU)		Suspended Solids (mg/L)		
							Value	Ave.	Value	Average	Depth-average	Value	Average	Value	Average	Value
24/02/16	0824-0842	16/Cloudy	Small Wave	17.9	Surface	15.4	27.9	7.2	7.2	85.9	3.2	4.1	3.2	3.8	3.3	4.1
						15.3	28.0	7.3	7.3	86.1	3.2	3.5				
					Middle	15.2	28.1	6.9	7.0	82.1	3.3	4.7	3.3	4.2		
						15.2	28.2	7.0	7.0	82.3	3.4	3.7				
					Bottom	15.1	28.3	6.9	6.8	80.8	3.5	4.2	3.5	4.4		
						15.0	28.4	6.8	6.8	80.6	3.5	4.5				
15.5	27.2	6.5	6.5	81.6	2.9	3.2	3.0									
26/02/16	1351-1409	15/Cloudy	Small Wave	17.1	Surface	15.4	27.3	6.5	6.5	81.9	2.8	2.7	3.0	3.1		
						15.3	27.4	6.4	6.4	80.6	2.9	3.0				
					Middle	15.2	27.5	6.5	6.5	80.9	3.0	3.4	3.0		3.2	
						15.1	27.6	6.3	6.3	79.1	3.1	3.1				
					Bottom	15.2	27.7	6.4	6.4	79.6	3.1	3.1	3.1		3.1	
						15.4	27.5	6.8	6.8	80.2	3.2	3.2				
15.3	27.6	6.8	6.8	80.4	3.3	5.0	5.1									
29/02/16	0924-0942	16/Cloudy	Small Wave	17.5	Surface	15.2	27.8	6.5	6.5	77.1	3.4	4.7	3.4	4.7		
						15.2	27.8	6.6	6.5	77.3	3.4	4.7				
					Middle	15.1	27.9	6.4	6.4	75.4	3.5	4.5	3.5		4.4	
						15.0	28.0	6.4	6.4	75.6	3.5	4.2				

the sampling time did not tally with the tide schedule as given in Appendix B, please check. Also, please update the figures if the monitoring results recorded in mid-flood table is revised.

Mid-Ebb Tide

Monitoring Station : M4a

Date	Sampling Duration	Ambient Temp (°C) / Weather Condition	Sea Condition	Total Water Depth (m)	Monitoring Depth (m)		Water Temp (°C)	Salinity (ppt)		Dissolved Oxygen (mg/L)			Turbidity (NTU)			Suspended Solids (mg/L)		
					Surface	Bottom		Value	Ave.	Value	Average	Depth-average	Value	Average	Depth-average	Value	Average	Depth-average
01/02/16	1748-1806	12/Cloudy	Small Wave	18.1	Surface	1.0	17.0	30.0	30.1	6.4	78.9	3.5	4.2	3.6	4.2	4.6	4.7	
					Middle	9.1	16.8	30.2	30.3	6.2	77.1	3.5	4.7					
					Bottom	17.1	16.5	30.3	30.5	6.2	76.9	3.6	4.4					
03/02/16	0842-0855	12/Cloudy	Small Wave	17.6	Surface	1.0	17.6	31.3	31.4	6.1	74.5	3.8	4.1	3.5	4.9	5.0	4.6	
					Middle	8.8	17.5	31.5	31.5	6.1	78.2	3.3	4.8					
					Bottom	16.6	17.4	31.6	31.7	6.1	77.5	3.6	4.7					
05/02/16	0948-1006	13/Cloudy	Small Wave	17.4	Surface	1.0	17.5	31.5	31.5	6.3	80.7	3.4	4.7	3.5	4.8	4.8	4.8	
					Middle	5.7	17.5	31.4	31.5	6.3	80.0	3.5	4.9					
					Bottom	10.4	17.3	31.5	31.6	6.2	79.1	3.6	4.6					
12/02/16	1448-1506	17/Cloudy	Small Wave	17.4	Surface	1.0	17.8	31.8	31.8	6.3	79.8	2.3	3.0	2.4	3.1	3.4	3.3	
					Middle	8.7	17.7	31.8	31.8	6.2	79.6	2.4	3.6					
					Bottom	16.4	17.6	32.1	32.1	6.2	78.9	2.5	3.7					
15/02/16	1740-1755	13/Cloudy	Small Wave	17.2	Surface	1.0	16.4	27.7	27.8	5.9	71.5	3.3	4.4	3.3	4.2	4.3	4.3	
					Middle	8.6	16.7	27.9	28.0	5.9	71.7	3.4	4.5					
					Bottom	16.2	16.7	28.0	28.0	5.7	71.2	3.5	4.1					
17/02/16	1946-2004	13/Cloudy	Small Wave	18.2	Surface	1.0	15.2	27.2	27.2	6.3	74.8	3.2	3.9	3.4	3.8	4.2	4.4	
					Middle	9.1	15.2	27.2	27.3	6.2	73.6	3.4	4.6					
					Bottom	17.2	15.1	27.3	27.5	6.1	73.2	3.5	3.8					
19/02/16	1023-1038	15/Cloudy	Small Wave	16.6	Surface	1.0	15.7	27.7	27.8	6.1	77.4	2.4	2.8	2.4	3.1	3.1	3.2	
					Middle	8.8	15.6	27.9	27.9	6.1	76.7	2.4	3.3					
					Bottom	16.6	15.5	28.1	28.1	5.9	74.8	2.5	3.8					
22/02/16	1215-1232	16/Fog	Small Wave	16.3	Surface	1.0	15.5	28.2	28.3	7.3	86.5	2.1	3.0	2.4	2.9	3.5	3.3	
					Middle	8.2	15.4	28.4	28.4	7.1	84.3	2.3	3.4					
					Bottom	15.3	15.4	28.6	28.6	7.0	83.5	2.7	3.5					

Mid-Ebb Tide

Monitoring Station : M4a

Date	Sampling Duration	Ambient Temp (°C) / Weather Condition	Sea Condition	Total Water Depth (m)	Monitoring Depth (m)	Water Temp (°C)	Salinity (ppt)		Dissolved Oxygen (mg/L)			Turbidity (NTU)		Suspended Solids (mg/L)	
							Value	Ave.	Value	Average	Depth-average	Value	Average	Value	Depth-average
24/02/16	1318-1336	16/Cloudy	Small Wave	16.3	Surface	15.4	27.9	7.3	7.2	86.2	88.1	3.0	3.0	3.6	3.9
						15.4	28.0	7.2	7.2	86.0	88.1	3.0	3.0	4.2	
						15.3	28.1	7.2	7.1	84.5	84.4	3.4	3.4	5.1	
					15.2	28.2	7.1	7.1	84.3	84.4	3.4	3.3	4.4	4.8	
					15.1	28.3	6.9	6.9	81.6	81.5	3.6	3.6	5.3		
					15.0	28.4	6.9	6.9	81.4	81.5	3.6	3.6	4.6		
26/02/16	0855-0911	15/Cloudy	Small Wave	16.2	Surface	15.5	27.7	6.7	6.8	84.8	85.0	2.4	2.4	3.5	3.5
						15.6	27.6	6.8	6.8	85.1	85.0	2.3	2.3	3.4	
						15.4	27.8	6.7	6.6	83.7	83.5	2.5	2.4	3.4	
					15.5	27.7	6.6	6.6	83.3	83.5	2.4	2.4	2.8	3.1	
					15.3	27.9	6.5	6.5	82.1	82.0	2.5	2.5	3.7		
					15.2	27.9	6.5	6.5	81.8	82.0	2.5	2.5	3.8		
29/02/16	1618-1630	16/Cloudy	Small Wave	15.9	Surface	15.4	27.4	6.7	6.7	79.4	79.5	3.4	3.4	4.0	3.9
						15.3	27.5	6.7	6.7	79.6	79.5	3.4	3.4	3.7	
						15.2	27.6	6.4	6.4	75.8	75.7	3.4	3.4	4.5	
					15.2	27.7	6.4	6.4	75.6	75.7	3.5	3.4	4.5	4.5	
					15.1	27.8	6.4	6.4	74.7	74.8	3.5	3.5	5.3		
					15.0	27.9	6.4	6.4	74.9	74.8	3.5	3.5	4.2		

Mid-Flood Tide

Monitoring Station : M4a

Date	Sampling Duration	Ambient Temp (°C) / Weather Condition	Sea Condition	Total Water Depth (m)	Monitoring Depth (m)		Water Temp (°C)	Salinity (ppt)		Dissolved Oxygen (mg/L)			Turbidity (NTU)			Suspended Solids (mg/L)		
					Surface	Bottom		Value	Ave.	Value	Average	Depth-average	Value	Average	Depth-average	Value	Average	Depth-average
01/02/16	1118-1136	12/Cloudy	Small Wave	18.5	Surface	1.0	16.9	30.1	30.2	6.4	79.8	3.4	3.4	4.1	4.5	3.6	4.3	4.4
					Middle	9.3	16.6	30.3	30.3	6.3	77.8	3.6	3.6	4.3	4.3			
					Bottom	17.5	16.5	30.4	30.5	6.1	75.1	3.8	3.8	4.8	4.5			
03/02/16	1314-1332	12/Cloudy	Small Wave	18.1	Surface	1.0	17.8	31.4	31.4	6.4	81.8	3.3	3.3	3.9	3.9	3.4	4.2	4.2
					Middle	9.1	17.6	31.5	31.5	6.4	81.1	3.4	3.4	4.1	4.1			
					Bottom	17.1	17.4	31.6	31.7	6.2	80.6	3.3	3.3	4.3	4.3			
05/02/16	1448-1506	13/Cloudy	Small Wave	17.6	Surface	1.0	17.7	31.5	31.6	6.3	80.1	3.3	3.3	4.3	4.4	3.5	4.5	4.4
					Middle	8.8	17.6	31.7	31.7	6.3	79.9	3.4	3.4	4.8	4.5			
					Bottom	16.6	17.5	31.6	31.9	6.2	80.1	3.5	3.5	4.2	4.2			
12/02/16	0936-0949	17/Cloudy	Small Wave	17.8	Surface	1.0	17.4	31.9	32.0	6.2	78.7	2.6	2.6	2.7	2.7	2.4	3.0	3.0
					Middle	8.9	17.6	31.7	31.8	6.3	80.7	2.3	2.3	2.8	2.8			
					Bottom	16.8	17.5	31.8	31.9	6.3	80.9	2.4	2.4	3.3	3.3			
15/02/16	1110-1125	13/Cloudy	Small Wave	17.8	Surface	1.0	16.3	27.8	27.8	5.8	69.4	3.1	3.1	4.0	4.0	3.3	4.2	4.3
					Middle	8.9	16.4	27.9	28.0	5.6	68.0	3.5	3.5	4.2	4.2			
					Bottom	16.8	16.5	28.0	28.1	5.6	67.6	3.5	3.5	4.2	4.2			
17/02/16	1316-1334	14/Cloudy	Small Wave	18.4	Surface	1.0	16.6	28.1	28.1	5.6	67.2	3.4	3.4	4.1	4.1	3.4	4.5	4.2
					Middle	9.2	15.2	27.5	27.5	6.2	73.7	3.3	3.3	3.9	3.9			
					Bottom	17.4	15.1	27.6	27.7	6.1	72.5	3.7	3.7	4.4	4.4			
19/02/16	1457-1508	15/Cloudy	Small Wave	16.1	Surface	1.0	15.2	28.2	28.2	7.4	87.9	1.9	1.9	2.3	2.3	2.1	2.5	2.6
					Middle	8.1	15.1	28.3	28.3	7.4	87.5	2.1	2.1	2.3	2.3			
					Bottom	15.1	15.0	28.4	28.4	7.2	86.9	2.4	2.4	3.1	3.1			
22/02/16	1741-1758	16/Fog	Small Wave	16.6	Surface	1.0	15.6	28.1	28.1	7.3	87.3	2.0	2.0	2.5	2.5	2.2	2.6	2.7
					Middle	8.3	15.5	28.3	28.3	7.2	85.4	2.2	2.2	2.6	2.6			
					Bottom	15.6	15.4	28.3	28.6	7.1	84.9	2.3	2.3	3.1	3.1			

Mid-Flood Tide

Monitoring Station : M4a

Date	Sampling Duration	Ambient Temp (°C) / Weather Condition	Sea Condition	Total Water Depth (m)	Monitoring Depth (m)	Water Temp (°C)	Salinity (ppt)		Dissolved Oxygen (mg/L)		Turbidity (NTU)		Suspended Solids (mg/L)	
							Value	Ave.	Value	Average	Value	Average	Value	Depth-average
24/02/16	0848-0904	16/Cloudy	Small Wave	16.6	Surface	15.5	28.0	28.1	7.4	87.8	3.2	4.2	3.2	4.1
						15.6	28.1	7.4	88.0	3.2	3.9			
					Middle	15.4	28.2	28.3	7.3	85.8	3.4	4.0	3.4	4.2
						15.3	28.3	7.2	85.6	3.4	4.4			
					Bottom	15.2	28.4	28.5	7.1	83.8	3.5	4.9	3.5	4.8
						15.2	28.5	7.1	83.6	3.5	4.6			
26/02/16	1413-1429	15/Cloudy	Small Wave	15.8	Surface	15.4	27.4	27.4	6.6	83.3	2.5	3.5	2.4	3.2
						15.3	27.3	6.7	83.7	2.4	2.9			
					Middle	15.3	27.5	27.6	6.5	81.9	2.6	2.8	2.6	3.0
						15.2	27.6	6.5	82.0	2.5	3.2			
					Bottom	15.1	27.7	27.8	6.5	80.9	2.7	2.6	2.7	2.8
						15.0	27.8	6.4	80.5	2.7	3.0			
29/02/16	0948-1006	16/Cloudy	Small Wave	16.3	Surface	15.5	27.4	27.5	6.9	81.6	3.4	4.4	3.4	4.6
						15.4	27.5	6.9	81.4	3.4	4.7			
					Middle	15.3	27.6	27.7	6.7	79.1	3.4	4.1	3.4	4.1
						15.2	27.7	6.7	78.9	3.5	4.1			
					Bottom	15.1	27.8	27.9	6.5	76.5	3.6	4.3	3.6	4.7
						15.0	27.9	6.5	76.7	3.6	5.1			

Mid-Ebb Tide

Monitoring Station : M5

Date	Sampling Duration	Ambient Temp (°C) / Weather Condition	Sea Condition	Total Water Depth (m)	Monitoring Depth (m)		Water Temp (°C)		Salinity (ppt)		Dissolved Oxygen (mg/L)			Turbidity (NTU)			Suspended Solids (mg/L)		
					Surface	Bottom	Value	Ave.	Value	Average	Depth-average	Value	Average	Depth-average	Value	Average	Depth-average		
01/02/16	1812-1830	12/Cloudy	Small Wave	12	Surface	Bottom	17.1	30.0	29.9	30.0	6.3	6.3	77.7	3.5	5.3	4.8	3.6	4.6	4.5
					Middle	17.2	30.0	6.3	6.3	77.9	3.5	4.2	4.8						
					17.0	30.1	6.2	6.1	75.9	3.6	4.7	4.6							
03/02/16	0858-0911	12/Cloudy	Small Wave	11.9	Surface	Bottom	16.7	30.4	30.3	30.4	6.0	6.0	73.6	3.7	4.1	4.1	3.5	4.6	4.4
					Middle	16.8	30.4	6.0	6.0	73.8	3.7	4.1	4.1						
					17.6	31.3	6.3	6.3	79.9	3.4	4.7	4.4							
05/02/16	1012-1030	13/Cloudy	Small Wave	11.4	Surface	Bottom	17.5	31.5	31.5	31.5	6.3	6.3	80.7	3.5	5.2	4.7	3.6	4.8	4.8
					Middle	17.5	31.4	6.3	6.3	80.0	3.5	4.6	4.8						
					17.6	31.5	6.3	6.3	80.2	3.6	5.0	4.9							
12/02/16	1512-1530	17/Cloudy	Small Wave	12.0	Surface	Bottom	17.3	31.6	31.6	31.6	6.2	6.2	79.1	3.7	4.8	4.9	2.5	3.2	3.2
					Middle	17.4	31.4	6.2	6.2	79.2	3.8	4.9	4.9						
					17.8	31.8	6.4	6.4	81.2	2.3	3.3	3.3							
15/02/16	1800-1815	13/Cloudy	Small Wave	12.2	Surface	Bottom	17.7	32.0	32.0	32.0	6.2	6.2	79.6	2.6	3.1	3.3	3.1	4.4	4.4
					Middle	17.8	31.9	6.3	6.3	80.5	2.4	3.1	3.2						
					17.9	31.8	6.3	6.3	80.8	2.5	3.2	3.3							
17/02/16	2012-2030	13/Cloudy	Small Wave	16.4	Surface	Bottom	16.4	27.7	27.7	27.7	6.0	5.9	71.9	3.1	4.1	4.1	3.3	4.7	4.3
					Middle	16.5	28.0	6.0	6.0	71.2	3.2	4.1	4.1						
					16.6	28.0	5.9	5.9	71.4	3.1	4.0	3.9							
19/02/16	1042-1100	15/Cloudy	Small Wave	13.8	Surface	Bottom	15.1	27.6	27.6	27.6	6.2	6.2	73.4	3.5	4.2	4.4	2.5	3.2	3.5
					Middle	15.1	27.6	6.2	6.2	73.0	3.6	4.2	4.4						
					15.8	27.7	6.1	6.5	77.1	2.4	3.6	3.5							
22/02/16	1239-1256	16/Fog	Small Wave	14.7	Surface	Bottom	15.5	28.2	28.2	28.2	7.3	7.3	86.9	2.0	3.0	2.9	2.2	2.9	3.0
					Middle	15.5	28.1	7.2	7.1	86.1	1.9	2.8	2.8						
					15.5	28.3	7.1	7.1	84.5	2.0	2.9	2.9							

Mid-Ebb Tide

Monitoring Station : M5

Date	Sampling Duration	Ambient Temp (°C) / Weather Condition	Sea Condition	Total Water Depth (m)	Monitoring Depth (m)	Water Temp (°C)		Salinity (ppt)		Dissolved Oxygen (mg/L)			Turbidity (NTU)			Suspended Solids (mg/L)		
						Value	Ave.	Value	Average	Depth-average	Value	Average	Depth-average	Value	Average	Depth-average		
24/02/16	1342-1400	16/Cloudy	Small Wave	14.4	Surface	15.5	28.1	7.1	7.1	83.9	3.2	4.4	3.2	3.2	4.4			
						15.4	28.1	7.0	83.7	3.2	4.4							
						15.3	28.2	6.9	81.8	3.4	4.4							
					Middle	15.3	28.3	6.9	81.6	3.4	4.7	6.9	81.7	3.4	4.6	3.3	3.3	4.4
						15.2	28.4	6.7	79.4	3.4	3.8							
						15.1	28.5	6.8	79.6	3.5	4.8							
					Bottom	15.1	28.5	6.7	79.4	3.4	3.5	6.7	79.5	3.5	4.3	3.5	3.5	4.3
						15.7	27.6	6.6	82.5	2.3	3.6							
						15.6	27.5	6.6	82.8	2.3	3.0							
26/02/16	0915-0931	15/Cloudy	Small Wave	14.9	Surface	15.6	27.7	6.5	6.5	81.9	2.3	2.8	2.3	2.4	3.2			
						15.5	27.6	6.5	81.7	2.4	3.5							
						15.4	27.8	6.4	80.2	2.5	3.6							
					Middle	15.4	27.8	6.4	80.2	2.4	3.8	6.4	80.1	2.4	3.7	2.4	2.4	3.4
						15.3	27.9	6.4	80.0	2.4	3.8							
						15.5	27.5	6.6	78.1	3.3	3.9							
					Bottom	15.5	27.5	6.6	78.1	3.3	3.9	6.6	78.2	3.2	4.1	3.2	3.2	4.1
						15.6	27.5	6.6	78.3	3.2	4.2							
						15.4	27.6	6.4	75.2	3.4	4.7							
29/02/16	1642-1700	16/Cloudy	Small Wave	14.7	Surface	15.4	27.7	6.4	6.4	75.0	3.4	3.7	3.4	3.4	4.2			
						15.3	27.7	6.4	75.0	3.4	3.7							
						15.2	27.8	6.3	74.0	3.4	4.8							
					Middle	15.2	27.8	6.3	74.0	3.4	4.8	6.3	73.9	3.4	4.6	3.3	3.3	4.3
						15.3	27.7	6.4	75.0	3.4	3.7							
						15.1	27.9	6.3	73.8	3.4	4.4							
					Bottom	15.1	27.9	6.3	73.8	3.4	4.4	6.3	73.9	3.4	4.6	3.4	3.4	4.6
						15.2	27.8	6.3	74.0	3.4	4.8							
						15.4	27.6	6.4	80.2	2.4	3.8							

Mid-Flood Tide

Monitoring Station : M5

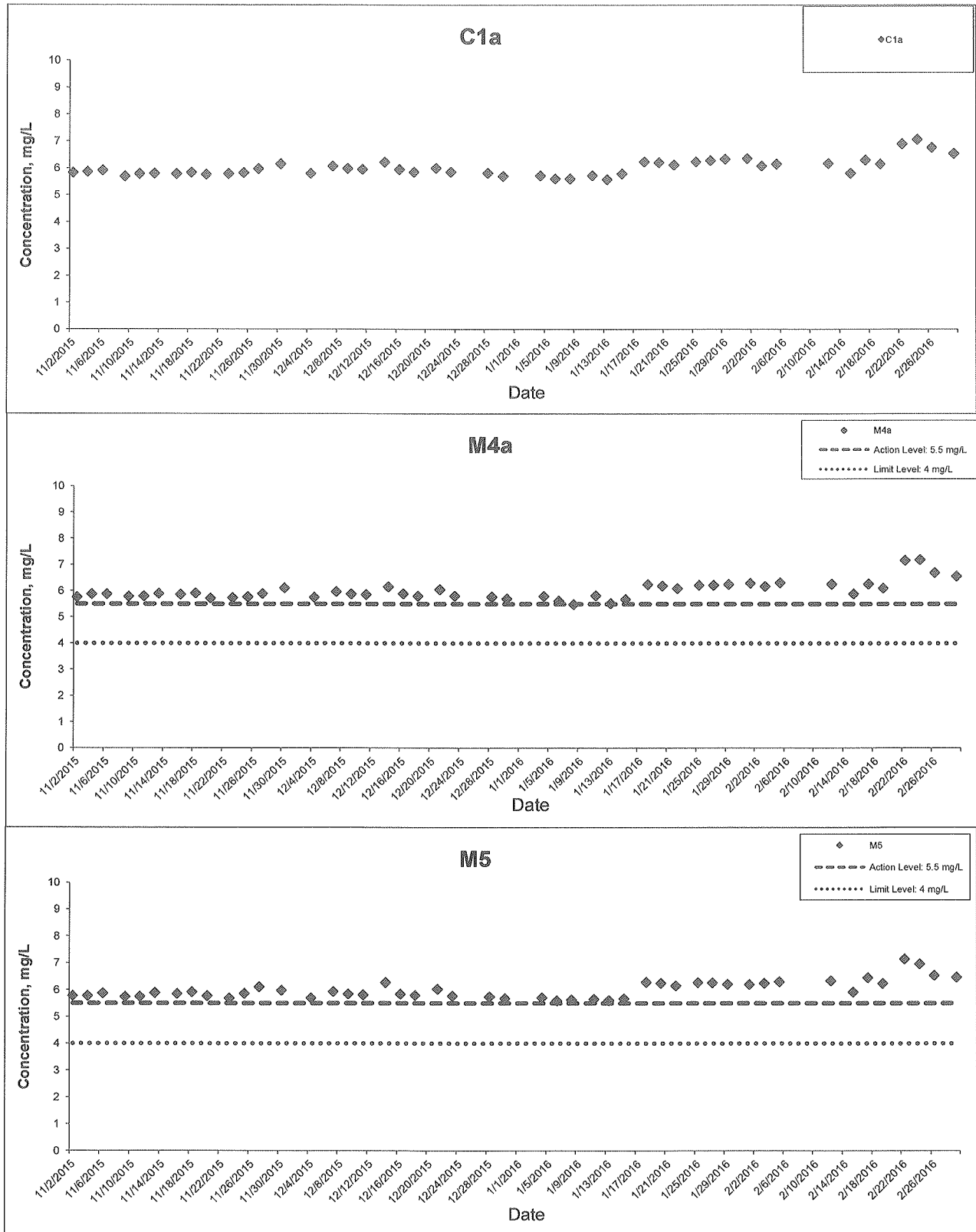
Date	Sampling Duration	Ambient Temp (°C) / Weather Condition	Sea Condition	Total Water Depth (m)	Monitoring Depth (m)		Water Temp (°C)	Salinity (ppt)		Dissolved Oxygen (mg/L)			Turbidity (NTU)			Suspended Solids (mg/L)		
					Surface	Bottom		Value	Ave.	Value	Average	Depth-average	Value	Average	Depth-average	Value	Average	Depth-average
01/02/16	1142-1200	12/Cloudy	Small Wave	12.4	Surface	1.0	17.1	30.0	6.4	30.1	78.7	3.4	3.4	4.4	3.5	4.4	4.3	4.3
					Middle	6.2	16.8	30.2	6.2	30.3	78.9	3.4	3.4	4.4				
					Bottom	11.4	16.7	30.3	6.2	30.3	76.9	3.6	3.6	4.3				
03/02/16	1337-1354	12/Cloudy	Small Wave	12.4	Surface	1.0	16.5	30.4	6.1	30.5	74.5	3.7	3.7	4.0	3.5	4.0	4.5	4.4
					Middle	6.2	16.5	30.5	6.1	30.5	74.7	3.7	3.7	4.4				
					Bottom	11.4	17.8	31.5	6.4	31.5	81.3	3.3	3.3	4.7				
05/02/16	1512-1530	13/Cloudy	Small Wave	11.8	Surface	1.0	17.9	31.4	6.3	31.5	80.9	3.3	3.3	4.3	3.5	4.3	4.4	4.4
					Middle	5.9	17.7	31.5	6.3	31.5	80.5	3.5	3.5	4.5				
					Bottom	10.8	17.6	31.4	6.3	31.4	80.1	3.4	3.4	4.4				
12/02/16	0954-1007	17/Cloudy	Small Wave	12.2	Surface	1.0	17.5	31.6	6.2	31.6	79.6	3.6	3.6	4.7	2.4	4.7	3.1	2.9
					Middle	6.1	17.5	31.7	6.4	31.7	81.5	3.4	3.4	4.4				
					Bottom	11.2	17.4	31.7	6.3	31.8	80.1	3.7	3.7	4.8				
15/02/16	1130-1145	13/Cloudy	Small Wave	12.8	Surface	1.0	17.7	31.7	6.5	31.8	82.3	2.3	2.3	3.0	3.3	3.0	3.5	4.1
					Middle	6.4	17.7	31.8	6.4	31.8	82.1	2.2	2.2	2.7				
					Bottom	11.8	17.8	31.7	6.4	31.8	81.6	2.4	2.4	3.1				
17/02/16	1340-1357	14/Cloudy	Small Wave	16.7	Surface	1.0	17.6	31.8	6.3	31.9	80.7	2.5	2.5	3.0	3.2	2.5	4.0	4.0
					Middle	8.4	16.6	31.9	6.3	31.9	80.9	2.6	2.6	2.7				
					Bottom	15.7	16.5	31.8	5.4	28.0	78.7	3.0	3.0	3.8				
19/02/16	1512-1523	15/Cloudy	Small Wave	14.7	Surface	1.0	16.5	28.0	5.4	28.0	66.1	3.3	3.3	4.6	2.0	3.3	2.6	2.7
					Middle	7.4	16.5	28.0	5.6	28.0	68.3	3.4	3.4	4.0				
					Bottom	13.7	16.4	27.6	5.7	27.9	68.6	3.3	3.3	4.3				
22/02/16	1805-1823	16/Fog	Small Wave	14.9	Surface	1.0	15.3	27.3	6.7	27.3	70.1	3.2	3.2	3.5	2.0	3.2	2.4	3.0
					Middle	7.5	15.3	27.3	6.6	27.3	69.5	3.2	3.2	3.5				
					Bottom	13.9	15.2	27.4	6.4	27.5	75.6	3.2	3.2	4.2				
					Surface	1.0	15.1	27.7	7.1	27.7	74.1	3.4	3.4	4.8	2.0	3.4	2.6	2.6
					Middle	7.5	14.9	28.5	7.1	28.6	84.1	2.3	2.3	2.9				
					Bottom	13.9	15.0	28.4	7.2	28.4	84.3	2.4	2.4	3.3				
					Surface	1.0	15.6	28.1	7.4	28.1	88.1	1.7	1.7	2.0	2.0	1.7	2.2	2.6
					Middle	7.5	15.5	28.2	7.3	28.3	87.7	1.8	1.8	2.3				
					Bottom	13.9	15.5	28.3	7.2	28.3	85.7	1.9	1.9	2.4				
					Surface	1.0	15.4	28.4	7.1	28.5	85.2	2.3	2.3	2.8	2.0	2.3	2.6	2.6
					Middle	7.5	15.4	28.4	7.1	28.5	84.7	2.4	2.4	2.8				
					Bottom	13.9	15.4	28.5	7.1	28.5	84.7	2.4	2.4	3.1				

Mid-Flood Tide

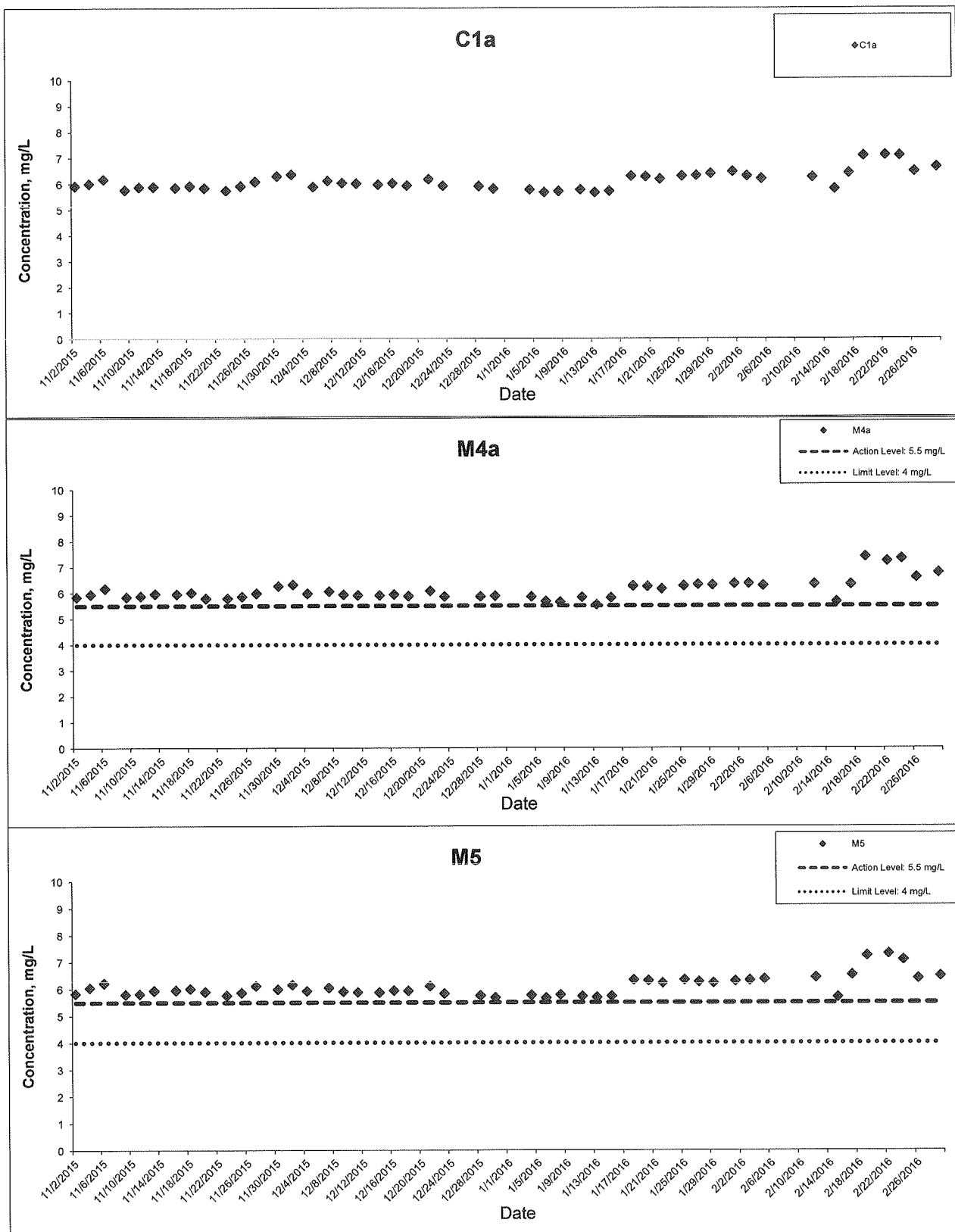
Monitoring Station : M/5

Date	Sampling Duration	Ambient Temp (°C) / Weather Condition	Sea Condition	Total Water Depth (m)	Monitoring Depth (m)	Water Temp (°C)	Salinity (ppt)		Dissolved Oxygen (mg/L)			Turbidity (NTU)		Suspended Solids (mg/L)		
							Value	Ave.	Value	Average	Depth-average	Value	Average	Value	Average	Depth-average
24/02/16	0910-0928	16/Cloudy	Small Wave	15.0	Surface	15.5	27.9	7.2	85.1	3.0	3.6	3.1	3.6	3.6		
						15.4	27.9	7.2	85.3	3.0	3.6					
						15.3	28.0	7.0	82.8	3.1	3.8					
					Middle	15.3	28.1	7.0	83.0	3.2	4.1					
						15.2	28.2	6.9	81.6	3.2	3.9					
						15.1	28.3	6.9	81.4	3.2	4.2					
26/02/16	1433-1450	15/Cloudy	Small Wave	14.2	Surface	15.5	27.3	6.4	80.6	2.4	2.5	2.5	2.5	2.7		
						15.4	27.2	6.4	80.4	2.5	2.8					
						15.4	27.4	6.4	79.9	2.5	3.3					
					Middle	15.4	27.3	6.3	79.4	2.5	2.9					
						15.3	27.5	6.3	79.1	2.6	3.2					
						15.2	27.4	6.3	78.8	2.7	3.1					
29/02/16	1012-1030	16/Cloudy	Small Wave	15.0	Surface	15.3	27.5	6.7	79.4	3.4	4.1	3.5	4.1	4.5		
						15.6	27.5	6.7	79.2	3.4	4.8					
						15.4	27.6	6.5	76.4	3.6	4.3					
					Middle	15.3	27.7	6.5	76.6	3.6	4.6					
						15.2	27.8	6.3	74.5	3.6	5.0					
						15.2	27.9	6.4	74.7	3.6	4.7					

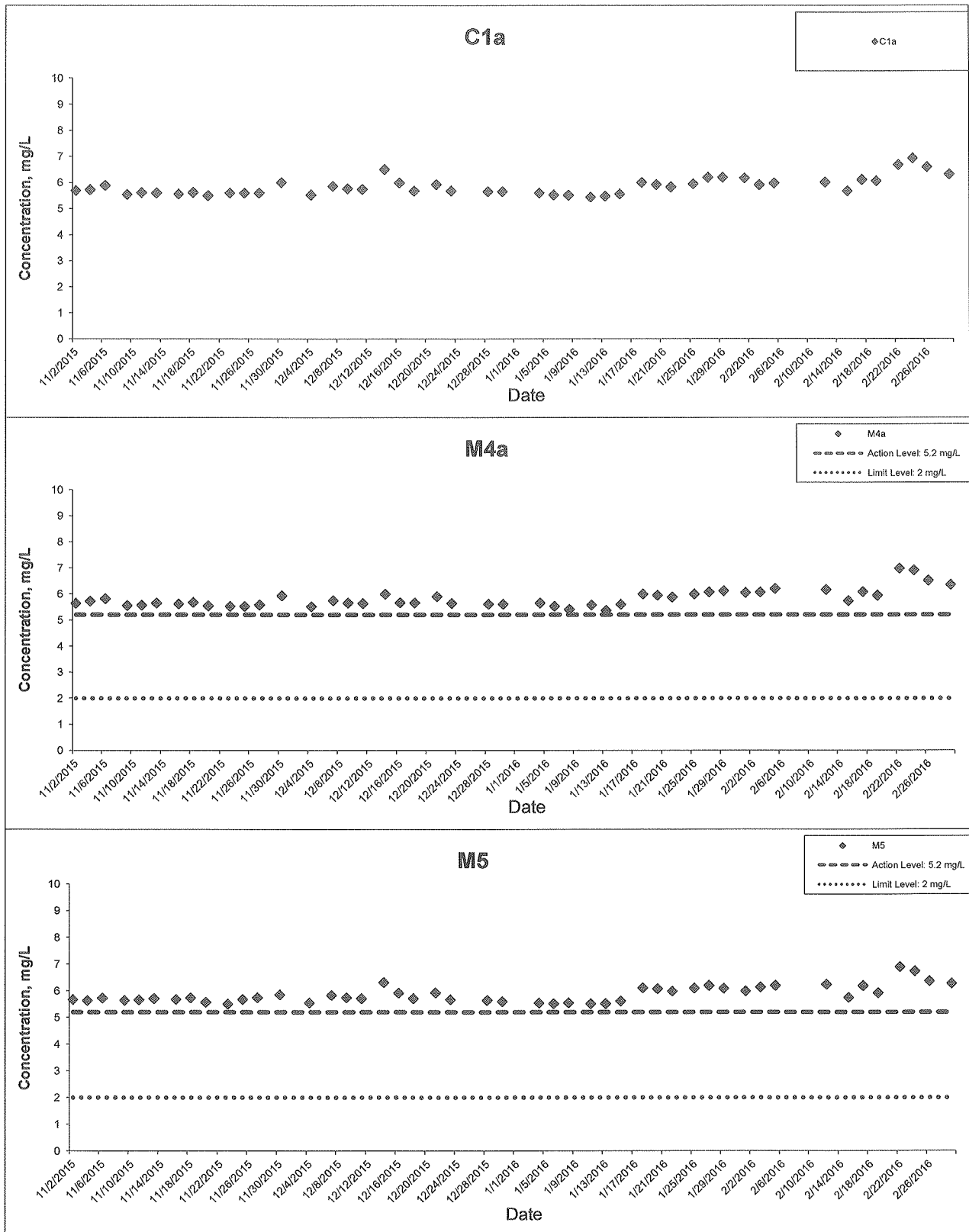
Dissolved Oxygen (Surface & Middle) at Mid-Ebb Tide



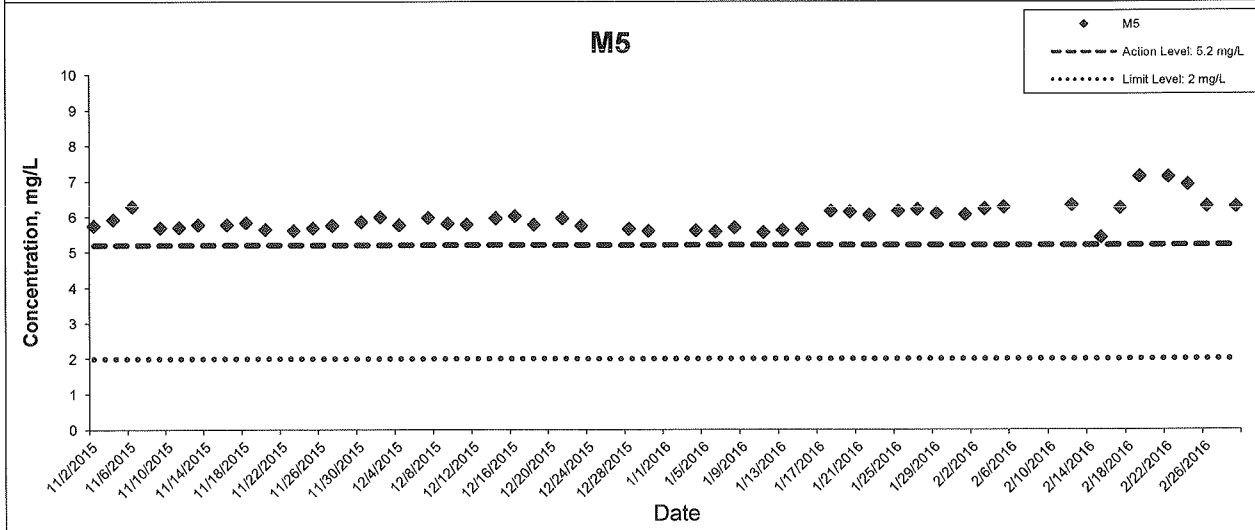
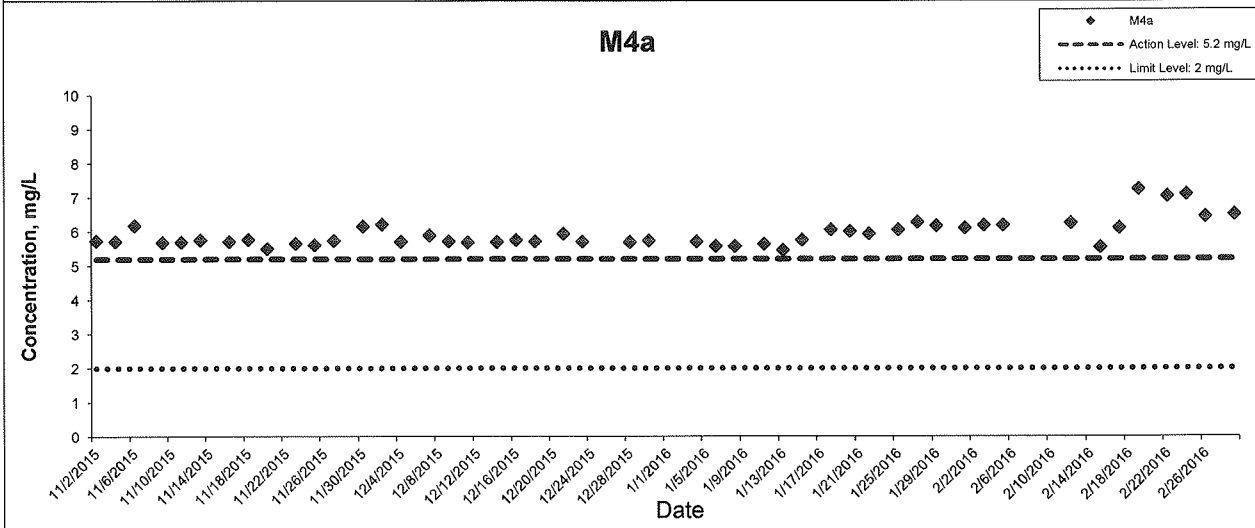
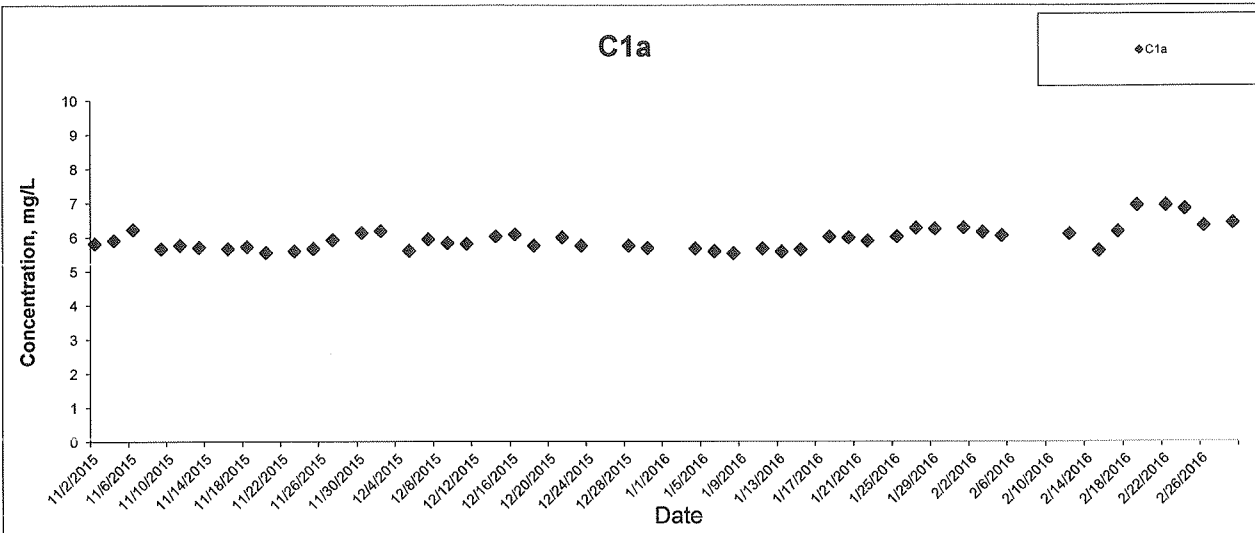
Dissolved Oxygen (Surface & Middle) at Mid-Flood Tide



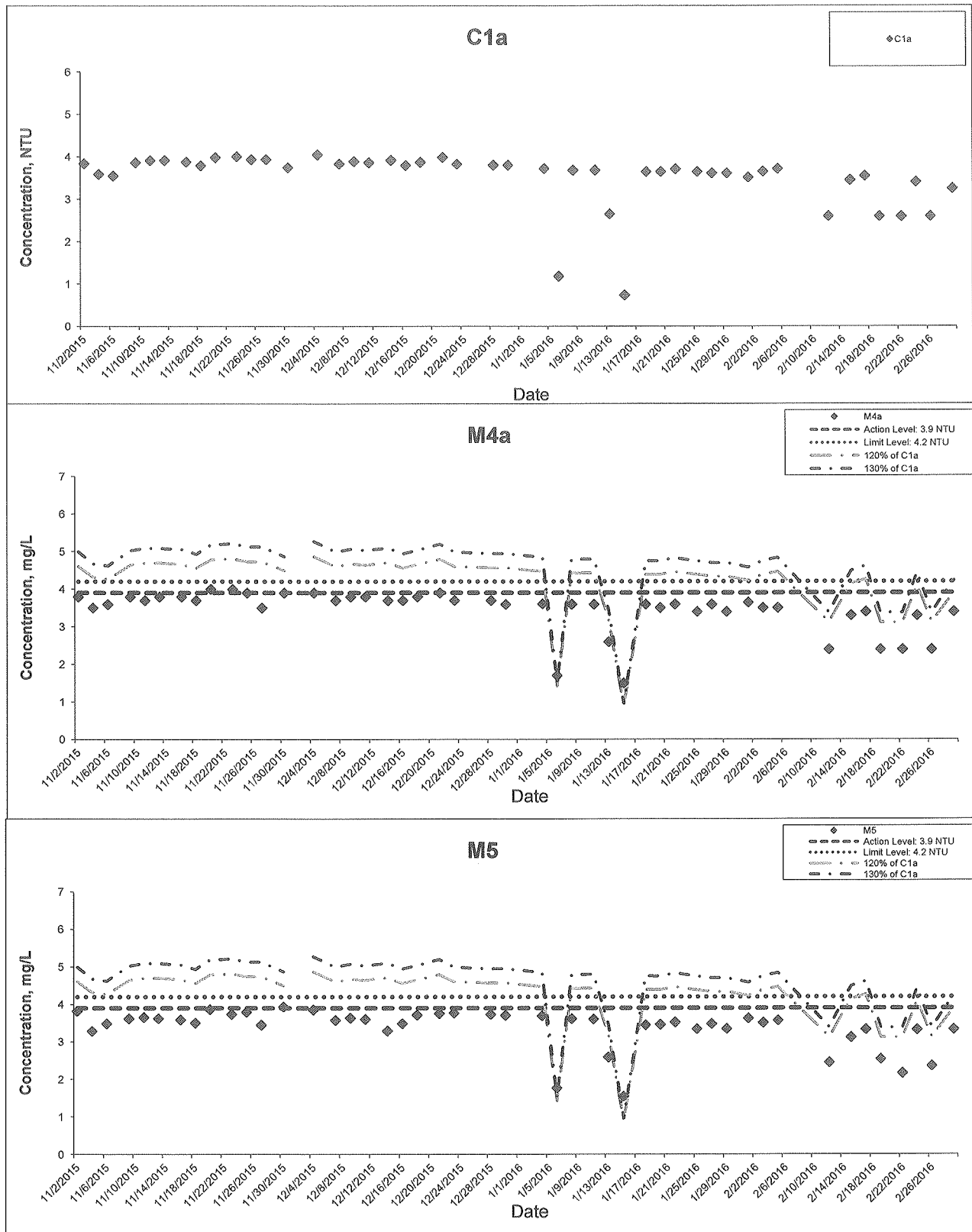
Dissolved Oxygen (Bottom) at Mid-Ebb Tide



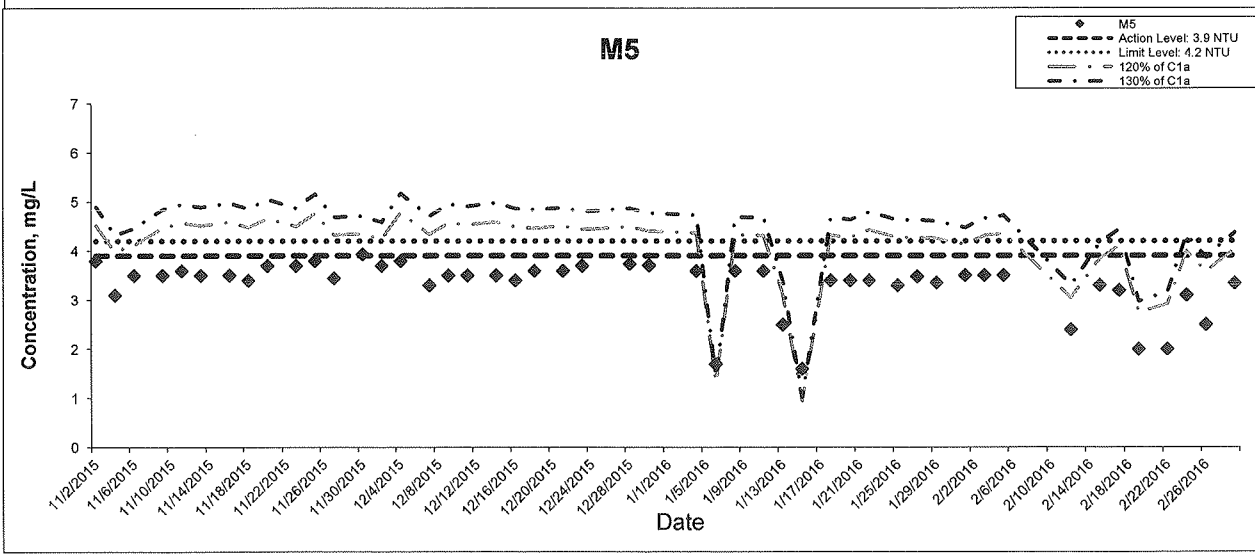
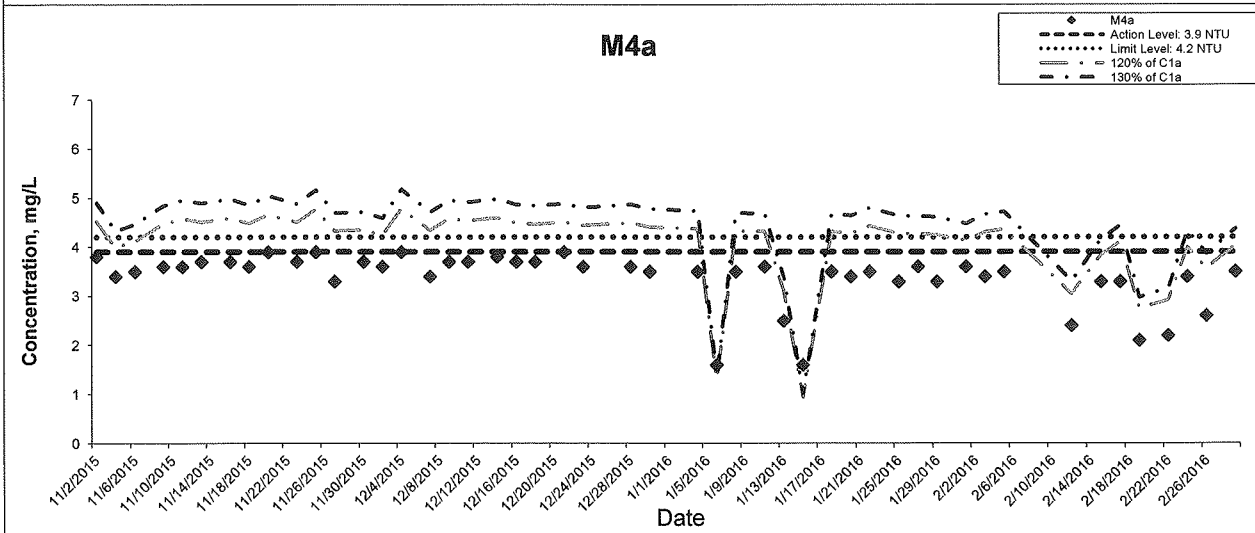
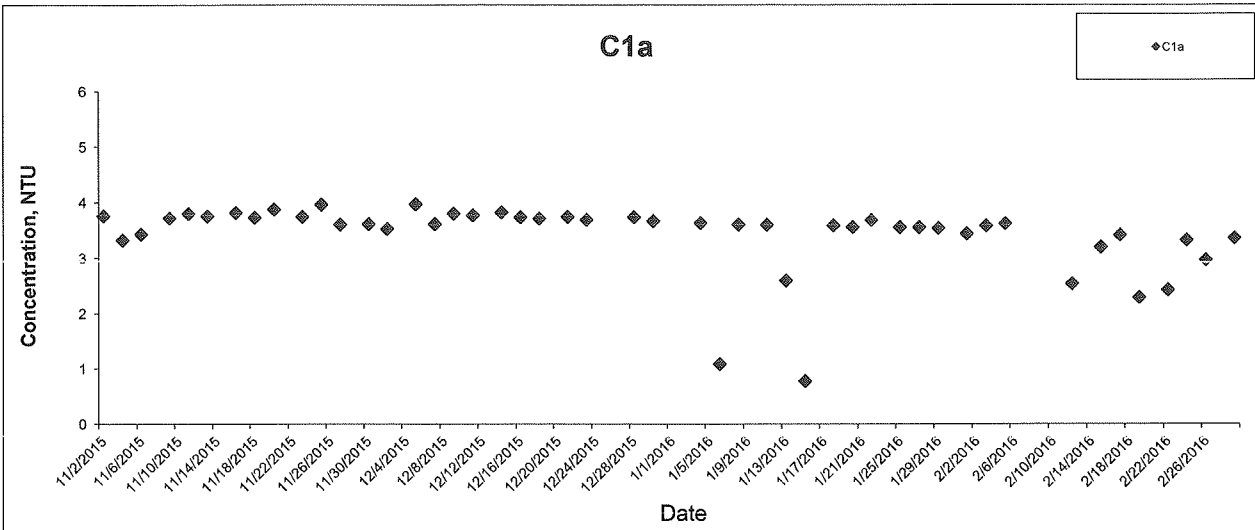
Dissolved Oxygen (Bottom) at Mid-Flood Tide



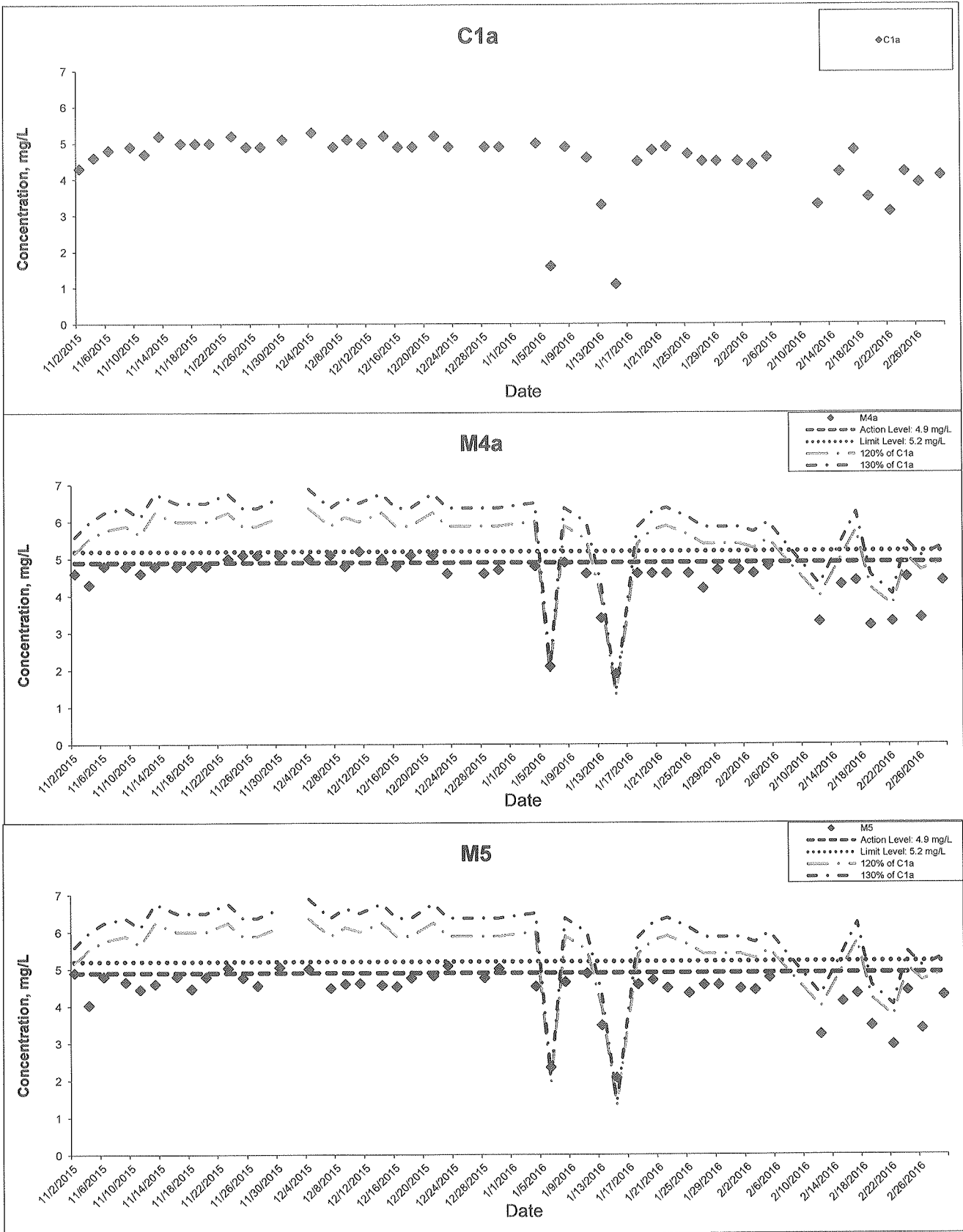
Turbidity at Mid-Ebb Tide



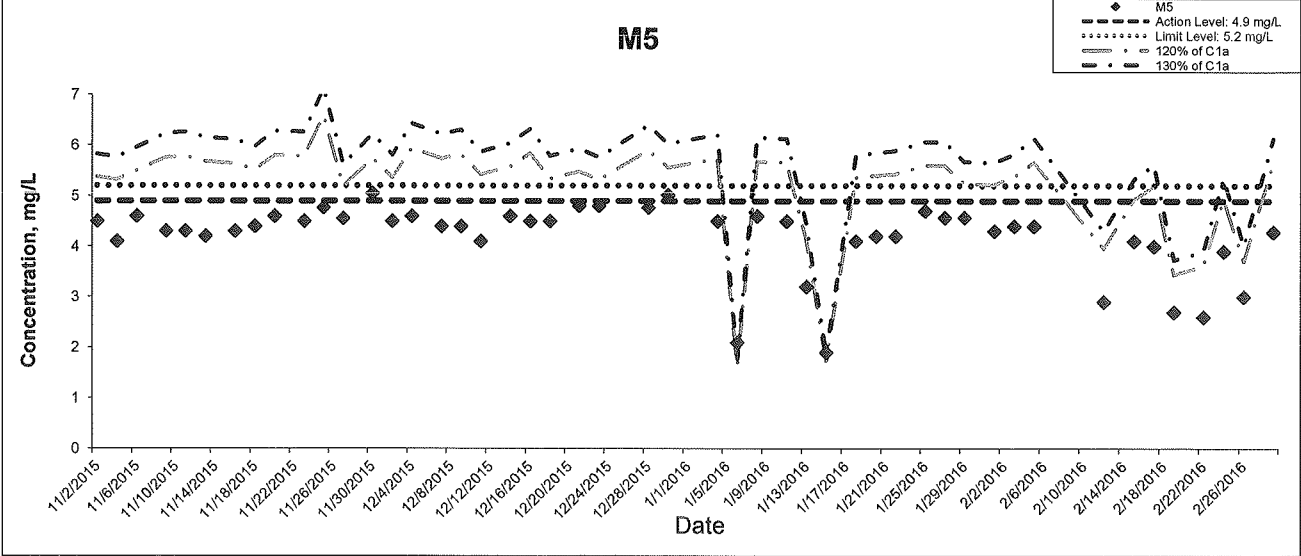
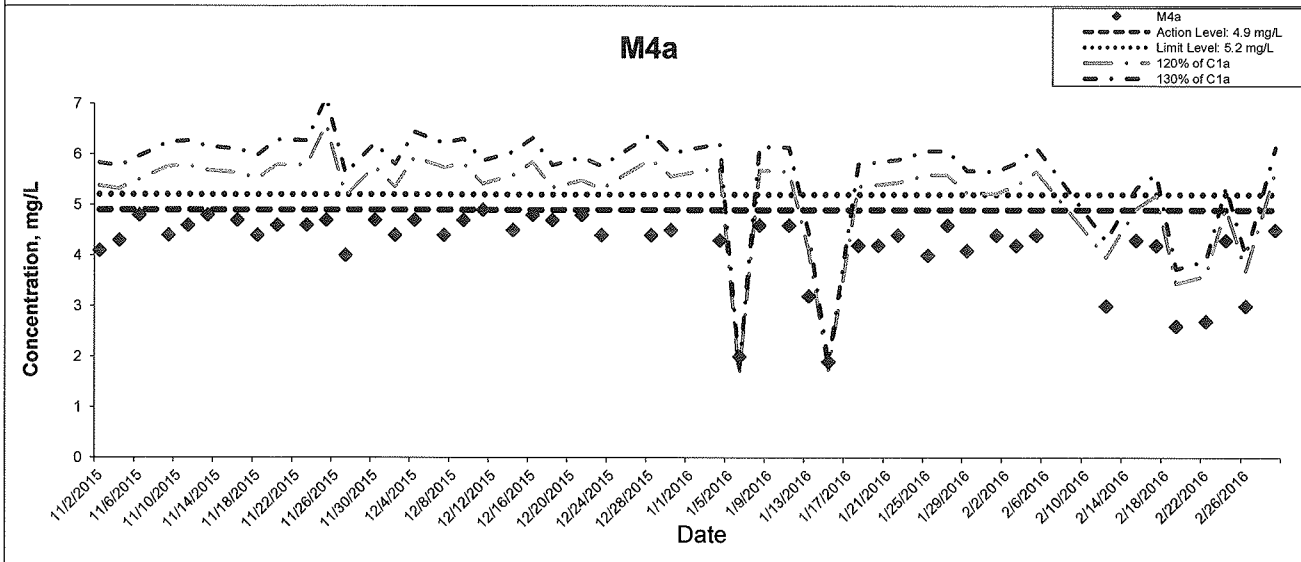
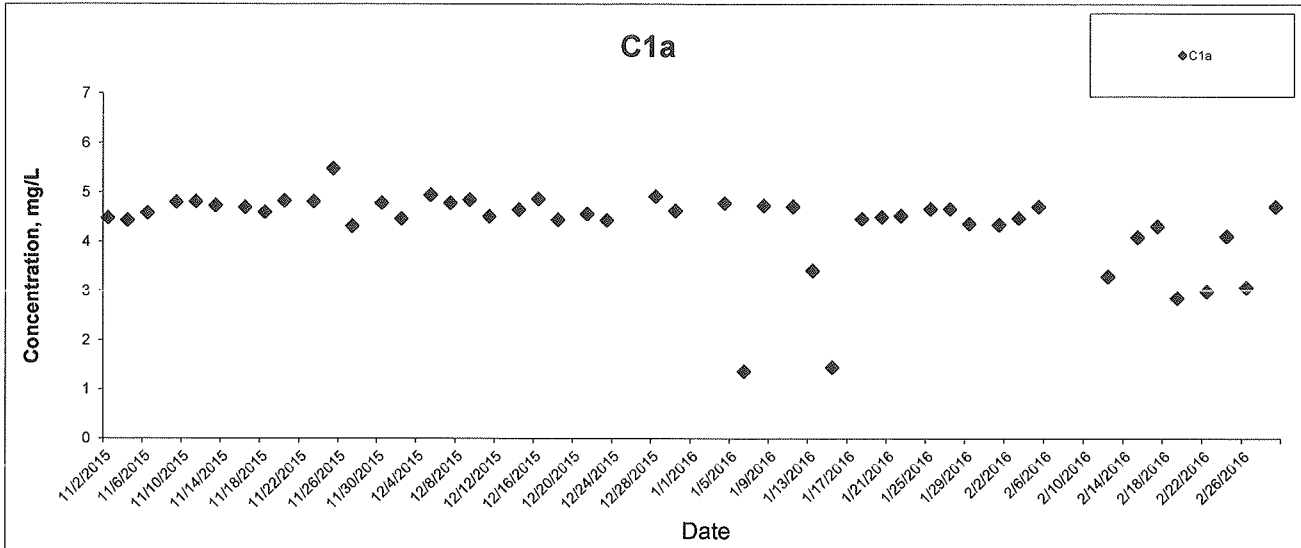
Turbidity at Mid-Flood Tide



Suspended Solids at Mid-Ebb Tide



Suspended Solids at Mid-Flood Tide



**APPENDIX D
QA/QC REPORT**

QA/QC Results of Laboratory Analysis of Total Suspended Solids

Sampling Date	QC Sample	Sample Duplicate		Sample Spike	
	% Recovery *	Sample ID	% Error #	Sample ID	% Recovery @
2/1/2016	104.1	FC1a-S1	3.92	EC1a-S2	96.8
	93.5	EC1a-M1	8.33	EWM5-B2	99.5

Note: (*) % Recovery of QC sample should be between 80% to 120%.
 (#) % Error of Sample Duplicate should be between 0% to 10%.
 (@) % Recovery of Sample Spike should be between 80% to 120%.
 (**) % Error of Sample Duplicate >10% but invalid due to sample results less than PQL.

QA/QC Results of Laboratory Analysis of Total Suspended Solids

Sampling Date	QC Sample	Sample Duplicate		Sample Spike	
	% Recovery *	Sample ID	% Error #	Sample ID	% Recovery @
2/3/2016	99.8	FC1a-S1	5.61	EC1a-S2	105.8
	92.4	EC1a-M1	2.3	EWM5-B2	107.4

Note: (*) % Recovery of QC sample should be between 80% to 120%.
 (#) % Error of Sample Duplicate should be between 0% to 10%.
 (@) % Recovery of Sample Spike should be between 80% to 120%.
 (**) % Error of Sample Duplicate >10% but invalid due to sample results less than PQL.

QA/QC Results of Laboratory Analysis of Total Suspended Solids

Sampling Date	QC Sample	Sample Duplicate		Sample Spike	
	% Recovery *	Sample ID	% Error #	Sample ID	% Recovery @
2/5/2016	100.5	FC1a-S1	6.32	EC1a-S2	100.5
	101.8	EC1a-M1	9.52	EWM5-B2	94.2

Note: (*) % Recovery of QC sample should be between 80% to 120%.
 (#) % Error of Sample Duplicate should be between 0% to 10%.
 (@) % Recovery of Sample Spike should be between 80% to 120%.
 (**) % Error of Sample Duplicate >10% but invalid due to sample results less than PQL.

QA/QC Results of Laboratory Analysis of Total Suspended Solids

Sampling Date	QC Sample	Sample Duplicate		Sample Spike	
	% Recovery *	Sample ID	% Error #	Sample ID	% Recovery @
2/12/2016	99.9	FC1a-S1	8.45	EC1a-S2	101.4
	106.7	EC1a-M1	0	EWM5-B2	93.8

Note: (*) % Recovery of QC sample should be between 80% to 120%.
 (#) % Error of Sample Duplicate should be between 0% to 10%.
 (@) % Recovery of Sample Spike should be between 80% to 120%.
 (**) % Error of Sample Duplicate >10% but invalid due to sample results less than PQL.

QA/QC Results of Laboratory Analysis of Total Suspended Solids

Sampling Date	QC Sample	Sample Duplicate		Sample Spike	
	% Recovery *	Sample ID	% Error #	Sample ID	% Recovery @
2/15/2016	106.9	FC1a-S1	2.60	EC1a-S2	102.5
	101.9	EC1a-M1	7.41	EWM5-B2	93.9

Note: (*) % Recovery of QC sample should be between 80% to 120%.
 (#) % Error of Sample Duplicate should be between 0% to 10%.
 (@) % Recovery of Sample Spike should be between 80% to 120%.
 (**) % Error of Sample Duplicate >10% but invalid due to sample results less than PQL.

QA/QC Results of Laboratory Analysis of Total Suspended Solids

Sampling Date	QC Sample	Sample Duplicate		Sample Spike	
	% Recovery *	Sample ID	% Error #	Sample ID	% Recovery @
2/17/2016	97.3	FC1a-S1	6.74	EC1a-S2	93.0
	103.2	EC1a-M1	2.02	EWM5-B2	105.5

Note: (*) % Recovery of QC sample should be between 80% to 120%.
 (#) % Error of Sample Duplicate should be between 0% to 10%.
 (@) % Recovery of Sample Spike should be between 80% to 120%.
 (**) % Error of Sample Duplicate >10% but invalid due to sample results less than PQL.

QA/QC Results of Laboratory Analysis of Total Suspended Solids

Sampling Date	QC Sample	Sample Duplicate		Sample Spike	
	% Recovery *	Sample ID	% Error #	Sample ID	% Recovery @
2/19/2016	106.4	FC1a-S1	7.14	EC1a-S2	99.0
	101.9	EC1a-M1	2.9	EWM5-B2	105.5

Note: (*) % Recovery of QC sample should be between 80% to 120%.
 (#) % Error of Sample Duplicate should be between 0% to 10%.
 (@) % Recovery of Sample Spike should be between 80% to 120%.
 (**) % Error of Sample Duplicate >10% but invalid due to sample results less than PQL.

QA/QC Results of Laboratory Analysis of Total Suspended Solids

Sampling Date	QC Sample	Sample Duplicate		Sample Spike	
	% Recovery *	Sample ID	% Error #	Sample ID	% Recovery @
2/22/2016	95.9	FC1a-S1	8.70	EC1a-S2	105.9
	103.4	EC1a-M1	2.99	EWM5-B2	92.9

Note: (*) % Recovery of QC sample should be between 80% to 120%.
 (#) % Error of Sample Duplicate should be between 0% to 10%.
 (@) % Recovery of Sample Spike should be between 80% to 120%.
 (**) % Error of Sample Duplicate >10% but invalid due to sample results less than PQL.

QA/QC Results of Laboratory Analysis of Total Suspended Solids

Sampling Date	QC Sample	Sample Duplicate		Sample Spike	
	% Recovery *	Sample ID	% Error #	Sample ID	% Recovery @
2/24/2016	106.7	FC1a-S1	0.00	EC1a-S2	101.5
	106.5	EC1a-M1	2.41	EWM5-B2	100.0

Note: (*) % Recovery of QC sample should be between 80% to 120%.
 (#) % Error of Sample Duplicate should be between 0% to 10%.
 (@) % Recovery of Sample Spike should be between 80% to 120%.
 (**) % Error of Sample Duplicate >10% but invalid due to sample results less than PQL.

QA/QC Results of Laboratory Analysis of Total Suspended Solids

Sampling Date	QC Sample	Sample Duplicate		Sample Spike	
	% Recovery *	Sample ID	% Error #	Sample ID	% Recovery @
2/26/2016	104.6	FC1a-S1	0.00	EC1a-S2	100.0
	92.5	EC1a-M1	7.59	EWM5-B2	101.0

Note: (*) % Recovery of QC sample should be between 80% to 120%.
 (#) % Error of Sample Duplicate should be between 0% to 10%.
 (@) % Recovery of Sample Spike should be between 80% to 120%.
 (**) % Error of Sample Duplicate >10% but invalid due to sample results less than PQL.

QA/QC Results of Laboratory Analysis of Total Suspended Solids

Sampling Date	QC Sample	Sample Duplicate		Sample Spike	
	% Recovery *	Sample ID	% Error #	Sample ID	% Recovery @
2/29/2016	107.6	FC1a-S1	1.90	EC1a-S2	98.0
	102.0	EC1a-M1	0	EWM5-B2	106.4

Note: (*) % Recovery of QC sample should be between 80% to 120%.
 (#) % Error of Sample Duplicate should be between 0% to 10%.
 (@) % Recovery of Sample Spike should be between 80% to 120%.
 (**) % Error of Sample Duplicate >10% but invalid due to sample results less than PQL.