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TEST REPORT

China Harbour – China State Joint Venture

CONTRACT NO. CV/2009/02


HANDLING OF SURPLUS PUBLIC FILL

TSEUNG KWAN O AREA 137 FILL BANK

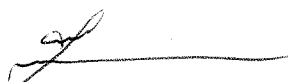
MONTHLY EM&A REPORT NO.35

(OCTOBER 2012)

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13 November 2012

By E-mail and Fax No.: 2695 3944

ETS-Testconsult Limited
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Attention: Mr. C. L. Lau

Dear Mr. Lau,

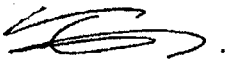
**Re: Contract No. CV/2009/02
Handling of Surplus Public Fill – Tseung Kwan O Area 137 Fill Bank
Monthly EM&A Report No. 35 for October 2012**

Reference is made to your submission of the draft Monthly EM&A Report for October 2012 for the captioned by E-mail on 8 November 2012.

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

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

Yours sincerely,



Tony Cheng
Independent Environmental Checker

c.c. CEDD
CHCSJV

Attn: Mr. Panda Liu / Mr. Jason Wong
Attn: Mr. Dennis Tang

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EXECUTIVE SUMMARY

This monthly Environmental Monitoring and Audit (EM&A) report No.35 was prepared by ETS-Testconsult Ltd (ET) for the "Contract No: CV/2009/02 – Handling of Surplus Public Fill – Tseung Kwan O Area 137 Fill Bank" (The Project).

This report documented the findings of EM&A Works conducted during the operation phase of Fill Bank at Tseung Kwan O Area 137 in October 2012.

Site Activities

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

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

Environmental Monitoring Progress

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

- Noise Monitoring (Day-time): 1 Occasion at 1 designated location
- 24-hour TSP Monitoring: 5 Occasions at 2 designated locations
- 1-hour TSP Monitoring: 15 Occasions at 2 designated locations
- Marine Water Quality Monitoring: 13 Occasions at 2 designated locations
- Weekly-site inspection: 5 Occasions

Noise Monitoring

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

Air Monitoring

Since the old CREO was closed, dust monitoring station TKO-A2 located at old Combined Reception and Exit Office (CREO) was relocated to the new dust monitoring station TKO-A2a at the new CREO under the proposal by ET, approval by the ER and agreement by IC(E) and effective on 01 February 2011.

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.

Site Inspection

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

| <u>Concerned Parties</u> | <u>Dates of Audit / Inspection</u> |
|---------------------------|------------------------------------|
| ET Weekly site inspection | 03, 10, 17, 25 and 31 October 2012 |
| IEC site inspection | 10 and 25 October 2012 |

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

Landscape and Visual

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

Environmental Complaints, Notification of summons and successful prosecutions

No complaints and no notification of summons or successful prosecutions with respect to environmental issues were received in this reporting month.



Future Key Issues

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

- *Noise and air quality impact due to 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;*
- *Watering, hydroseeding or covering all opening slopes and stockpiles with tarpaulin to avoid wind and water erosion;*
- *Sufficient drip trays for all oil drums / chemical containers;*
- *Implement all necessary preventive measures to avoid oil leakage. In the event an oil leakage happens, the Contractor should properly remove the leaked oil and handle the contaminated soil and all materials using for this cleaning works as chemical waste;*
- *Maintain good site practice and waste management to minimize environmental impacts at the site; and*
- *Follow-up improvements on waste management issues.*



1.0 INTRODUCTION

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

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

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

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

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

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

This report documented the findings of EM&A Works conducted during the operation phase of Fill Bank at Tseung Kwan O Area 137 in October 2012.

2.0 PROJECT INFORMATION

2.1 Scope of the Project

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

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

2.2 Site Description

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

2.3 Work Programme

Details of work programme are shown in Appendix G.

2.4 Project Organization and Management Structure

The organization chart and lines of communication with respect to the on-site environmental management and monitoring program are shown in Appendix A.

2.5 Contact Details of Key Personnel

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

Table 2.1 Contact Details of Key Personnel

| Organization | Name of Key Staff | Project Role | Tel. No. | Fax No. |
|---------------------|---|---------------------------|-----------|-----------|
| CEDD | Mr. Lawrence NG Mr. LIU Chi Yuen Mr. LIU Kai Chun Mr. WONG Kai Chung | Engineer's Representative | 2762 5545 | 2714 0113 |
| IEC (Materialab) * | Mr Joseph Poon | IEC | 2450 8238 | 2450 6138 |
| IEC (Environ) * | Mr Tony Cheng | IEC | 3743 0722 | 3548 6988 |
| Contractor (CHCSJV) | Mr. Wah Fung Lok | Contractor's Agent | 9772 7055 | 2243 4089 |
| ET (ETL) | Mr C. L. Lau | ET Leader | 2946 7791 | 2695 3944 |

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

3.0 WORK PROGRESS IN THIS REPORTING MONTH

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

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

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 B1.



Table 4.1 Air Quality Monitoring Equipment

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

4.3 Monitoring Parameters, Frequency and Duration

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

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

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

4.4 Monitoring Locations

Since the old CREO was closed, dust monitoring station TKO-A2 located at old Combined Reception and Exit Office (CREO) was relocated to the new dust monitoring station TKO-A2a at the new CREO under the proposal by ET, approval by the ER and agreement by IC(E) and effective on 01 February 2011.

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 | New 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 (GA-55) were used.
- The power supply was checked to ensure the sampler worked properly.
- On sampling, the sampler was operated 5 minutes to establish thermal equilibrium before placing any filter media at designated air monitoring station.
- The filter holding frame was then removed by loosening the four nuts and carefully a weighted and conditioned filter was centered with the stamped number upwards, on a supporting screen.
- The filter was aligned on the screen so that the gasket formed an air-tight seal on the outer edges of the filter. Then the filter holder frame was tightened to the filter holder with swing bolts. The applied pressure should be sufficient to avoid air leakage at the edges.



- The programmable timer will be set for a sampling period of 1 hour or 24 hours. Information was recorded on the record sheet, which included the starting time, the weather condition and the filter number (the initial weight of the filter paper can be found out by using the filter number.).
- After sampling, the filter was transferred from the filter holder of the HVS to a sealed plastic bag and sent to the laboratory for weighting. The elapsed time was also recoded.
- Before weighting, all filters were equilibrated in a desiccator for 24 hour with the temperature of $25^{\circ}\text{C} \pm 3^{\circ}\text{C}$ and the relative humidity (RH) $<50\% \pm 5\%$.
- 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 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-A2 & 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 can also be valid in the case of TKO-A2a.

4.7 Event-Action Plans

Please refer to Appendix F for details.

4.8 Results and Observation

4.8.1 1-hour and 24-hour TSP Monitoring results

Monitoring data of both 1-hour and 24-hour TSP monitoring carried out in this reporting month are summarized in Appendix B2. Graphical presentation of 1-hour and 24-hour TSP monitoring results for the reporting month is shown in Appendix B3. Wind data 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 E. Table 4.5 summarizes 1-hr TSP and 24-hr TSP monitoring results.

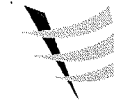


Table 4.5 Summary of 1-hr TSP and 24-hr TSP Monitoring Results

| Air quality monitoring Stations | Location | Monitoring Period | | | | | | |
|---------------------------------|-------------|-------------------|-------------------------------------|--------------|----------|------------|-------------------------------------|--------------|
| | | 24-hr TSP | | | 1-hr TSP | | | |
| | | Date | Result ($\mu\text{g}/\text{m}^3$) | Exceedance # | Date | Start Time | Result ($\mu\text{g}/\text{m}^3$) | Exceedance # |
| TKO-A1 | Site Egress | 03/10/12 | 116 | X | 03/10/12 | 10:15 | 223 | X |
| | | | | | 05/10/12 | 13:00 | 214 | X |
| | | | | | 08/10/12 | 10:00 | 246 | X |
| | | 09/10/12 | 114 | X | 10/10/12 | 11:00 | 287 | X |
| | | | | | 12/10/12 | 11:00 | 272 | X |
| | | | | | 12/10/12 | 13:00 | 283 | X |
| | | 15/10/12 | 115 | X | 15/10/12 | 15:00 | 227 | X |
| | | | | | 17/10/12 | 09:40 | 261 | X |
| | | | | | 19/10/12 | 16:00 | 220 | X |
| | | 21/10/12 | 112 | X | 22/10/12 | 16:20 | 215 | X |
| | | | | | 26/10/12 | 09:00 | 196 | X |
| | | | | | 26/10/12 | 10:15 | 210 | X |
| | | 27/10/12 | 104 | X | 29/10/12 | 11:00 | 233 | X |
| 29/10/12 | 13:00 | | | | 225 | X | | |
| 31/10/12 | 17:00 | | | | 220 | X | | |
| TKO-A2a | New CREO | 03/10/12 | 103 | X | 03/10/12 | 10:20 | 198 | X |
| | | | | | 05/10/12 | 13:10 | 205 | X |
| | | | | | 08/10/12 | 10:10 | 228 | X |
| | | 09/10/12 | 98 | X | 10/10/12 | 11:00 | 261 | X |
| | | | | | 12/10/12 | 10:55 | 234 | X |
| | | | | | 12/10/12 | 13:05 | 224 | X |
| | | 15/10/12 | 102 | X | 15/10/12 | 15:15 | 204 | X |
| | | | | | 17/10/12 | 09:45 | 230 | X |
| | | | | | 19/10/12 | 16:15 | 199 | X |
| | | 21/10/12 | 98 | X | 22/10/12 | 16:35 | 194 | X |
| | | | | | 26/10/12 | 09:00 | 177 | X |
| | | | | | 26/10/12 | 10:20 | 190 | X |
| | | 27/10/12 | 93 | X | 29/10/12 | 10:55 | 206 | X |
| 29/10/12 | 13:00 | | | | 195 | X | | |
| 31/10/12 | 16:45 | | | | 193 | X | | |

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

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 C&DMSF at the PBR2 Project site, the temporary C&DMSF at Portion K and dumping activities at the SENT Landfill.

5.0 Noise Monitoring

5.1 Monitoring Requirements

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



5.2 Monitoring Equipment

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

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

Table 5.1 Noise Monitoring Equipment

| <i>Equipment</i> | <i>Model</i> |
|--------------------------------------|--|
| <i>Integrating Sound Level Meter</i> | <i>Cesva SC-20C Sound Level Meter</i> |
| <i>Calibrator</i> | <i>Rion NC-73 Acoustic Calibrator</i> |
| <i>Portable Wind Speed Indicator</i> | <i>TSI Model 8340-M Air Velocity Meter</i> |

5.3 Monitoring Parameters, Duration and Frequency

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

Table 5.2 Duration, Frequencies and Parameters of Noise Monitoring

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

5.4 Monitoring Locations

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

Table 5.3 Noise Monitoring Locations

| <i>Monitoring station</i> | <i>Location</i> | <i>Type of Measurement</i> |
|---------------------------|--|----------------------------|
| <i>TKO-N1</i> | <i>Outside site Egress along Wan Po Road</i> | <i>Free Field</i> |

5.5 Monitoring Procedures and Calibration Details

Operation/Analysis Procedures

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



Maintenance and Calibration

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

5.6 Action and Limit Levels

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

Table 5.4 Action and Limit Levels for noise monitoring

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

5.7 Event-Action Plans

Please refer to the Appendix F for details.

5.8 Results and Observation

5.8.1 Results

Only Day-time noise monitoring was carried out at monitoring station TKO-N1 in this reporting month. The detail of the noise monitoring is provided in Appendix C2. Graphical presentation of the monitoring result for the reporting month is shown in Appendix C3. A summary of the monitoring result is presented in Table 5.5.

Table 5.5 Summary of Impact Noise Level

| Date | Start Sampling Time (hh:mm) | Noise Level dB (A) * | | |
|----------|--------------------------------|----------------------|----------|----------|
| | | $L_{eq(30min)}$ | L_{10} | L_{90} |
| 03/10/12 | 10:00 | 67.2 | 69.5 | 62.2 |

Remark: (*) : Correction factor of +3dB(A) was added to the measured results due to the free Field measurements.

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 23:00. The monitoring result complied with the noise limit of 75dB(A).

6.0 MARINE WATER QUALITY MONITORING

6.1 Monitoring Requirements

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

6.2 Monitoring Locations

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



Table 6.1 Locations of Marine Water Monitoring Stations

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

6.3 Monitoring Parameters

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

Table 6.2 Marine Water Quality Monitoring Parameters

| In-situ measurement | Laboratory analysis |
|--|-------------------------|
| Depth (m) | Suspended solids (mg/L) |
| Temperature (°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 2100P) was used during impact monitoring. It has a photoelectric sensor capable of measuring turbidity between 0-1000 NTU. Response of the sensor was checked with certified standard Turbidity solutions before the start of measurement.

For Water Sampling and Sample Analysis

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

Water Sampler

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

Water Container

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

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

Table 6.4 Summary of testing procedures

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

In-situ measurement

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

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

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

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

| Parameter | Model | Date of Calibration | Due Date | Equipment No. |
|--|---|---------------------|----------|----------------|
| Coordinate of Monitoring stations | MLR GPS Navigator, SP24 | ----- | ----- | ET/EW/005/01* |
| Dissolved Oxygen (Saturation), Temperature, Salinity | YSI Dissolved Oxygen, Salinity & Temperature Meter, YSI Pro2030 | 13/08/12 | 12/11/12 | ET/EW/008/004* |
| Turbidity | HACH Model 2100Q Turbid Meter | 02/08/12 | 01/11/12 | ET/0505/008 |
| Water Depth | EAGLE Strata 128 Sonar | ----- | ----- | EW/002/02 |

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



6.6 Action and Limit Level

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

Table 6.6 Water Quality Action and Limit Levels

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

6.7 Event and Action Plan

Please refer to the Appendix F for details.

6.8 Monitoring Duration and Period in this reporting month

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

Table 6.7 Time Schedule of Impact Marine Water Quality Monitoring

| October 2012 | | | | | | |
|--------------|--------|---------|-----------|----------|--------|----------|
| 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 | 30 | 31 | | | |
| | ▼ | | ▼ | | | |

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

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

6.9 Marine Water Quality Monitoring Results

The impact water quality measurement results are detailed in Appendix D2. Appendix D3 presents the water quality monitoring data and graphical presentations of monitoring results respectively.

The summary of marine water quality exceedances is shown in Table 6.8.

Table 6.8 Summary of 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 IEC SITE AUDIT AND WEEKLY ET SITE INSPECTIONS

7.1 IEC Site Audit

7.1.1 During this reporting period, the IEC team conducted two independent site audits of the Contract CV/2009/02 site (TKO Area 137 Fill Bank).

7.1.2 Findings of the site audit have been recorded on site checklists, copies of which were submitted to the Contractor for their further action as appropriate, and to the Client for their records. Key issues were highlighted to the Contractor's representative at the completion of each site audit to ensure that they were aware of the problem(s) identified and where necessary, to take immediate corrective actions. A copy of the completed checklists are appended to this report in Appendix H.

Table 7.1 Dates of IEC Site Audits in this reporting month

| Date of Audit | Work Period | Site Audit Checklist Submitted Under IEC's Ref No. |
|-----------------|-------------------------------------|--|
| 10 October 2012 | Operation of TKO Area 137 Fill Bank | CEDPFRSFEM00_121010_TKOFB |
| 25 October 2012 | | CEDPFRSFEM00_121025_TKOFB |

7.1.3 The major findings recorded during the site audit conducted during this reporting period are summarized below. Full details are provided in the site audit checklists presented in Appendix H.

Table 7.2 Key Findings of IEC Site Audits in this reporting month

| Date | Key Findings | Action(s) Taken recommended by IEC | Action(s) Taken by the Contractor during the site audit | Rectification Status by IEC |
|-----------------|--|---|---|-----------------------------|
| 10 October 2012 | Tipping hall No.1 to No. 3 was damaged. (Previous item) | The Contractor was reminded to repair the damaged parts of tipping hall. | Tipping halls (No.1 to No.3) had been repaired. | Closed |
| | Silt curtains were not properly fixed. (Previous item) | The Contractor was reminded to provide silt curtain properly at TKOFB. | --- | Follow-up |
| | Poor housekeeping was observed at Tyre workshop. (Previous item) | The Contractor was reminded to tidy up the area properly. | Housekeeping was improved. | Closed |
| | Turbid water and rubbish were found at catchpits at CREO. (New item) | The Contractor was reminded to properly maintain all drainage facilities at site. | --- | Follow-up |
| 25 October 2012 | Silt curtains were not properly fixed. (Previous item) | The Contractor was reminded to provide silt curtain properly at TKOFB. | Silt curtain had been properly fixed near Pier No.1. | Closed |
| | Turbid water and rubbish were found at catchpits at CREO. (Previous item) | The Contractor was reminded to properly maintain all drainage facilities at site. | Catchpit at CREO had been temporarily filled and kept water running at u-channel. | Closed |
| | Deposition of silt and silty water were found at Catchpit No.8 at CREO. (New item) | The Contractor was reminded to frequently clean and maintain the catchpit. | --- | Follow-up |

7.2 Weekly ET Site Inspections

Weekly ET site inspections were carried out by ET to monitor the timely implementation of proper environmental pollution control and mitigation measures for the Project. In this reporting month, five weekly site inspections were conducted (03, 10, 17, 25 and 31 October 2012).

After each site inspection, a site inspection report detailing the environmental observations had also been prepared by the ET and submitted to RE, IEC and Contractor to notify of the ET's observations and recommendations. The weekly site inspection reports in this reporting month are attached in Appendix I. Summaries of the weekly site inspection findings in this month are described as follows:



Air Quality

- The major dust sources were dump truck movement on the unpaved haul roads and loading & unloading activities on various working platforms in the Fill Bank. The Contractor deployed water bowzers to dampen the haul roads and the working platforms;
- Watering the site was noted effective and hence no fugitive dust emission was observed in this reporting month. However, the Contractor was still reminded to wet the unpaved haul roads regularly in order to prevent fugitive dust emission especially during dry weather;
- Follow up action to the outstanding finding in the previous month, the enclosure of tipping hall No.2 and No.3 was repaired during the weekly site inspections on 03 and 10 October 2012. However, the Contractor was still reminded to maintain the tripping halls properly;
- Water spraying system at Tipping Hall operated properly during the weekly site inspection in this reporting month. However, the Contractor was still reminded to maintain the water spraying system properly in order to avoid dust generation during operation;
- No black smoke emission was observed from PME in this reporting month. However, the Contractor was still reminded to maintain all PME regularly and properly in order to avoid black smoke emission;
- Wheel washing facilities were operating during weekly site inspections. Besides, the Contractor operated several mist spraying systems at the site egress and weighbridge respectively. The truckloads were dampened during inspection of fill material at CEDD Reception Office;
- The dump trucks were operating below the speed limit in the Fill Bank. There were sufficient speed limit signs on site to advise the drivers;
- Stockpiles of construction materials were noted covered in this reporting month. However, the Contractor was reminded to cover the stockpile by using tarpaulin sheet to avoid dust generation;
- The fill material was usually dampened on the barge. Dust impact was minimal from the barge delivery and unloading activity at the BHA; and
- Other than the Fill Bank operation, dust sources also included road paving works of Wan Po Road outside the site egress, operation of PBR2 at Portion J of the Fill Bank, temp C&DMSF at Portion K, delivery of rock fill material from the SENT Landfill to the EPD's barging point and associated dumping activity, operation of the SENT Landfill, vehicular movement and wind erosion on Wan Po Road.

Noise

- The major noise source was dump truck traffic in the Fill Bank. Since the nearby NSR were remote from the Fill Bank, the noise impact was minimal. There was no specific observation noted regarding noise issue.

Water Quality

- Follow up action to the outstanding finding in the previous month, the silt curtain near tipping hall No.1 were repaired during the weekly site inspection on 25 October 2012;
- Mud and silt were noted inside the drainage channel near Chung Shun site office during the weekly site inspection on 25 October 2012. The Contractor was reminded to clean up the accumulated mud and silt and maintain the drainage channel properly. Since the finding was still observed in the last weekly site inspection on 31 October 2012, it will be verified in the coming month; and
- Stagnant water was found inside the bucket of a repairing excavator near chemical waste storage area during the weekly site inspection on 31 October 2012. The Contractor was reminded to clear the stagnant water to avoid mosquito breeding. Since the finding was observed in the last weekly site inspection on 31 October 2012, it will be verified in the coming month.

Chemical and Waste Management

- The Contractor provided waste skips to collect general refuse and disposal of them regularly to the SENT Landfill. In this reporting month, no C&D waste was disposed to SENT Landfill and 480kg chemical waste was collected by licensed waste collector;
- The chemical waste was stored in the Chemical Waste Storage Area (CWSA). The Contractor should dispose chemical wastes regularly to avoid over accumulation of chemical waste on site;
- The door of CWSA was found locked properly during weekly site inspections in this month;
- Follow up action to the outstanding finding in the previous month, waste oil inside a cargo near tire repair workshop at Section A6 was noted cleared during the weekly site inspection on 10 October 2012;



- Follow up action to the outstanding finding in the previous month, no oil stain was noted on the ground next to generator near workshop during the weekly site inspection on 03 October 2012;
- A chemical drum was found discarded at Section A6 - Tyre workshop during the weekly site inspection on 03 October 2012. The Contractor was reminded to collect and store / dispose of the chemical drum properly. During the subsequent weekly site inspection on 10 October 2012, the chemical drum was collected; and
- Oil stain was noted inside a catchpit near check point at CREO during the weekly site inspection on 10 October 2012. The Contractor was reminded to clean the oil stain and treat the contaminated soil and materials as chemical waste. During the subsequent weekly site inspection on 17 October 2012, the oil stain was cleared.

Landscape and Visual

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

Site Practices

- Rubbish was noted discarded inside the bucket of a repairing excavator near chemical waste storage area during the weekly site inspection on 31 October 2012. The Contractor was reminded to collect the rubbish and dispose of properly. Since the finding was observed in the last weekly site inspection on 31 October 2012, it will be verified in the coming month; and
- Sufficient rubbish skips had been provided at site by the Contractor in this reporting month.

7.3 Review of Environmental Monitoring Procedures

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

Air Quality Monitoring

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

Noise Monitoring

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

Water Quality Monitoring

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

7.4 Assessment of Environmental Monitoring Results

All monitoring results were audited against the Action and Limit levels and any 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 period were comparable with those of baseline period. Detailed discussions were given in Section 4, 5 and 6 of this Report.

7.5 Advice on the Solid and Liquid Waste Management Status

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



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

The Contractor should use suitable containers with proper labels to store chemical wastes in accordance with Code of Practice on the Packaging, Labeling and Storage of Chemical Waste. The Contractor should also advise their workers of the proper procedures in handling the chemical waste. All the trip tickets for chemical waste disposal were properly kept in the site office. No chemical waste disposal was undertaken in the reporting month.

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

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

8.0 Status of Environmental Licensing and Permitting

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

Table 8.1 Summary of environmental licensing and permit status

| Description | Permit No. | Valid Period | | Section |
|------------------------------|-------------------|--------------|----------|---|
| | | From | To | |
| Amended Environmental Permit | EP-134/2002/J | 14/11/11 | --- | <ul style="list-style-type: none"> ▪ Site clearance ▪ Construction of a temporary storm water system ▪ Stockpiling of 6 million m3 of public fill ▪ Setting up two barging points for transporting the stockpiled public fill by barges ▪ Setting up a temporary barging point at the existing Explosive Off-loading Barging Point for the period of May 2004 to December 2004 for transporting the stockpiled public fill by barge ▪ Construction of operation of a construction and Demolition Material Sorting Facility (C&DMSF) ▪ Setting up a Construction and Demolition Material Crushing Facility at the TKO Basin ▪ Remove the temporary fill bank |
| Chemical Waste Producer | 5213-839-C3577-02 | 17/12/09 | --- | Spent Lubricating Oil, Spent Flammable Liquid, Spent Battery containing Heavy Metals and Surplus Paint |
| Effluent Discharge License | WT00005777-2010 | 12/05/10 | 31/05/15 | Wastewater arising from the wheel washing bay, Sedimentation Tank & Desilting Tank |
| Marine Dumping Permit | EP/MD/13-068 | 01/10/12 | 31/12/12 | Approval for dumping 3,600,000 tons (approximately equal to 2,000,000 cu.m. bulked quantity) of Public Fill (Reclamation Materials) from Tseung Kwan O Area 137 Fill Bank, Tuen Mun Area 38 Fill Bank and MTR XRL Contracts 803A to D to designated dumping area at Guanghaiwan of Taishan |

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 J. Most of the necessary mitigation measures were implemented properly. Any deficiencies were noted in the remarks of the schedule.

10.2 Implementation Status of Event and Action Plan

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 reporting 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 M).

Table 10.1 Summary of Environmental Complaints and Prosecutions

| <i>Complaints logged</i> | | <i>Summons served</i> | | <i>Successful prosecution received</i> | |
|--------------------------|-------------------|-----------------------|-------------------|--|-------------------|
| <i>October 2012</i> | <i>Cumulative</i> | <i>October 2012</i> | <i>Cumulative</i> | <i>October 2012</i> | <i>Cumulative</i> |
| 0 | 5 | 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.



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

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

Recommendations

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

Air Quality

- Ensure the frequency of water spraying on haul roads, unloading areas and stockpiles to be sufficient to suppress the dust sources;
- Provide proper maintenance for the powered mechanical equipment and barges to avoid emission of dark smoke;
- Provide water spraying onto the truckloads during inspection of fill material;
- Conduct road sweeping on all paved haul roads and public roads especially outside and near the site egress by the road sweeper. Undertake water spraying on stockpiling area by water bowlers;
- Erect adequate speed limit signs to advise the truck drivers of the speed limit;
- Operate mist spraying systems and automatic water sprinklers in the Fill Bank;
- Implement the dust mitigation measures for the 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, DP3 & DP4 regularly;
- Operate and maintain the silt curtains regularly;
- Operate the cleaning vessel within the TKO Basin regularly;
- Provide proper treatment for the oil discharge from the area near air monitoring station TKO-A1;
- Clean up the fill material on the concrete pavement at BHA frequently; and
- Remove the stagnant water or provide approved pesticides for the stagnant water in the permanent desilting chambers, if any.

Chemical and Waste Management

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

Landscape and Visual

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



12.0 FUTURE KEY ISSUES

12.1 Work Programme for the Coming Month

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

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

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 L.

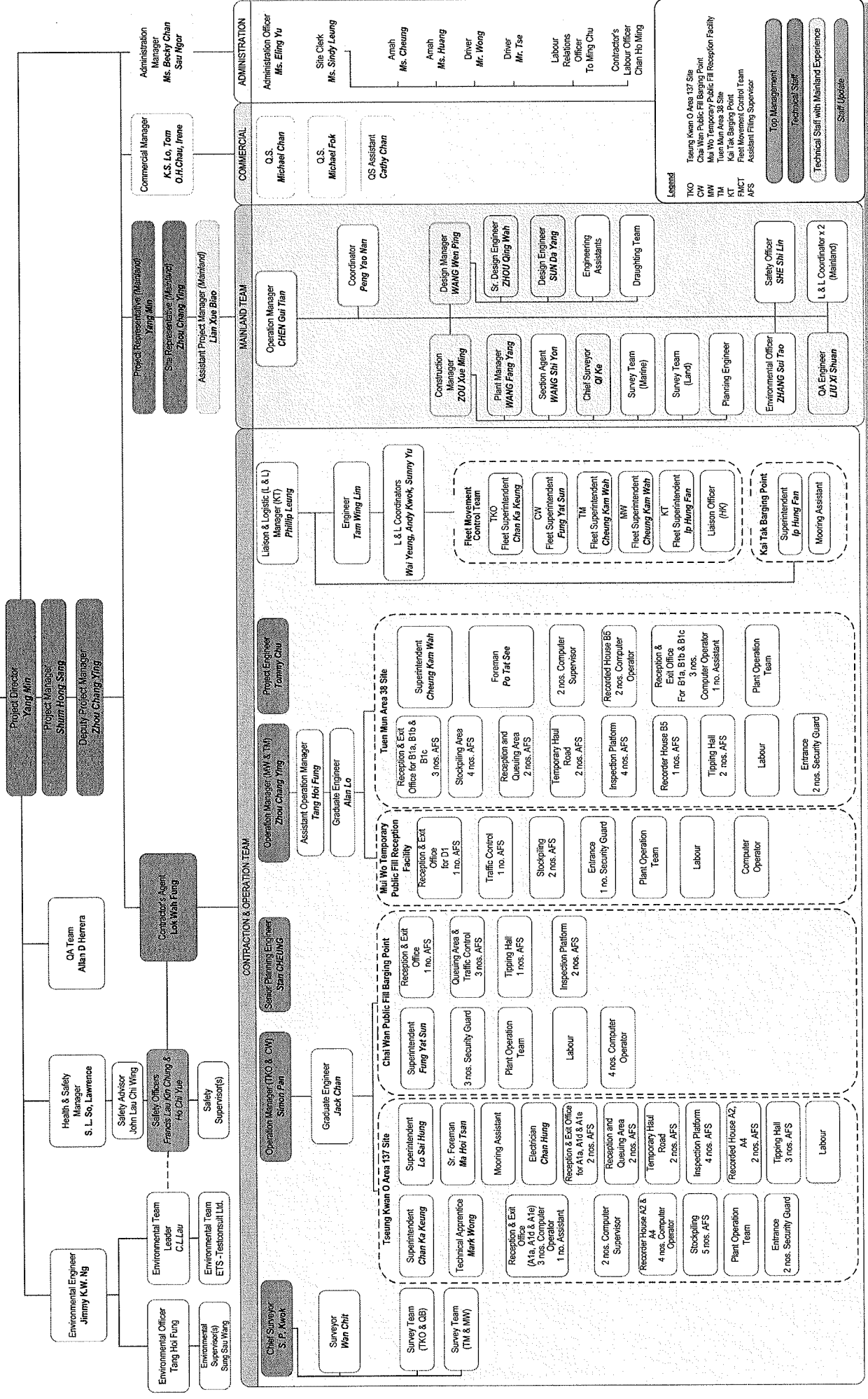
- END OF REPORT -



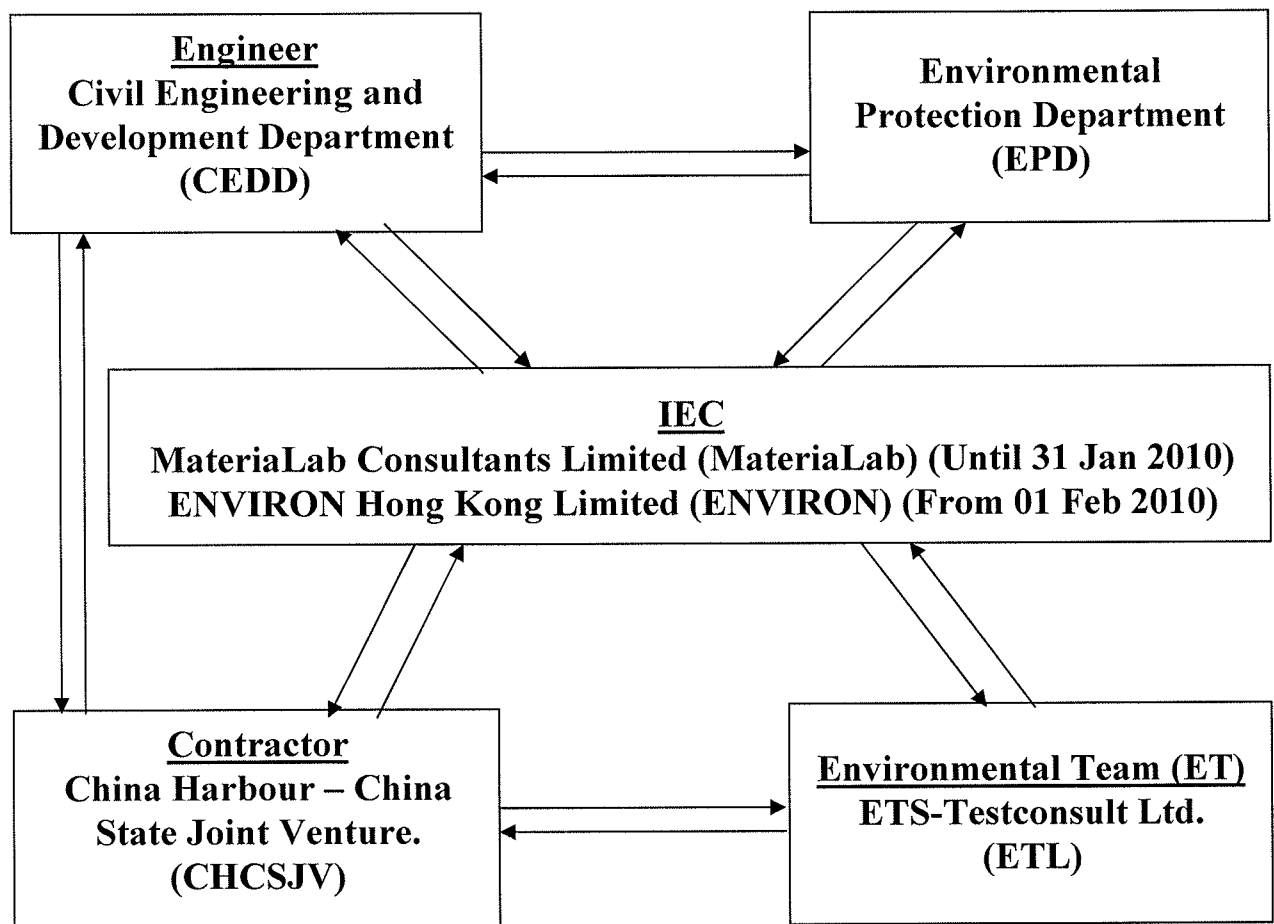
Appendix A

Organization Chart and Lines of Communication

JOINT VENTURE MANAGEMENT BOARD
CHEN Fen Jian, WANG Yan, PAN Shu Jie, George CHAN



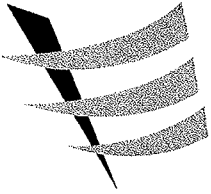
Lines of Communication





Appendix B1

Calibration Certificates for Impact Air Quality Monitoring Equipment



東業德勤測試顧問有限公司
ETS-TESTCONSULT LIMITED

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

TEST REPORT

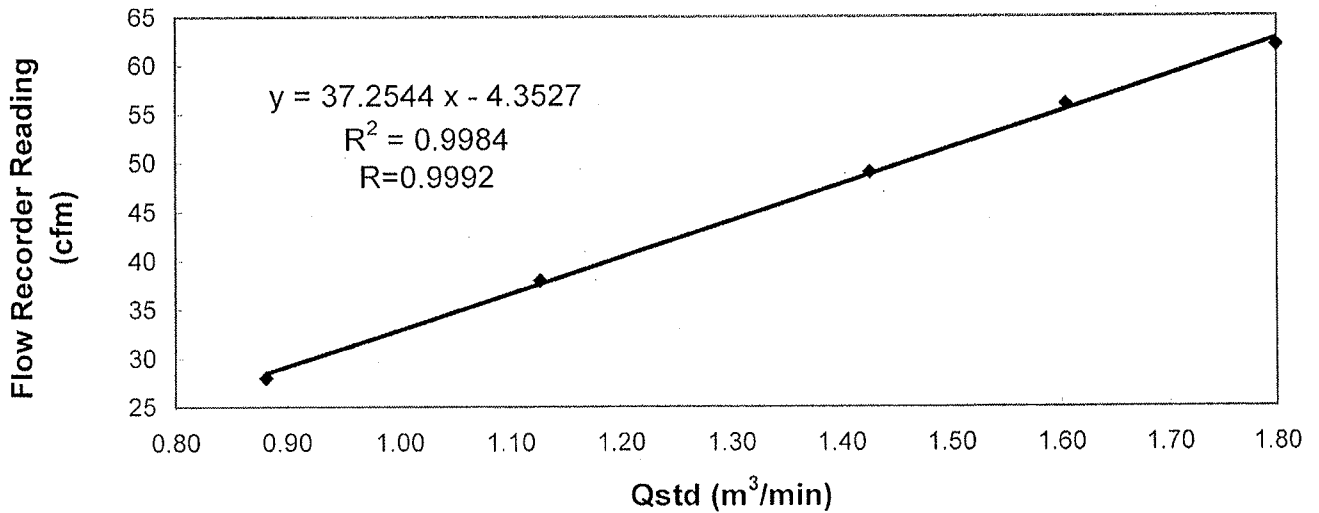
Calibration Report
of
High Volume Air Sampler

Manufacturer : Graseby GMW Date of Calibration : 17 September 2012
Serial No. : 10581 (ET / EA / 003 / 22) Calibration Due Date : 16 November 2012
Method : Five-point calibration by using standard calibration kit Tisch TE-5025A refer to the Operations Manual

Results :

| | | | | | |
|--|--------|-------|---------|------|------|
| Flow recorder reading (cfm) | 62 | 56 | 49 | 38 | 28 |
| Qstd (Actual flow rate, m ³ /min) | 1.80 | 1.60 | 1.43 | 1.13 | 0.88 |
| Pressure : | 761.31 | mm Hg | Temp. : | 303 | K |

Sampler 10581 Calibration Curve
Site: Tseung Kwan O A-1



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

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

Calibrated by :
LEE, Chak Man
(Site Technician)

Checked by :
LAU, Chi Leung
(Environmental Consultant)



東業德勤測試顧問有限公司
ETS-TESTCONSULT LIMITED

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

TEST REPORT

Calibration Report
of
High Volume Air Sampler

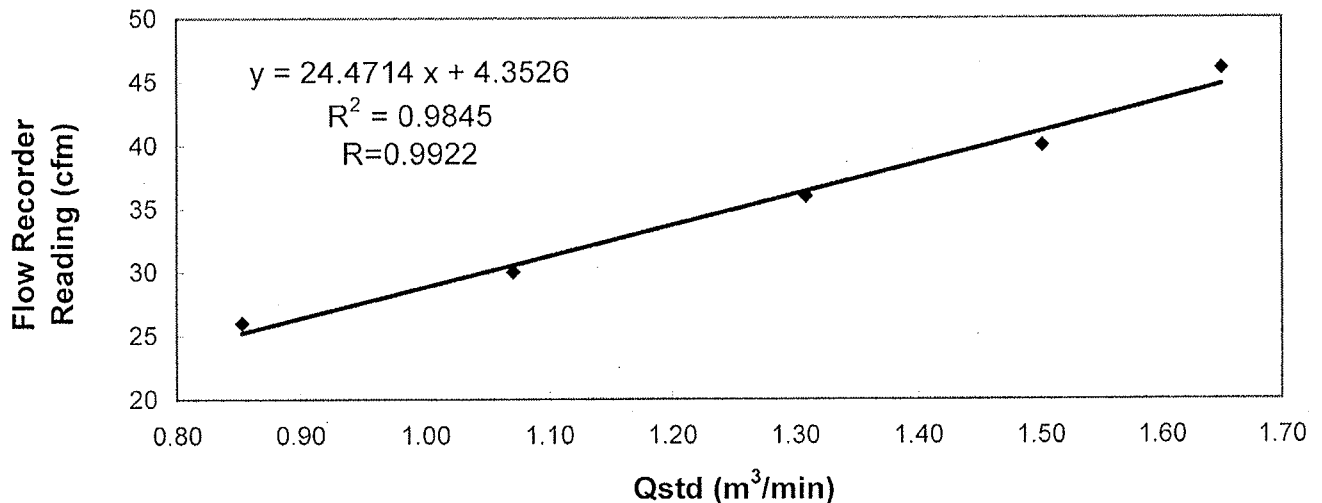
Manufacturer : Graseby GMW Date of Calibration : 17 September 2012

Serial No. : 1172 (ET / EA / 003 / 11) Calibration Due Date : 16 November 2012

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

| | | | | | | |
|---------|--|---------------|------|------|------|------|
| Results | Flow recorder reading (cfm) | 46 | 40 | 36 | 30 | 26 |
| | Qstd (Actual flow rate, m ³ /min) | 1.65 | 1.50 | 1.31 | 1.07 | 0.85 |
| | Pressure : 761.31 mm Hg | Temp. : 303 K | | | | |

Sampler 1172 Calibration Curve
Site: Tseung Kwan O A-2



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

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

Calibrated by :
LEE, Chak Man
(Site Technician)

Checked by :
LAU, Chi Leung
(Environmental Consultant)



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

AIR POLLUTION MONITORING EQUIPMENT

ORIFICE TRANSFER STANDARD CERTIFICATION WORKSHEET TE-5025A

Date - May 30, 2012 Roots-meter S/N 0438320 Ta (K) - 298
 Operator Tisch Orifice I.D. - 2193 Pa (mm) - 748.03

| 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 | 1.4420 | 3.2 | 2.00 |
| 2 | NA | NA | 1.00 | 1.0190 | 6.4 | 4.00 |
| 3 | NA | NA | 1.00 | 0.9100 | 7.9 | 5.00 |
| 4 | NA | NA | 1.00 | 0.8680 | 8.8 | 5.50 |
| 5 | NA | NA | 1.00 | 0.7170 | 12.8 | 8.00 |

DATA TABULATION

| Vstd | (x axis) Qstd | (y axis) | Va | (x axis) Qa | (y axis) |
|------------------------------------|---------------|----------|---------------------------|-------------|----------|
| 0.9800 | 0.6796 | 1.4030 | 0.9957 | 0.6905 | 0.8926 |
| 0.9758 | 0.9576 | 1.9842 | 0.9915 | 0.9730 | 1.2623 |
| 0.9738 | 1.0701 | 2.2184 | 0.9893 | 1.0872 | 1.4113 |
| 0.9727 | 1.1206 | 2.3267 | 0.9882 | 1.1385 | 1.4802 |
| 0.9674 | 1.3492 | 2.8061 | 0.9828 | 1.3708 | 1.7852 |
| Qstd slope (m) = 2.09529 | | | Qa slope (m) = 1.31204 | | |
| intercept (b) = -0.02194 | | | intercept (b) = -0.01396 | | |
| coefficient (r) = 0.99999 | | | coefficient (r) = 0.99999 | | |
| y axis = SQRT[H2O(Pa/760)(298/Ta)] | | | y axis = SQRT[H2O(Ta/Pa)] | | |

CALCULATIONS

$$Vstd = \text{Diff. Vol} [(Pa - \text{Diff. Hg}) / 760] (298 / Ta)$$

$$Qstd = Vstd / \text{Time}$$

$$Va = \text{Diff Vol} [(Pa - \text{Diff Hg}) / Pa]$$

$$Qa = Va / \text{Time}$$

For subsequent flow rate calculations:

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

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



Appendix B2

Impact Air Quality Monitoring Results

Summary of 24-hr TSP Monitoring Results

Monitoring Station : TKO-A1
Location : Site Egress

| Start 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 | |
| 03/10/12 | 12:00 | 04/10/12 | 12:00 | 18682.33 | 18706.33 | 24.00 | 1.0295 | 1.0295 | 1.0295 | 2.7106 | 2.8830 | 116 |
| 09/10/12 | 09:00 | 10/10/12 | 09:00 | 18708.33 | 18732.33 | 24.00 | 1.0295 | 1.0295 | 1.0295 | 2.7843 | 2.9537 | 114 |
| 15/10/12 | 16:30 | 16/10/12 | 16:30 | 18736.33 | 18760.33 | 24.00 | 1.0295 | 1.0295 | 1.0295 | 2.6704 | 2.8405 | 115 |
| 21/10/12 | 09:00 | 22/10/12 | 09:00 | 18762.33 | 18786.33 | 24.00 | 1.0295 | 1.0295 | 1.0295 | 2.7510 | 2.9176 | 112 |
| 27/10/12 | 09:00 | 28/10/12 | 09:00 | 18789.33 | 18813.33 | 24.00 | 1.0295 | 1.0295 | 1.0295 | 2.7341 | 2.8886 | 104 |

Monitoring Station : TKO-A2a
Location : new CREO

| Start 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 | |
| 03/10/12 | 12:00 | 04/10/12 | 12:00 | 17875.44 | 17899.44 | 24.00 | 1.2115 | 1.2115 | 1.2115 | 2.7112 | 2.8910 | 103 |
| 09/10/12 | 09:00 | 10/10/12 | 09:00 | 17901.44 | 17925.44 | 24.00 | 1.2115 | 1.2115 | 1.2115 | 2.7806 | 2.9518 | 98 |
| 15/10/12 | 16:45 | 16/10/12 | 16:45 | 17929.44 | 17953.44 | 24.00 | 1.2115 | 1.2115 | 1.2115 | 2.6883 | 2.8660 | 102 |
| 21/10/12 | 09:00 | 22/10/12 | 09:00 | 17955.44 | 17979.44 | 24.00 | 1.2115 | 1.2115 | 1.2115 | 2.7581 | 2.9298 | 98 |
| 27/10/12 | 09:00 | 28/10/12 | 09:00 | 17982.44 | 18006.44 | 24.00 | 1.2115 | 1.2115 | 1.2115 | 2.7334 | 2.8948 | 93 |

Summary of 1-hr TSP Monitoring Results

Monitoring Station : TKO-A1
Location : Site Egress

| Date | Time | | Elapsed 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 | |
| 03/10/12 | 10:15 | 11:15 | 18681.33 | 18682.33 | 1.00 | 1.0295 | 1.0295 | 1.0295 | 2.7116 | 2.7254 | 223 |
| 05/10/12 | 13:00 | 14:00 | 18706.33 | 18707.33 | 1.00 | 1.0295 | 1.0295 | 1.0295 | 2.7917 | 2.8049 | 214 |
| 08/10/12 | 10:00 | 11:00 | 18707.33 | 18708.33 | 1.00 | 1.0295 | 1.0295 | 1.0295 | 2.7802 | 2.7954 | 246 |
| 10/10/12 | 11:00 | 12:00 | 18732.33 | 18733.33 | 1.00 | 1.0295 | 1.0295 | 1.0295 | 2.7684 | 2.7861 | 287 |
| 12/10/12 | 11:00 | 12:00 | 18733.33 | 18734.33 | 1.00 | 1.0295 | 1.0295 | 1.0295 | 2.7512 | 2.7680 | 272 |
| 12/10/12 | 13:00 | 14:00 | 18734.33 | 18735.33 | 1.00 | 1.0295 | 1.0295 | 1.0295 | 2.7304 | 2.7479 | 283 |
| 15/10/12 | 15:00 | 16:00 | 18735.33 | 18736.33 | 1.00 | 1.0295 | 1.0295 | 1.0295 | 2.6834 | 2.6974 | 227 |
| 17/10/12 | 09:40 | 10:40 | 18760.33 | 18761.33 | 1.00 | 1.0295 | 1.0295 | 1.0295 | 2.7321 | 2.7482 | 261 |
| 19/10/12 | 16:00 | 17:00 | 18761.33 | 18762.33 | 1.00 | 1.0295 | 1.0295 | 1.0295 | 2.7731 | 2.7867 | 220 |
| 22/10/12 | 16:20 | 17:20 | 18786.33 | 18787.33 | 1.00 | 1.0295 | 1.0295 | 1.0295 | 2.7474 | 2.7607 | 215 |
| 26/10/12 | 09:00 | 10:00 | 18787.33 | 18788.33 | 1.00 | 1.0295 | 1.0295 | 1.0295 | 2.7345 | 2.7466 | 196 |
| 26/10/12 | 10:15 | 11:15 | 18788.33 | 18789.33 | 1.00 | 1.0295 | 1.0295 | 1.0295 | 2.7306 | 2.7436 | 210 |
| 29/10/12 | 11:00 | 12:00 | 18813.33 | 18814.33 | 1.00 | 1.0295 | 1.0295 | 1.0295 | 2.7512 | 2.7656 | 233 |
| 29/10/12 | 13:00 | 14:00 | 18814.33 | 18815.33 | 1.00 | 1.0295 | 1.0295 | 1.0295 | 2.7392 | 2.7531 | 225 |
| 31/10/12 | 17:00 | 18:00 | 18815.33 | 18816.33 | 1.00 | 1.0295 | 1.0295 | 1.0295 | 2.7411 | 2.7547 | 220 |

Monitoring Station : TKO-A2a
Location : New CREO

| Date | Time | | Elapsed 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 | |
| 03/10/12 | 10:20 | 11:20 | 17874.44 | 17875.44 | 1.00 | 1.2115 | 1.2115 | 1.2115 | 2.7135 | 2.7279 | 198 |
| 05/10/12 | 13:10 | 14:10 | 17899.44 | 17900.44 | 1.00 | 1.2115 | 1.2115 | 1.2115 | 2.7926 | 2.8075 | 205 |
| 08/10/12 | 10:10 | 11:10 | 17900.44 | 17901.44 | 1.00 | 1.2115 | 1.2115 | 1.2115 | 2.7788 | 2.7954 | 228 |
| 10/10/12 | 11:00 | 12:00 | 17925.44 | 17926.44 | 1.00 | 1.2115 | 1.2115 | 1.2115 | 2.7720 | 2.7910 | 261 |
| 12/10/12 | 10:55 | 11:55 | 17926.44 | 17927.44 | 1.00 | 1.2115 | 1.2115 | 1.2115 | 2.7396 | 2.7566 | 234 |
| 12/10/12 | 13:05 | 14:05 | 17927.44 | 17928.44 | 1.00 | 1.2115 | 1.2115 | 1.2115 | 2.7414 | 2.7577 | 224 |
| 15/10/12 | 15:15 | 16:15 | 17928.44 | 17929.44 | 1.00 | 1.2115 | 1.2115 | 1.2115 | 2.6822 | 2.6970 | 204 |
| 17/10/12 | 09:45 | 10:45 | 17953.44 | 17954.44 | 1.00 | 1.2115 | 1.2115 | 1.2115 | 2.7692 | 2.7859 | 230 |
| 19/10/12 | 16:15 | 17:15 | 17954.44 | 17955.44 | 1.00 | 1.2115 | 1.2115 | 1.2115 | 2.7542 | 2.7687 | 199 |
| 22/10/12 | 16:35 | 17:35 | 17979.44 | 17980.44 | 1.00 | 1.2115 | 1.2115 | 1.2115 | 2.7516 | 2.7657 | 194 |
| 26/10/12 | 09:00 | 10:00 | 17980.44 | 17981.44 | 1.00 | 1.2115 | 1.2115 | 1.2115 | 2.7406 | 2.7535 | 177 |
| 26/10/12 | 10:20 | 11:20 | 17981.44 | 17982.44 | 1.00 | 1.2115 | 1.2115 | 1.2115 | 2.7294 | 2.7432 | 190 |
| 29/10/12 | 10:55 | 11:55 | 18006.44 | 18007.44 | 1.00 | 1.2115 | 1.2115 | 1.2115 | 2.7394 | 2.7544 | 206 |
| 29/10/12 | 13:00 | 14:00 | 18007.44 | 18008.44 | 1.00 | 1.2115 | 1.2115 | 1.2115 | 2.7448 | 2.7590 | 195 |
| 31/10/12 | 16:45 | 17:45 | 18008.44 | 18009.44 | 1.00 | 1.2115 | 1.2115 | 1.2115 | 2.7523 | 2.7663 | 193 |

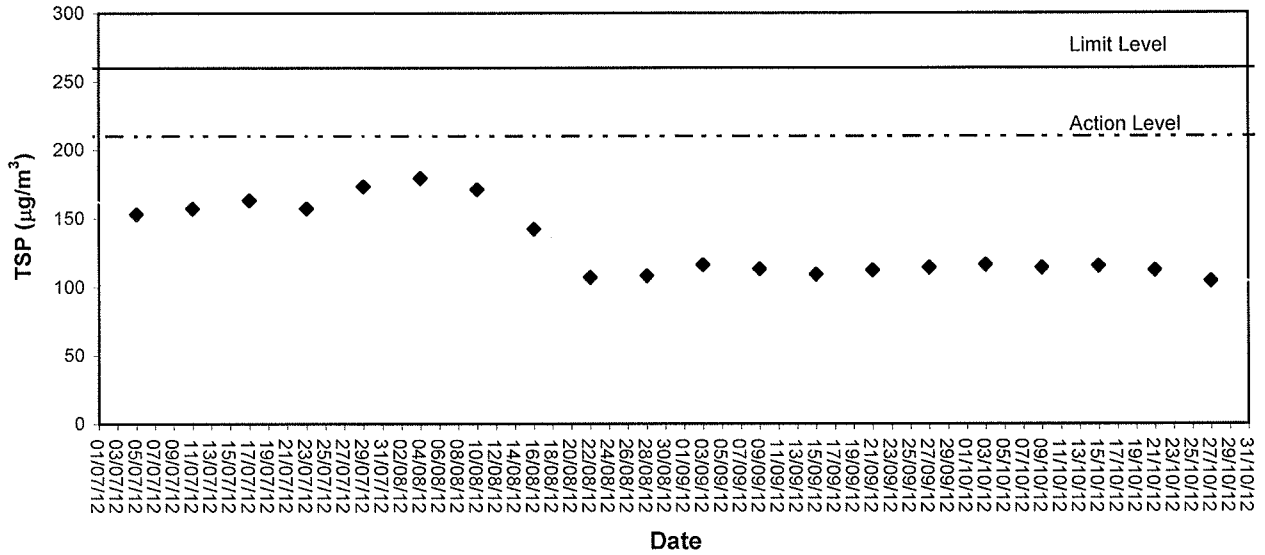


Appendix B3

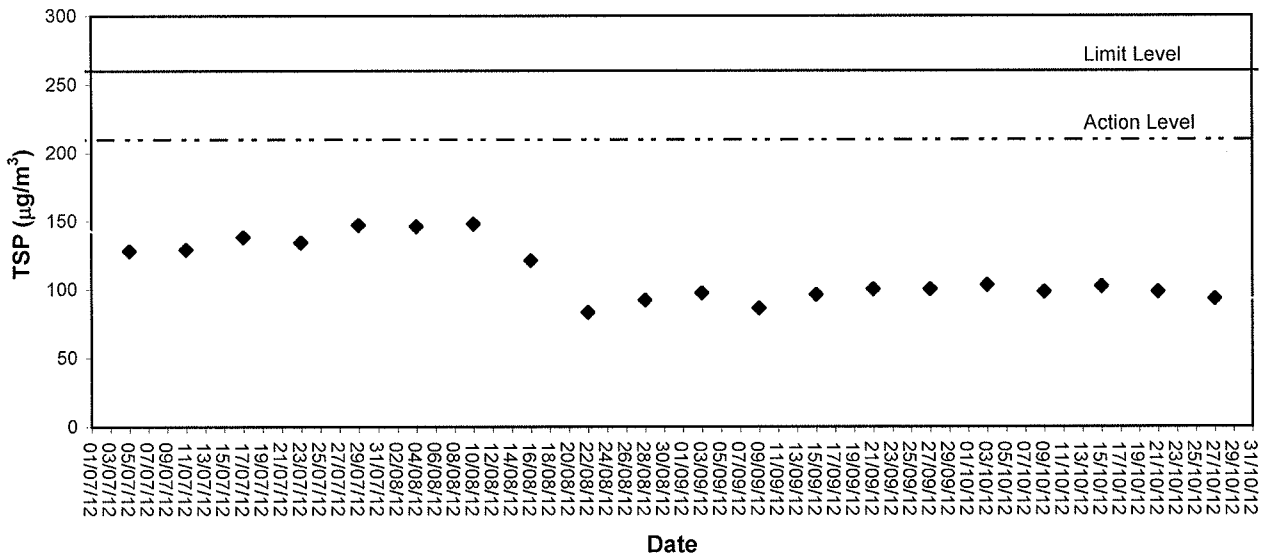
Graphical Plots of Impact Air Quality Monitoring Data



24-hour TSP level at TKO-A1

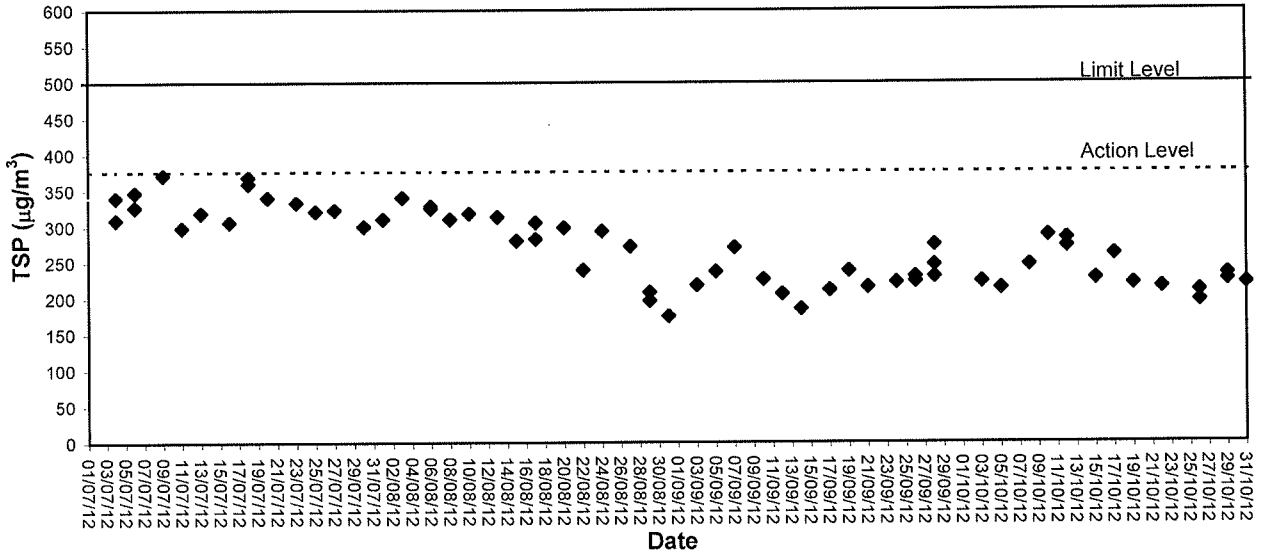


24-hour TSP level at TKO-A2a

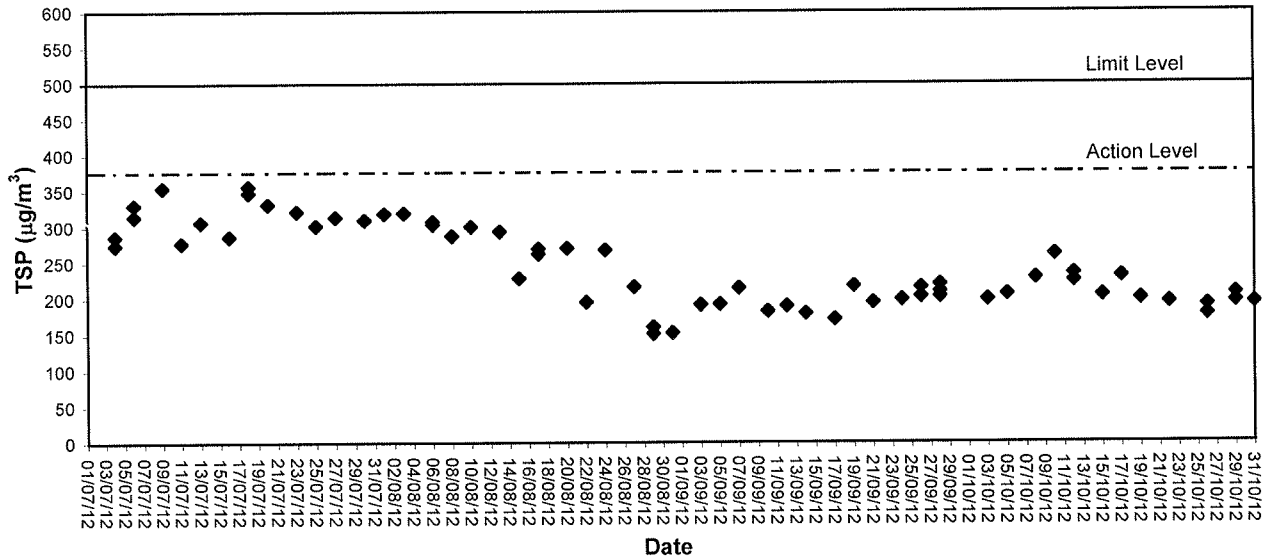




1-hour TSP level at TKO-A1



1-hour TSP level at TKO-A2a





Appendix C1

Calibration Certificates for Impact Noise Monitoring Equipment



Calibration Certificate

Certificate No. **16578**

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. : Q12677

Date of receipt : 2-Nov-11

Item Tested

Description : Sound Level Calibrator

Manufacturer : Rion

Model : NC-73

Serial No. : 10196943

Test Conditions

Date of Test : 7-Nov-11

Supply Voltage : --

Ambient Temperature : (23 ± 3)°C

Relative Humidity : (50 ± 25) %

Test Specifications

Calibration check.

Ref. Document/Procedure : F21, Z02.

Test Results

All results were within the manufacturer's specification.


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

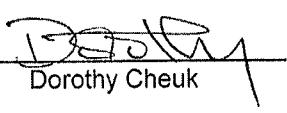
Main Test equipment used:

| <u>Equipment No.</u> | <u>Description</u> | <u>Cert. No.</u> | <u>Traceable to</u> |
|----------------------|------------------------|------------------|---------------------|
| S014 | Spectrum Analyzer | 13535 | NIM-PRC & SCL-HKSAR |
| S024 | Sound Level Calibrator | 15136 | NIM-PRC & SCL-HKSAR |
| S041 | Universal Counter | 15610 | SCL-HKSAR |
| S206 | Sound Level Meter | 04462 | SCL-HKSAR |

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

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

Calibrated by : 
P. F. Wong

Approved by : 
Dorothy Cheuk

Date: 7-Nov-11

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

The copyright of this certificate is owned by Hong Kong Calibration Ltd.. It may not be reproduced except in full.



Calibration Certificate

Certificate No. 16578

Page 2 of 2 Pages

Results :

1. Level Accuracy (at 1 kHz)

| UUT Nominal Value | Measured Value | Mfr's Spec. |
|-------------------|----------------|-------------|
| 94 dB | 94.21 dB | ± 1 dB |

Uncertainty : ± 0.2 dB

2. Frequency Accuracy

| UUT Nominal Value | Measured Value | Mfr's Spec. |
|-------------------|----------------|-------------|
| 1 kHz | 0.989 kHz | ± 2 % |

Uncertainty : ± 0.1 %

3. Level Stability : 0.0 dB

Uncertainty : ± 0.01 dB

4. Total Harmonic Distortion : < 0.4 %

Mfr's Spec. : < 3 %

Uncertainty : ± 2.3 % of reading

Remark : 1. UUT : Unit-Under-Test

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

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

4. Atmospheric Pressure : 1 005 hPa

----- END -----



Calibration Certificate

Certificate No. **22085**

Page 1 of 3 Pages

Customer : ETS-Testconsult Limited

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

Order No. : Q20865

Date of receipt : 11-Apr-12

Item Tested

Description : Precision Integrating Sound Level Meter

Manufacturer : Rion

Model : NL-31

Serial No. : 00110024

Test Conditions

Date of Test : 16-Apr-12

Supply Voltage : --

Ambient Temperature : (23 ± 3)°C

Relative Humidity : (50 ± 25) %

Test Specifications

Calibration check.

Ref. Document/Procedure : Z01.

Test Results

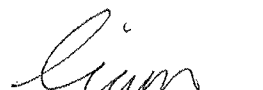
All results were within the IEC 651 Type 1 & IEC 804 Type 1 specification.
The results are shown in the attached page(s).

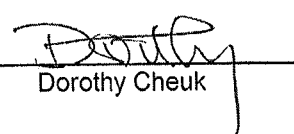
Main Test equipment used:

| <u>Equipment No.</u> | <u>Description</u> | <u>Cert. No.</u> | <u>Traceable to</u> |
|----------------------|--------------------------|------------------|---------------------|
| S017 | Multi-Function Generator | C101623 | SCL-HKSAR |
| S024 | Sound Level Calibrator | 15136 | NIM-PRC & SCL-HKSAR |

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

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

Calibrated by : 
P. F. Wong

Approved by : 
Dorothy Cheuk

Date: 16-Apr-12

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



Calibration Certificate

Certificate No. 22085

Page 2 of 3 Pages

Results :

1. SPL Accuracy

| UUT Setting | | | Applied Value (dB) | UUT Reading (dB) |
|------------------|----------------|----------|--------------------|------------------|
| Level Range (dB) | Weight | Response | | |
| 20 - 100 | L _A | Fast | 94.0 | 94.0 |
| | | Slow | | 94.0 |
| | L _C | Fast | | 94.0 |
| | L _p | Fast | | 94.1 |
| 30 - 120 | L _A | Fast | 94.0 | 94.0 |
| | | Slow | | 94.0 |
| | L _C | Fast | | 94.0 |
| | L _p | Fast | | 94.0 |
| 30 - 120 | L _A | Fast | 114.0 | 114.1 |
| | | Slow | | 114.1 |
| | L _C | Fast | | 114.1 |
| | L _p | Fast | | 114.1 |

IEC 651 Type 1 Spec. : ± 0.7 dB

Uncertainty : ± 0.2 dB

2. Level Stability : 0.1 dB

IEC 651 Type 1 Spec. : ± 0.3 dB

Uncertainty : ± 0.1 dB

3. Linearity

3.1 Level Linearity

| UUT Range (dB) | Applied Value (dB) | UUT Reading (dB) | Variation (dB) | IEC 651 Type 1 Spec. (Primary Indicator Range) |
|----------------|--------------------|------------------|----------------|--|
| 130 | 114.0 | 114.0 | 0.0 | ± 0.7 dB |
| 130 | 104.0 | 104.0 | 0.0 | |
| 120 | 94.0 | 94.0 (Ref.) | -- | |
| 110 | 84.0 | 84.1 | +0.1 | |
| 100 | 74.0 | 74.1 | +0.1 | |
| 90 | 64.0 | 64.1 | +0.1 | |
| 80 | 54.0 | 54.1 | +0.1 | |

Uncertainty : ± 0.1 dB



Calibration Certificate

Certificate No. **22085**

Page 3 of 3 Pages

3.2 Differential level linearity

| UUT Range (dB) | Applied Value (dB) | UUT Reading (dB) | Variation (dB) | IEC 651 Type 1 Spec. |
|----------------|--------------------|------------------|----------------|----------------------|
| 120 | 84.0 | 84.1 | +0.1 | ± 0.4 dB |
| | 94.0 | 94.0 (Ref.) | -- | |
| | 95.0 | 95.0 | 0.0 | ± 0.2 dB |

Uncertainty : ± 0.1 dB

4. Frequency Weighting

A weighting

| Frequency | Attenuation (dB) | IEC 651 Type 1 Spec. |
|-----------|------------------|-----------------------------|
| 31.5 Hz | -39.6 | - 39.4 dB, ± 1.5 dB |
| 63 Hz | -26.0 | - 26.2 dB, ± 1.5 dB |
| 125 Hz | -16.1 | - 16.1 dB, ± 1 dB |
| 250 Hz | -8.6 | - 8.6 dB, ± 1 dB |
| 500 Hz | -3.1 | - 3.2 dB, ± 1 dB |
| 1 kHz | 0.0 (Ref.) | 0 dB, ± 1 dB |
| 2 kHz | +1.4 | + 1.2 dB, ± 1 dB |
| 4 kHz | +1.2 | + 1.0 dB, ± 1 dB |
| 8 kHz | -1.0 | - 1.1 dB, + 1.5 dB ~ - 3 dB |
| 16 kHz | -6.6 | - 6.6 dB, + 3 dB ~ ∞ |

Uncertainty : ± 0.1 dB

5. Time Averaging

| Applied Burst duty Factor | Applied Leq Value (dB) | UUT Reading (dB) | IEC 804 Type 1 Spec. |
|---------------------------|------------------------|------------------|----------------------|
| continuous | 40.0 | 40.0 | -- |
| 1/10 | 40.0 | 39.9 | ± 0.5 dB |
| 1/10 ² | 40.0 | 39.9 | |
| 1/10 ³ | 40.0 | 40.0 | ± 1.0 dB |
| 1/10 ⁴ | 40.0 | 40.3 | |

Uncertainty : ± 0.1 dB

Remark : 1. UUT : Unit-Under-Test

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

3. Atmospheric Pressure : 1 005 hPa.

----- END -----



Appendix C2

Impact Noise Monitoring Results



Day-time Noise Monitoring

Monitoring Location: TKO-N1 (Site Egress)

| Date | Start Sampling Time (hh:mm) | Noise Level dB (A) | | | Wind Speed (m/s) | Weather Condition |
|----------|--------------------------------|-------------------------|-----------------|-----------------|------------------------|----------------------|
| | | L _{eq} (30min) | L ₁₀ | L ₉₀ | | |
| 03/10/12 | 10:00 | 67.2 | 69.5 | 62.2 | 0.7 | Fine |

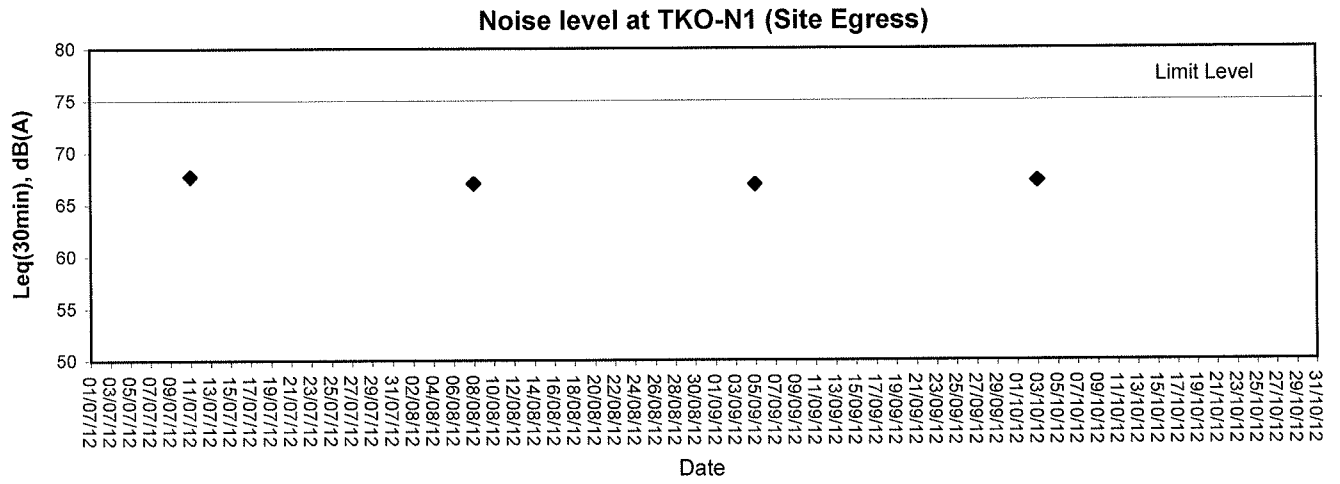


Appendix C3

Graphical Plots of Impact Noise Monitoring Data



Noise Monitoring (Day-time)





Appendix D1

Calibration Certificates for Impact Marine Water Quality Monitoring Equipments



Performance Check of Turbidimeter

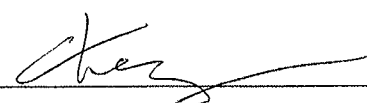
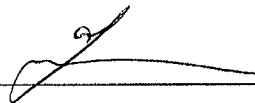
Equipment Ref. No. : ET/0505/008 Manufacturer : HACH
Model No. : 2100Q Serial No. : 10030 C 001191
Date of Calibration : 02/08/2012 Due Date : 01/11/2012

| Gelex Vial Std | Theoretical Value (NTU) | Measured Value (NTU) | Difference % |
|----------------|-------------------------|----------------------|--------------|
| 0-10 NTU | 5.70 | 5.62 | 1.41 |
| 10-100 NTU | 52.1 | 52.7 | 1.15 |
| 100-1000 NTU | 547 | 539 | 1.47 |

Acceptance Criteria

Difference : <5 %

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

Checked by :  Approved by : 



Internal Calibration Report of Dissolved Oxygen Meter

| | |
|---|--|
| Equipment Ref. No. : <u>ET/EW/008/004</u> | Manufacturer : <u>YSI</u> |
| Model No. : <u>Pro 2030</u> | Serial No. : <u>10F 101978</u> |
| Date of Calibration : <u>13/08/2012</u> | Calibration Due Date : <u>12/11/2012</u> |

Temperature Verification

Ref. No. of Reference Thermometer : ET/0521/001
 Ref. No. of Water Bath : ---

| Temperature (°C) | | | | |
|-------------------------------|----------|------|------------|------|
| Reference Thermometer reading | Measured | 20.3 | Corrected | 19.9 |
| DO Meter reading | Measured | 19.9 | Difference | 0.0 |

Standardization of sodium thiosulphate (Na₂S₂O₃) solution

| | | | |
|---|-------------------|---|-------------------|
| Reagent No. of Na ₂ S ₂ O ₃ titrant | CPE/012/4.5/001/5 | Reagent No. of 0.025N K ₂ Cr ₂ O ₇ | CPE/012/4.4/001/9 |
| | | Trial 1 | Trial 2 |
| Initial Vol. of Na ₂ S ₂ O ₃ (ml) | | 0.00 | 0.00 |
| Final Vol. of Na ₂ S ₂ O ₃ (ml) | | 40.10 | 39.90 |
| Vol. of Na ₂ S ₂ O ₃ used (ml) | | 40.10 | 39.90 |
| Normality of Na ₂ S ₂ O ₃ solution (N) | | 0.02494 | 0.02506 |
| Average Normality (N) of Na ₂ S ₂ O ₃ solution (N) | | 0.02500 | |
| Acceptance criteria, Deviation | | Less than ± 0.001N | |

Calculation: Normality of Na₂S₂O₃, N = 1 / 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 | 10.70 | 21.20 | 0.00 | 7.80 | 12.60 |
| Final Vol. of Na ₂ S ₂ O ₃ (ml) | 10.70 | 21.20 | 29.10 | 7.80 | 12.60 | 17.40 |
| Vol. (V) of Na ₂ S ₂ O ₃ used (ml) | 10.70 | 10.50 | 7.90 | 7.80 | 4.80 | 4.80 |
| Dissolved Oxygen (DO), mg/L | 7.18 | 7.05 | 5.30 | 5.23 | 3.22 | 3.22 |
| 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 | 7.21 | 7.16 | 7.19 | 7.18 | 7.05 | 7.12 | 0.98 |
| 5 | 5.35 | 5.28 | 5.32 | 5.30 | 5.23 | 5.27 | 0.94 |
| 10 | 3.17 | 3.21 | 3.19 | 3.22 | 3.22 | 3.22 | 0.94 |
| Linear regression coefficient | | | | 0.99880 | | | |



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/012/4.7/001/27 | Reagent No. of NaCl (30ppt) | CPE/012/4.8/001/27 |
|-----------------------------|--------------------|-----------------------------|--------------------|

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 | 11.60 | 23.40 | 34.10 |
| Final Vol. of Na ₂ S ₂ O ₃ (ml) | 11.60 | 23.40 | 34.10 | 44.60 |
| Vol. (V) of Na ₂ S ₂ O ₃ used (ml) | 11.60 | 11.80 | 10.70 | 10.50 |
| Dissolved Oxygen (DO), mg/L | 7.79 | 7.92 | 7.18 | 7.05 |
| Acceptance criteria, Deviation | Less than + 0.3mg/L | | Less than + 0.3mg/L | |

Calculation: $DO (mg/L) = V \times N \times 8000/298$

| Salinity (ppt) | DO meter reading, mg/L | | | Winkler Titration result**, mg/L | | | Difference (%) of DO Content |
|----------------|------------------------|------|---------|----------------------------------|------|---------|------------------------------|
| | 1 | 2 | Average | 1 | 2 | Average | |
| 10 | 7.8 | 7.84 | 7.82 | 7.79 | 7.92 | 7.86 | 0.51 |
| 30 | 7.24 | 7.2 | 7.22 | 7.18 | 7.05 | 7.12 | 1.39 |

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/008/004 Manufacturer : YSI
Model No. : Pro 2030 Serial No. : 10F 101978
Date of Calibration : 13/08/2012 Due Date : 12/11/2012

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

S/001/4

| Salinity Standard (ppt) | Measured Salinity (ppt) | Difference % |
|-------------------------|-------------------------|--------------|
| 30.1 | 30.4 | 0.99 |

Acceptance Criteria

Difference : <10 %

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

Checked by :

Approved by :

Appendix D2

Impact Marine Water Quality Monitoring Results

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) | | |
|----------|-------------------|---------------------------------------|----------------------|--------|-----------|----------------|---------|-------------------------|---------|-------|---------------------------------|-------|---------|-----------------|---------|-------|-------------------------|-------|---------|
| | | | Surface | Bottom | | Value | Average | Value | Average | Value | Average | Value | Average | Value | Average | Value | Average | Value | Average |
| 03/10/12 | 1800-1818 | 29/Fine | Surface | 1.0 | 27.6 | 27.8 | 27.8 | 5.91 | 5.89 | 87.1 | 86.8 | 2.03 | 2.05 | 2.8 | 2.9 | 3.0 | 2.34 | 3.3 | 3.3 |
| | | | | | | 27.7 | 5.87 | 86.5 | 2.07 | 3.4 | | | | | | | | | |
| | | | Middle | 10.5 | 27.4 | 27.9 | 27.9 | 5.77 | 5.75 | 84.9 | 84.7 | 2.37 | 2.35 | 3.4 | 3.3 | | | | |
| | | | | | | 27.9 | 5.73 | 84.4 | 2.32 | | | | | | | | | | |
| | | | Bottom | 20.0 | 27.3 | 28.1 | 28.2 | 5.58 | 5.60 | 82.1 | 82.4 | 2.59 | 2.62 | 3.6 | 3.7 | | | | |
| | | | | | | 28.2 | 5.61 | 82.6 | 2.64 | | | | | | | | | | |
| 05/10/12 | 0830-0849 | 26/Fine | Surface | 1.0 | 27.5 | 27.6 | 27.6 | 6.01 | 6.00 | 88.5 | 88.2 | 2.11 | 2.09 | 3.2 | 3.0 | 2.8 | 2.38 | 3.3 | 3.3 |
| | | | | | | 27.6 | 5.98 | 87.9 | 2.06 | | | | | | | | | | |
| | | | Middle | 10.6 | 27.3 | 27.8 | 27.8 | 5.84 | 5.86 | 85.8 | 86.1 | 2.38 | 2.41 | 3.2 | 3.3 | | | | |
| | | | | | | 27.8 | 5.88 | 86.4 | 2.43 | | | | | | | | | | |
| | | | Bottom | 20.2 | 27.1 | 28.1 | 28.1 | 5.62 | 5.64 | 82.6 | 82.9 | 2.62 | 2.64 | 3.8 | 3.7 | | | | |
| | | | | | | 28.0 | 5.66 | 83.2 | 2.66 | | | | | | | | | | |
| 08/10/12 | 1700-1717 | 27/Fine | Surface | 1.0 | 27.4 | 26.6 | 26.6 | 5.67 | 5.65 | 83.0 | 82.7 | 2.70 | 2.69 | 4.0 | 3.8 | 4.0 | 2.86 | 3.9 | 3.9 |
| | | | | | | 26.6 | 5.63 | 82.4 | 2.67 | | | | | | | | | | |
| | | | Middle | 10.7 | 27.2 | 26.8 | 26.8 | 5.58 | 5.60 | 81.8 | 82.1 | 2.92 | 2.90 | 4.0 | 3.9 | | | | |
| | | | | | | 26.8 | 5.62 | 82.4 | 2.88 | | | | | | | | | | |
| | | | Bottom | 20.4 | 27.1 | 27.1 | 27.1 | 5.52 | 5.54 | 80.9 | 81.1 | 3.01 | 2.99 | 4.0 | 4.0 | | | | |
| | | | | | | 27.1 | 5.55 | 81.3 | 2.97 | | | | | | | | | | |
| 10/10/12 | 1430-1447 | 28/Fine | Surface | 1.0 | 27.5 | 26.8 | 26.9 | 5.96 | 5.98 | 87.2 | 87.4 | 2.85 | 2.87 | 3.6 | 3.7 | 3.8 | 2.99 | 4.0 | 4.0 |
| | | | | | | 26.9 | 5.99 | 87.6 | 2.89 | | | | | | | | | | |
| | | | Middle | 10.5 | 27.3 | 27.0 | 27.0 | 5.90 | 5.88 | 86.3 | 86.1 | 2.95 | 2.97 | 4.0 | 4.0 | | | | |
| | | | | | | 27.0 | 5.86 | 85.8 | 2.98 | | | | | | | | | | |
| | | | Bottom | 20.0 | 27.1 | 27.2 | 27.2 | 5.71 | 5.73 | 83.5 | 83.8 | 3.10 | 3.13 | 4.2 | 4.2 | | | | |
| | | | | | | 27.1 | 5.74 | 84.1 | 3.16 | | | | | | | | | | |
| 12/10/12 | 1530-1547 | 28/Fine | Surface | 1.0 | 27.5 | 26.7 | 26.7 | 5.89 | 5.88 | 86.6 | 86.4 | 1.96 | 2.00 | 2.8 | 2.9 | 3.0 | 2.30 | 3.3 | 3.3 |
| | | | | | | 26.7 | 5.86 | 86.1 | 2.03 | | | | | | | | | | |
| | | | Middle | 10.6 | 27.4 | 26.8 | 26.8 | 5.71 | 5.73 | 83.9 | 84.2 | 2.31 | 2.33 | 3.4 | 3.5 | | | | |
| | | | | | | 26.8 | 5.74 | 84.4 | 2.34 | | | | | | | | | | |
| | | | Bottom | 20.1 | 27.3 | 26.9 | 26.9 | 5.51 | 5.50 | 81.0 | 80.8 | 2.66 | 2.59 | 3.8 | 3.6 | | | | |
| | | | | | | 26.9 | 5.48 | 80.6 | 2.51 | | | | | | | | | | |
| 15/10/12 | 1700-1719 | 28/Fine | Surface | 1.0 | 27.5 | 26.3 | 26.3 | 5.93 | 5.95 | 86.9 | 87.2 | 2.72 | 2.75 | 3.6 | 3.5 | 3.4 | 2.86 | 3.8 | 3.8 |
| | | | | | | 26.3 | 5.97 | 87.5 | 2.77 | | | | | | | | | | |
| | | | Middle | 10.7 | 27.2 | 26.5 | 26.6 | 5.76 | 5.78 | 84.4 | 84.7 | 2.80 | 2.82 | 4.0 | 3.9 | | | | |
| | | | | | | 26.6 | 5.80 | 85.0 | 2.84 | | | | | | | | | | |
| | | | Bottom | 20.4 | 27.1 | 26.8 | 26.8 | 5.62 | 5.64 | 82.3 | 82.6 | 3.01 | 3.03 | 3.8 | 3.9 | | | | |
| | | | | | | 26.8 | 5.65 | 82.8 | 3.04 | | | | | | | | | | |
| 17/10/12 | 1800-1815 | 27/Cloudy | Surface | 1.0 | 27.1 | 26.7 | 26.7 | 5.80 | 5.82 | 84.7 | 85.0 | 2.26 | 2.29 | 3.2 | 3.3 | 3.4 | 2.46 | 3.5 | 3.5 |
| | | | | | | 26.7 | 5.84 | 85.3 | 2.31 | | | | | | | | | | |
| | | | Middle | 10.5 | 27.1 | 26.6 | 26.7 | 5.59 | 5.63 | 81.7 | 82.2 | 2.40 | 2.44 | 3.6 | 3.5 | | | | |
| | | | | | | 26.7 | 5.66 | 82.7 | 2.47 | | | | | | | | | | |
| | | | Bottom | 20.0 | 27.0 | 26.8 | 26.8 | 5.31 | 5.33 | 77.6 | 77.9 | 2.63 | 2.66 | 3.8 | 3.7 | | | | |
| | | | | | | 26.8 | 5.34 | 78.1 | 2.68 | | | | | | | | | | |

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) | | |
|----------|-------------------|---------------------------------------|----------------------|--------|-----------|----------------|---------|-------------------------|---------|-------|---------------------------------|-------|---------|-----------------|---------|-------|-------------------------|-------|---------|
| | | | Surface | Middle | | Value | Average | Value | Average | Value | Average | Value | Average | Value | Average | Value | Average | Value | Average |
| 19/10/12 | 0830-0845 | 25/Fine | Surface | 1.0 | 26.8 | 26.4 | 26.4 | 5.54 | 5.54 | 80.1 | 80.0 | 4.25 | 4.23 | 5.2 | 5.1 | 5.0 | | | |
| | | | Middle | 8.3 | 26.8 | 26.5 | 26.5 | 5.53 | 5.50 | 79.9 | 79.4 | 4.21 | 4.15 | 5.0 | 5.2 | | | | |
| | | | Bottom | 15.6 | 26.7 | 26.5 | 26.6 | 5.50 | 5.49 | 79.5 | 79.0 | 4.16 | 4.02 | 5.2 | 4.8 | | | | |
| 22/10/12 | 1200-1217 | 28/Fine | Surface | 1.0 | 26.8 | 26.5 | 26.5 | 5.47 | 5.47 | 86.2 | 86.0 | 3.88 | 3.91 | 4.8 | 4.9 | 5.0 | | | |
| | | | Middle | 10.2 | 26.6 | 26.8 | 26.8 | 5.87 | 5.83 | 85.7 | 83.1 | 3.93 | 4.05 | 5.0 | 4.9 | | | | |
| | | | Bottom | 19.4 | 26.4 | 27.0 | 27.0 | 5.64 | 5.67 | 82.9 | 81.4 | 4.03 | 4.14 | 5.0 | 5.1 | | | | |
| 24/10/12 | 1400-1417 | 28/Fine | Surface | 1.0 | 26.8 | 26.3 | 26.4 | 5.52 | 5.55 | 81.6 | 85.1 | 3.70 | 3.73 | 4.8 | 4.8 | 4.9 | | | |
| | | | Middle | 10.2 | 26.5 | 26.6 | 26.6 | 5.83 | 5.72 | 84.9 | 83.6 | 3.75 | 3.89 | 4.8 | 4.9 | | | | |
| | | | Bottom | 19.4 | 26.3 | 26.9 | 26.9 | 5.86 | 5.76 | 83.3 | 81.7 | 3.87 | 4.01 | 5.0 | 5.1 | | | | |
| 26/10/12 | 1530-1545 | 26/Cloudy | Surface | 1.0 | 26.7 | 26.5 | 26.6 | 5.62 | 5.61 | 81.1 | 81.4 | 3.94 | 3.95 | 4.8 | 4.9 | 5.1 | | | |
| | | | Middle | 7.9 | 26.6 | 26.6 | 26.7 | 5.60 | 5.58 | 81.2 | 81.0 | 3.96 | 4.12 | 5.0 | 5.2 | | | | |
| | | | Bottom | 14.8 | 26.6 | 26.8 | 26.8 | 5.59 | 5.59 | 80.9 | 79.7 | 4.11 | 4.20 | 5.2 | 5.1 | | | | |
| 29/10/12 | 1630-1647 | 27/Cloudy | Surface | 1.0 | 26.6 | 26.7 | 26.8 | 5.48 | 5.49 | 79.8 | 81.3 | 4.19 | 3.89 | 4.8 | 4.9 | 5.0 | | | |
| | | | Middle | 7.6 | 26.4 | 26.8 | 26.8 | 5.52 | 5.51 | 81.0 | 80.9 | 3.86 | 3.94 | 5.0 | 4.9 | | | | |
| | | | Bottom | 14.2 | 26.3 | 26.9 | 26.9 | 5.51 | 5.41 | 80.9 | 79.7 | 3.91 | 4.10 | 5.0 | 5.1 | | | | |
| 31/10/12 | 1730-1745 | 24/Cloudy | Surface | 1.0 | 26.3 | 26.4 | 26.4 | 5.42 | 5.68 | 79.7 | 82.4 | 4.11 | 4.00 | 5.2 | 5.0 | 5.1 | | | |
| | | | Middle | 7.6 | 26.2 | 26.5 | 26.5 | 5.70 | 5.66 | 82.6 | 81.0 | 4.02 | 4.08 | 5.0 | 5.1 | | | | |
| | | | Bottom | 14.2 | 26.1 | 26.7 | 26.8 | 5.66 | 5.57 | 82.1 | 79.8 | 3.98 | 4.12 | 5.2 | 5.1 | | | | |

Mid-Flood Tide

Monitoring Station : TKO-M4

| Date | Sampling Duration | Ambient Temp (°C) / Weather Condition | Monitoring Depth (m) | | Temp (°C) | Salinity (ppt) | | Dissolved Oxygen (mg/L) | | | Dissolved Oxygen Saturation (%) | | | Turbidity (NTU) | | | Suspended Solids (mg/L) | | |
|----------|-------------------|---------------------------------------|----------------------|--------|-----------|----------------|---------|-------------------------|---------|-------|---------------------------------|-------|---------|-----------------|---------|-------|-------------------------|-------|---------|
| | | | Surface | Bottom | | Value | Average | Value | Average | Value | Average | Value | Average | Value | Average | Value | Average | Value | Average |
| 03/10/12 | 1943-2000 | 29/Fine | Surface | 1.0 | 27.7 | 27.8 | 27.8 | 5.99 | 6.01 | 88.2 | 88.5 | 1.80 | 1.84 | 2.8 | 2.9 | 3.1 | | | |
| | | | Middle | 4.9 | 27.6 | 27.7 | 27.7 | 5.90 | 5.89 | 88.7 | 86.6 | 1.87 | 1.97 | 3.0 | 3.1 | | | | |
| | | | Bottom | 8.8 | 27.5 | 27.7 | 27.7 | 5.88 | 5.72 | 86.2 | 84.3 | 1.95 | 2.24 | 3.0 | 3.3 | | | | |
| 05/10/12 | 1005-1018 | 26/Fine | Surface | 1.0 | 27.6 | 27.7 | 27.8 | 5.74 | 6.03 | 84.0 | 88.6 | 2.28 | 1.88 | 2.8 | 2.4 | 2.9 | | | |
| | | | Middle | 4.8 | 27.5 | 27.8 | 27.8 | 6.04 | 5.95 | 88.8 | 87.4 | 1.85 | 2.01 | 2.0 | 3.1 | | | | |
| | | | Bottom | 8.6 | 27.4 | 27.9 | 28.0 | 5.93 | 5.81 | 87.2 | 85.4 | 1.91 | 2.19 | 3.0 | 3.1 | | | | |
| 08/10/12 | 1832-1847 | 27/Fine | Surface | 1.0 | 27.4 | 26.7 | 26.7 | 5.79 | 5.67 | 85.1 | 83.1 | 2.17 | 2.33 | 3.2 | 3.1 | 3.4 | | | |
| | | | Middle | 4.6 | 27.3 | 26.8 | 26.8 | 5.83 | 5.62 | 85.7 | 82.2 | 2.36 | 2.40 | 3.0 | 3.5 | | | | |
| | | | Bottom | 8.2 | 27.2 | 26.9 | 27.0 | 5.65 | 5.55 | 82.8 | 81.3 | 2.30 | 2.57 | 3.4 | 3.7 | | | | |
| 10/10/12 | 1606-1621 | 28/Fine | Surface | 1.0 | 27.6 | 26.8 | 26.7 | 5.57 | 6.04 | 81.0 | 88.3 | 2.60 | 2.65 | 3.6 | 3.7 | 3.8 | | | |
| | | | Middle | 4.8 | 27.5 | 26.9 | 26.9 | 6.02 | 5.91 | 88.0 | 86.5 | 2.63 | 2.76 | 3.8 | 3.7 | | | | |
| | | | Bottom | 8.6 | 27.4 | 26.9 | 26.9 | 5.89 | 5.84 | 86.2 | 85.5 | 2.73 | 2.84 | 3.6 | 3.9 | | | | |
| 12/10/12 | 1716-1730 | 28/Fine | Surface | 1.0 | 27.5 | 26.6 | 26.7 | 5.93 | 5.89 | 85.7 | 86.6 | 2.85 | 1.88 | 3.0 | 2.8 | 2.9 | | | |
| | | | Middle | 5.0 | 27.4 | 26.8 | 26.8 | 5.86 | 5.76 | 87.0 | 84.6 | 1.91 | 1.95 | 2.6 | 2.7 | | | | |
| | | | Bottom | 8.9 | 27.3 | 26.9 | 26.9 | 5.77 | 5.61 | 84.8 | 82.4 | 1.84 | 2.29 | 2.8 | 3.3 | | | | |
| 15/10/12 | 1844-1859 | 28/Fine | Surface | 1.0 | 27.4 | 26.4 | 26.4 | 5.74 | 5.93 | 82.6 | 86.9 | 2.31 | 2.84 | 3.0 | 3.7 | 3.9 | | | |
| | | | Middle | 4.9 | 27.3 | 26.5 | 26.5 | 5.90 | 5.73 | 86.4 | 83.9 | 2.82 | 2.93 | 2.6 | 3.9 | | | | |
| | | | Bottom | 8.8 | 27.2 | 26.7 | 26.7 | 5.96 | 5.64 | 87.3 | 82.6 | 2.86 | 3.04 | 3.8 | 4.1 | | | | |
| 17/10/12 | 1937-1953 | 27/Cloudy | Surface | 1.0 | 27.0 | 26.8 | 26.8 | 5.61 | 5.92 | 82.9 | 86.5 | 3.06 | 2.08 | 2.8 | 3.0 | 3.2 | | | |
| | | | Middle | 5.0 | 27.0 | 26.8 | 26.8 | 5.90 | 5.86 | 86.3 | 85.6 | 2.06 | 2.16 | 3.2 | 3.2 | | | | |
| | | | Bottom | 9.0 | 26.9 | 26.8 | 26.8 | 5.93 | 5.60 | 85.9 | 81.8 | 2.13 | 2.41 | 3.2 | 3.5 | | | | |

Mid-Flood Tide

Monitoring Station : TKO-M4



東業德動測試驗有限公司
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 | Value | Average | Value | Average | Value | Average | Depth-average | Value |
| 19/10/12 | 0958-1013 | 25/Fine | Surface | 26.5 | 26.7 | 5.58 | 5.60 | 80.6 | 81.0 | 4.20 | 4.22 | 5.2 | 5.3 | 5.1 | | |
| | | | Middle | 26.5 | 26.8 | 5.62 | 5.70 | 82.2 | 82.4 | 4.15 | 4.17 | 5.2 | 5.1 | | | |
| | | | Bottom | 26.4 | 26.8 | 5.71 | 5.76 | 82.5 | 83.2 | 4.18 | 4.08 | 5.0 | 4.9 | | | |
| 22/10/12 | 1342-1400 | 28/Fine | Surface | 26.8 | 26.5 | 5.73 | 5.90 | 82.8 | 86.7 | 4.06 | 2.97 | 4.0 | 4.0 | 4.8 | | |
| | | | Middle | 26.7 | 26.7 | 5.75 | 5.78 | 84.5 | 84.9 | 3.10 | 3.09 | 5.0 | 5.1 | | | |
| | | | Bottom | 26.6 | 26.9 | 5.66 | 5.63 | 83.2 | 82.8 | 3.15 | 3.15 | 5.2 | 5.3 | | | |
| 24/10/12 | 1539-1600 | 28/Fine | Surface | 26.8 | 26.4 | 5.91 | 5.93 | 86.0 | 86.3 | 3.63 | 3.62 | 4.4 | 4.5 | 4.7 | | |
| | | | Middle | 26.6 | 26.6 | 5.83 | 5.81 | 84.9 | 84.6 | 3.70 | 3.72 | 4.4 | 4.6 | | | |
| | | | Bottom | 26.4 | 26.8 | 5.79 | 5.69 | 83.0 | 82.9 | 3.81 | 3.83 | 4.8 | 4.9 | | | |
| 26/10/12 | 1704-1722 | 26/Cloudy | Surface | 26.6 | 26.7 | 5.58 | 5.56 | 80.9 | 80.6 | 4.03 | 4.05 | 4.6 | 4.7 | 5.0 | | |
| | | | Middle | 26.5 | 26.8 | 5.53 | 5.55 | 80.2 | 80.5 | 4.20 | 4.19 | 5.2 | 5.1 | | | |
| | | | Bottom | 26.4 | 26.8 | 5.50 | 5.52 | 79.8 | 80.0 | 4.12 | 4.11 | 5.0 | 5.1 | | | |
| 29/10/12 | 1758-1816 | 27/Cloudy | Surface | 26.5 | 26.6 | 5.64 | 5.62 | 82.8 | 82.5 | 3.91 | 3.90 | 5.0 | 4.9 | 5.0 | | |
| | | | Middle | 26.4 | 26.7 | 5.60 | 5.59 | 82.4 | 82.2 | 3.99 | 4.01 | 5.0 | 5.0 | | | |
| | | | Bottom | 26.4 | 26.9 | 5.58 | 5.54 | 82.0 | 82.0 | 4.02 | 4.16 | 5.2 | 5.2 | | | |
| 31/10/12 | 1900-1915 | 24/Cloudy | Surface | 26.2 | 26.3 | 5.51 | 5.67 | 81.7 | 81.3 | 4.13 | 4.14 | 5.2 | 5.2 | 5.1 | | |
| | | | Middle | 26.2 | 26.6 | 5.65 | 5.78 | 81.9 | 83.8 | 4.12 | 4.22 | 5.2 | 5.3 | | | |
| | | | Bottom | 26.1 | 26.7 | 5.60 | 5.59 | 80.8 | 81.1 | 4.11 | 4.10 | 5.0 | 4.9 | | | |

| 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 | Value |
| 03/10/12 | 1300-1317 | 29/Fine | Surface | 1.0 | 27.5 | 27.7 | 27.7 | 5.94 | 5.92 | 87.4 | 87.2 | 2.07 | 2.11 | 3.0 | 3.1 | 2.37 | 3.4 | 3.0 | 3.1 | 3.4 |
| | | | Middle | 10.1 | 27.4 | 27.9 | 27.8 | 5.83 | 5.81 | 86.9 | 84.4 | 2.14 | 2.37 | 3.2 | 3.5 | | | | | |
| | | | Bottom | 19.2 | 27.3 | 28.1 | 28.1 | 5.78 | 5.62 | 85.4 | 82.8 | 2.40 | 2.63 | 3.4 | 3.7 | | | | | |
| 05/10/12 | 1620-1637 | 28/Fine | Surface | 1.0 | 27.6 | 27.6 | 27.7 | 5.85 | 5.88 | 86.0 | 86.4 | 2.01 | 2.03 | 2.8 | 2.9 | 2.31 | 3.2 | 3.4 | 3.3 | 3.2 |
| | | | Middle | 10.1 | 27.4 | 27.9 | 27.9 | 5.77 | 5.79 | 84.8 | 85.1 | 2.33 | 2.32 | 3.4 | 4.0 | | | | | |
| | | | Bottom | 19.2 | 27.3 | 28.1 | 28.0 | 5.60 | 5.58 | 82.3 | 82.1 | 2.56 | 2.58 | 3.4 | 3.5 | | | | | |
| 08/10/12 | 0615-1632 | 26/Cloudy | Surface | 1.0 | 27.5 | 26.6 | 26.7 | 5.56 | 5.55 | 81.4 | 81.2 | 2.80 | 2.77 | 3.8 | 3.7 | 2.97 | 4.0 | 4.0 | 4.0 | 4.0 |
| | | | Middle | 10.2 | 27.3 | 26.8 | 26.9 | 5.51 | 5.53 | 80.7 | 80.9 | 2.95 | 2.98 | 4.0 | 4.2 | | | | | |
| | | | Bottom | 19.4 | 27.2 | 27.1 | 27.2 | 5.46 | 5.48 | 80.0 | 80.2 | 3.17 | 3.15 | 4.2 | 4.2 | | | | | |
| 10/10/12 | 0730-0748 | 25/Fine | Surface | 1.0 | 27.3 | 26.7 | 26.8 | 5.82 | 5.85 | 85.1 | 85.5 | 3.02 | 3.00 | 4.0 | 3.9 | 3.11 | 4.1 | 4.2 | 4.2 | 4.1 |
| | | | Middle | 10.1 | 27.1 | 26.9 | 26.9 | 5.73 | 5.75 | 83.9 | 84.1 | 3.11 | 3.09 | 4.2 | 4.1 | | | | | |
| | | | Bottom | 19.2 | 27.0 | 27.1 | 27.1 | 5.62 | 5.64 | 82.3 | 82.6 | 3.22 | 3.24 | 4.2 | 4.2 | | | | | |
| 12/10/12 | 0830-0848 | 27/Fine | Surface | 1.0 | 27.4 | 26.7 | 26.7 | 5.89 | 5.93 | 86.6 | 87.1 | 2.19 | 2.23 | 3.2 | 3.2 | 2.34 | 3.3 | 3.6 | 3.5 | 3.3 |
| | | | Middle | 10.1 | 27.4 | 26.8 | 26.8 | 5.83 | 5.80 | 85.7 | 85.3 | 2.26 | 2.35 | 3.4 | 3.3 | | | | | |
| | | | Bottom | 19.1 | 27.3 | 26.9 | 27.0 | 5.77 | 5.68 | 84.8 | 83.5 | 2.32 | 2.45 | 3.2 | 3.4 | | | | | |
| 15/10/12 | 1100-1118 | 30/Fine | Surface | 1.0 | 27.6 | 26.4 | 26.4 | 5.65 | 5.82 | 85.0 | 85.3 | 2.81 | 2.84 | 3.6 | 3.7 | 2.99 | 3.9 | 4.0 | 4.1 | 3.9 |
| | | | Middle | 10.2 | 27.3 | 26.6 | 26.6 | 5.68 | 5.67 | 83.2 | 83.0 | 2.95 | 2.98 | 3.8 | 3.9 | | | | | |
| | | | Bottom | 19.4 | 27.2 | 26.9 | 26.8 | 5.58 | 5.57 | 81.8 | 81.6 | 3.12 | 3.15 | 4.2 | 4.1 | | | | | |
| 17/10/12 | 1230-1246 | 28/Cloudy | Surface | 1.0 | 27.2 | 26.7 | 26.7 | 5.55 | 5.71 | 83.0 | 83.4 | 2.48 | 2.51 | 3.4 | 3.5 | 2.63 | 3.6 | 3.6 | 3.7 | 3.6 |
| | | | Middle | 10.3 | 27.2 | 26.6 | 26.6 | 5.51 | 5.49 | 80.5 | 80.2 | 2.60 | 2.63 | 3.8 | 3.7 | | | | | |
| | | | Bottom | 19.6 | 27.1 | 26.8 | 26.8 | 5.47 | 5.38 | 79.9 | 78.7 | 2.66 | 2.75 | 3.6 | 3.7 | | | | | |

Mid-Ebb 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 | Value | Average | Value |
| 19/10/12 | 1400-1410 | 26/Fine | Surface | 26.8 | 26.6 | 26.6 | 5.56 | 5.55 | 80.8 | 80.6 | 4.13 | 4.18 | 5.2 | 5.3 | 5.0 | | |
| | | | Middle | 26.8 | 26.7 | 26.7 | 5.53 | 5.62 | 80.3 | 81.6 | 4.22 | 3.99 | 5.4 | 4.8 | | | |
| | | | Bottom | 26.7 | 26.8 | 26.8 | 5.61 | 5.65 | 81.7 | 82.0 | 3.94 | 4.06 | 5.0 | 5.0 | | | |
| 22/10/12 | 1700-1717 | 27/Fine | Surface | 26.8 | 26.4 | 26.4 | 5.66 | 5.78 | 82.1 | 85.0 | 4.17 | 3.81 | 4.8 | 4.7 | 5.0 | | |
| | | | Middle | 26.8 | 26.7 | 26.7 | 5.64 | 5.64 | 81.9 | 82.9 | 3.95 | 3.98 | 5.0 | 5.0 | | | |
| | | | Bottom | 26.5 | 27.1 | 27.1 | 5.53 | 5.52 | 80.9 | 81.1 | 4.14 | 4.16 | 5.2 | 5.2 | | | |
| 24/10/12 | 0730-0747 | 24/Fine | Surface | 26.6 | 26.3 | 26.3 | 5.87 | 5.89 | 85.5 | 85.8 | 3.74 | 3.76 | 4.6 | 4.7 | 4.9 | | |
| | | | Middle | 26.4 | 26.6 | 26.6 | 5.91 | 5.76 | 86.0 | 83.8 | 3.77 | 3.88 | 4.8 | 4.9 | | | |
| | | | Bottom | 26.2 | 26.8 | 26.8 | 5.74 | 5.59 | 83.6 | 81.3 | 3.90 | 3.99 | 5.0 | 5.0 | | | |
| 26/10/12 | 0900-0915 | 25/Cloudy | Surface | 26.6 | 26.5 | 26.5 | 5.60 | 5.58 | 81.5 | 80.9 | 3.97 | 4.06 | 4.8 | 4.8 | 5.1 | | |
| | | | Middle | 26.6 | 26.6 | 26.6 | 5.57 | 5.52 | 81.1 | 80.1 | 4.01 | 4.06 | 5.2 | 5.1 | | | |
| | | | Bottom | 26.6 | 26.6 | 26.6 | 5.60 | 5.49 | 80.6 | 79.9 | 4.02 | 4.15 | 4.8 | 5.3 | | | |
| 29/10/12 | 1100-1115 | 25/Cloudy | Surface | 26.3 | 26.5 | 26.5 | 5.48 | 5.58 | 80.1 | 80.9 | 4.16 | 4.07 | 4.8 | 4.9 | 5.1 | | |
| | | | Middle | 26.3 | 26.6 | 26.6 | 5.51 | 5.51 | 81.3 | 79.9 | 4.09 | 4.08 | 5.0 | 5.0 | | | |
| | | | Bottom | 26.1 | 26.6 | 26.6 | 5.51 | 5.47 | 79.9 | 79.4 | 4.08 | 4.18 | 5.2 | 5.3 | | | |
| 31/10/12 | 1200-1215 | 25/Cloudy | Surface | 26.2 | 26.4 | 26.4 | 5.48 | 5.55 | 79.2 | 80.5 | 4.17 | 4.09 | 5.0 | 5.1 | 5.2 | | |
| | | | Middle | 26.1 | 26.5 | 26.5 | 5.46 | 5.50 | 79.5 | 79.7 | 4.18 | 4.13 | 5.2 | 5.3 | | | |
| | | | Bottom | 26.1 | 26.6 | 26.6 | 5.52 | 5.47 | 79.6 | 79.3 | 4.10 | 4.20 | 5.4 | 5.2 | | | |

Mid-Ebb Tide

Monitoring Station : TKO-M4

| Date | Sampling Duration | Ambient Temp (°C) / Weather Condition | Monitoring Depth (m) | Temp (°C) | Salinity (ppt) | | Dissolved Oxygen (mg/L) | | | Dissolved Oxygen Saturation (%) | | Turbidity (NTU) | | | Suspended Solids (mg/L) | | |
|----------|-------------------|---------------------------------------|----------------------|-----------|----------------|---------|-------------------------|---------|---------------|---------------------------------|---------|-----------------|---------|---------------|-------------------------|---------|---------------|
| | | | | | Value | Average | Value | Average | Depth-average | Value | Average | Value | Average | Depth-average | Value | Average | Depth-average |
| 03/10/12 | 1442-1500 | 29/Fine | Surface | 27.6 | 27.7 | 27.7 | 6.04 | 6.02 | 5.98 | 88.9 | 88.6 | 1.78 | 1.81 | 2.8 | 2.8 | 3.2 | |
| | | | | | 27.7 | 27.7 | 6.00 | 5.94 | 88.3 | 1.84 | 2.8 | | | | | | |
| | | | | | 27.7 | 27.8 | 5.96 | 87.7 | 1.98 | 2.00 | 3.2 | | | | | | |
| 05/10/12 | 1554-1608 | 28/Fine | Surface | 27.7 | 27.8 | 27.8 | 5.91 | 5.75 | 5.75 | 87.1 | 84.5 | 2.02 | 2.31 | 3.2 | 3.5 | 3.1 | |
| | | | | | 27.9 | 28.0 | 5.72 | 5.97 | 84.1 | 2.29 | 2.32 | 3.4 | 3.6 | | | | |
| | | | | | 27.7 | 27.8 | 5.77 | 5.84 | 84.9 | 2.32 | 2.26 | 3.4 | 3.3 | | | | |
| 08/10/12 | 0755-0810 | 26/Cloudy | Surface | 27.6 | 27.9 | 27.9 | 5.81 | 5.57 | 5.56 | 87.5 | 87.8 | 1.94 | 1.96 | 3.2 | 3.4 | 3.6 | |
| | | | | | 27.8 | 27.8 | 5.86 | 5.55 | 88.1 | 1.97 | 2.42 | 3.6 | | | | | |
| | | | | | 28.0 | 28.0 | 5.73 | 5.49 | 85.4 | 2.03 | 2.49 | 3.6 | | | | | |
| 10/10/12 | 0908-0923 | 25/Fine | Surface | 27.5 | 26.7 | 26.7 | 5.59 | 5.92 | 5.89 | 86.2 | 86.5 | 2.29 | 2.65 | 4.0 | 4.0 | 3.9 | |
| | | | | | 26.7 | 26.7 | 5.57 | 5.79 | 86.7 | 2.72 | 2.74 | 3.8 | 4.0 | | | | |
| | | | | | 26.8 | 26.8 | 5.57 | 5.82 | 80.1 | 2.63 | 2.82 | 4.0 | 4.0 | | | | |
| 12/10/12 | 1005-1023 | 27/Fine | Surface | 27.4 | 26.8 | 26.8 | 5.80 | 5.71 | 5.76 | 80.5 | 80.3 | 2.67 | 2.92 | 3.2 | 3.2 | 3.5 | |
| | | | | | 26.9 | 26.9 | 5.77 | 5.65 | 85.4 | 2.36 | 2.32 | 3.2 | 3.2 | | | | |
| | | | | | 26.6 | 26.6 | 5.83 | 5.78 | 86.4 | 2.27 | 2.41 | 3.2 | 3.2 | | | | |
| 15/10/12 | 1241-1255 | 30/Fine | Surface | 27.3 | 26.8 | 26.8 | 5.70 | 5.90 | 5.84 | 84.9 | 84.7 | 2.89 | 2.92 | 3.8 | 3.9 | 4.2 | |
| | | | | | 26.9 | 27.0 | 5.63 | 5.78 | 84.4 | 2.56 | 2.56 | 3.8 | 3.7 | | | | |
| | | | | | 27.0 | 26.4 | 5.66 | 5.58 | 83.2 | 2.55 | 3.04 | 4.0 | 4.2 | | | | |
| 17/10/12 | 1405-1421 | 28/Coludy | Surface | 27.1 | 26.4 | 26.4 | 5.88 | 5.84 | 5.82 | 86.1 | 86.4 | 3.01 | 3.16 | 3.2 | 3.4 | 3.5 | |
| | | | | | 26.4 | 26.6 | 5.91 | 5.58 | 86.6 | 3.06 | 2.17 | 3.6 | 3.6 | | | | |
| | | | | | 26.5 | 26.6 | 5.79 | 5.81 | 84.8 | 3.17 | 2.20 | 3.2 | 3.2 | | | | |
| 17/10/12 | 1405-1421 | 28/Coludy | Middle | 27.1 | 26.6 | 26.6 | 5.76 | 5.81 | 5.81 | 84.4 | 84.9 | 3.14 | 2.13 | 3.4 | 3.3 | 3.5 | |
| | | | | | 26.7 | 26.7 | 5.79 | 5.61 | 81.9 | 3.25 | 2.10 | 3.4 | 3.4 | | | | |
| | | | | | 26.8 | 26.8 | 5.63 | 5.61 | 81.5 | 3.27 | 2.15 | 3.6 | 3.6 | | | | |
| 17/10/12 | 1405-1421 | 28/Coludy | Bottom | 27.1 | 26.8 | 26.8 | 5.59 | 5.61 | 5.61 | 81.9 | 82.0 | 2.42 | 2.44 | 4.0 | 4.0 | 3.8 | |
| | | | | | 26.7 | 26.8 | 5.56 | 5.59 | 81.5 | 3.27 | 2.42 | 4.0 | 4.0 | | | | |
| | | | | | 26.8 | 26.8 | 5.59 | 5.59 | 81.7 | 3.26 | 2.46 | 4.0 | 4.0 | | | | |

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 | Depth-average | |
| 19/10/12 | 1515-1528 | 26/Fine | Surface | 26.5 | 26.9 | 26.9 | 6.02 | 5.99 | 6.03 | 87.0 | 86.7 | 4.05 | 4.04 | 5.0 | 5.1 | 5.0 | | |
| | | | Middle | 26.5 | 26.9 | 6.08 | 6.06 | 6.03 | 87.4 | 87.7 | 4.02 | 3.84 | 5.2 | 4.9 | | | | |
| | | | Bottom | 26.4 | 26.9 | 6.01 | 6.04 | 6.04 | 87.9 | 87.5 | 3.82 | 3.75 | 4.8 | 5.0 | | | | |
| 22/10/12 | 1844-1903 | 27/Fine | Surface | 26.9 | 26.4 | 26.4 | 5.97 | 5.95 | 5.89 | 87.8 | 87.5 | 2.84 | 2.86 | 3.8 | 3.9 | 4.1 | | |
| | | | Middle | 26.7 | 26.7 | 5.81 | 5.83 | 5.89 | 86.0 | 85.7 | 2.88 | 3.01 | 4.0 | 4.1 | | | | |
| | | | Bottom | 26.6 | 26.9 | 5.73 | 5.71 | 5.71 | 85.4 | 83.9 | 2.99 | 3.10 | 4.2 | 4.2 | | | | |
| 24/10/12 | 0912-0930 | 24/Fine | Surface | 26.7 | 26.4 | 26.4 | 5.98 | 5.96 | 5.90 | 87.1 | 86.8 | 3.54 | 3.57 | 4.4 | 4.6 | 4.8 | | |
| | | | Middle | 26.5 | 26.6 | 5.86 | 5.84 | 5.90 | 85.4 | 85.1 | 3.73 | 3.71 | 4.8 | 4.7 | | | | |
| | | | Bottom | 26.4 | 26.7 | 5.75 | 5.73 | 5.73 | 84.8 | 83.5 | 3.69 | 3.85 | 4.6 | 5.0 | | | | |
| 26/10/12 | 1030-1045 | 25/Cloudy | Surface | 26.5 | 26.6 | 26.6 | 5.60 | 5.62 | 5.68 | 81.2 | 81.8 | 4.13 | 4.15 | 5.2 | 5.4 | 5.2 | | |
| | | | Middle | 26.4 | 26.8 | 5.72 | 5.74 | 5.68 | 83.5 | 83.8 | 4.21 | 4.22 | 5.2 | 5.2 | | | | |
| | | | Bottom | 26.4 | 26.7 | 5.76 | 5.56 | 5.56 | 84.1 | 80.6 | 4.23 | 4.09 | 4.8 | 5.0 | | | | |
| 29/10/12 | 1230-1245 | 25/Cloudy | Surface | 26.4 | 26.6 | 26.6 | 5.59 | 5.61 | 5.66 | 81.1 | 81.4 | 4.15 | 4.17 | 5.2 | 5.4 | 5.3 | | |
| | | | Middle | 26.2 | 26.7 | 5.69 | 5.71 | 5.66 | 82.5 | 82.8 | 4.24 | 4.25 | 5.6 | 5.4 | | | | |
| | | | Bottom | 26.1 | 26.8 | 5.53 | 5.55 | 5.55 | 83.1 | 80.4 | 4.26 | 4.11 | 5.2 | 5.1 | | | | |
| 31/10/12 | 1330-1345 | 25/Cloudy | Surface | 26.3 | 26.4 | 26.4 | 5.57 | 5.59 | 5.64 | 80.6 | 80.6 | 4.12 | 4.19 | 5.2 | 5.1 | 5.2 | | |
| | | | Middle | 26.2 | 26.6 | 5.71 | 5.69 | 5.64 | 81.2 | 81.0 | 4.18 | 4.26 | 5.2 | 5.3 | | | | |
| | | | Bottom | 26.2 | 26.8 | 5.51 | 5.53 | 5.53 | 82.8 | 80.1 | 4.26 | 4.13 | 5.4 | 5.1 | | | | |

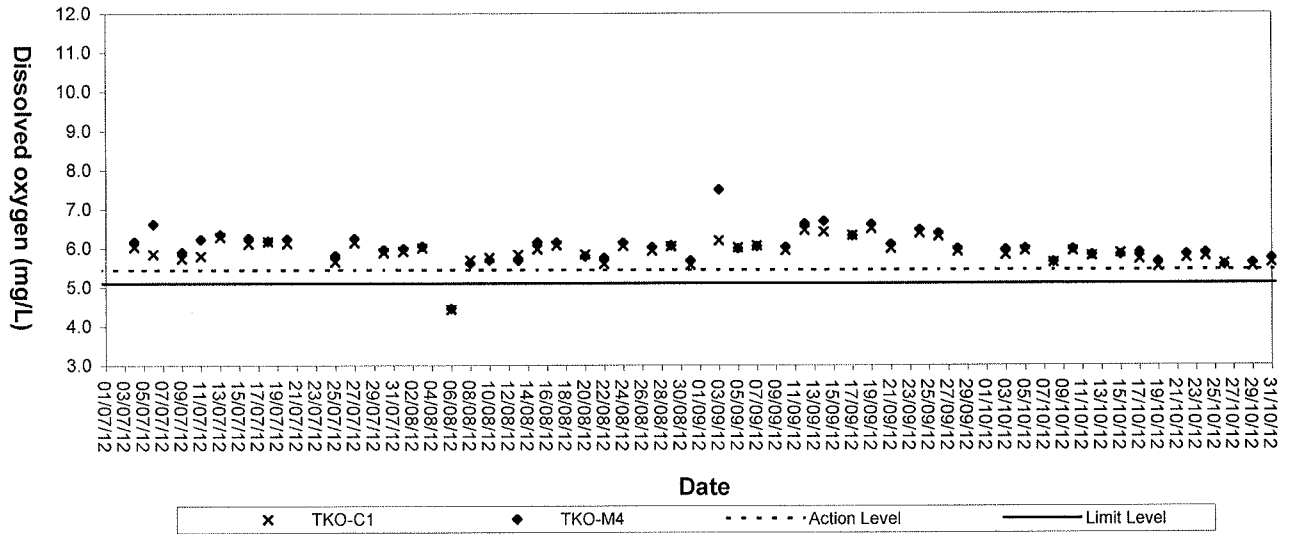


Appendix D3

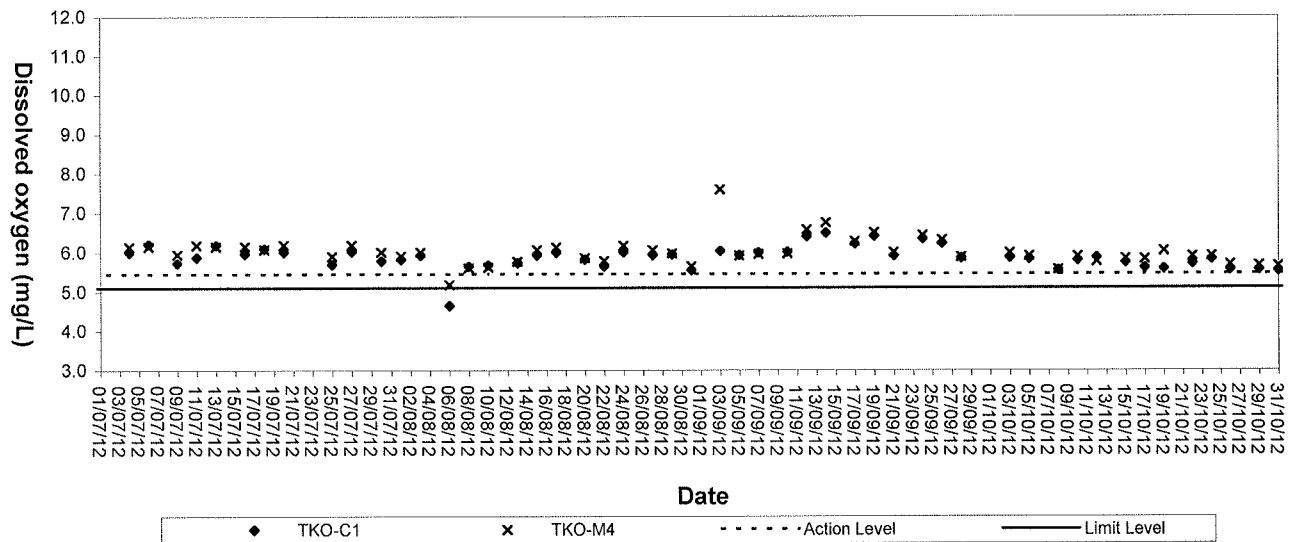
Graphical Plots of Impact Marine Water Quality Monitoring Data



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

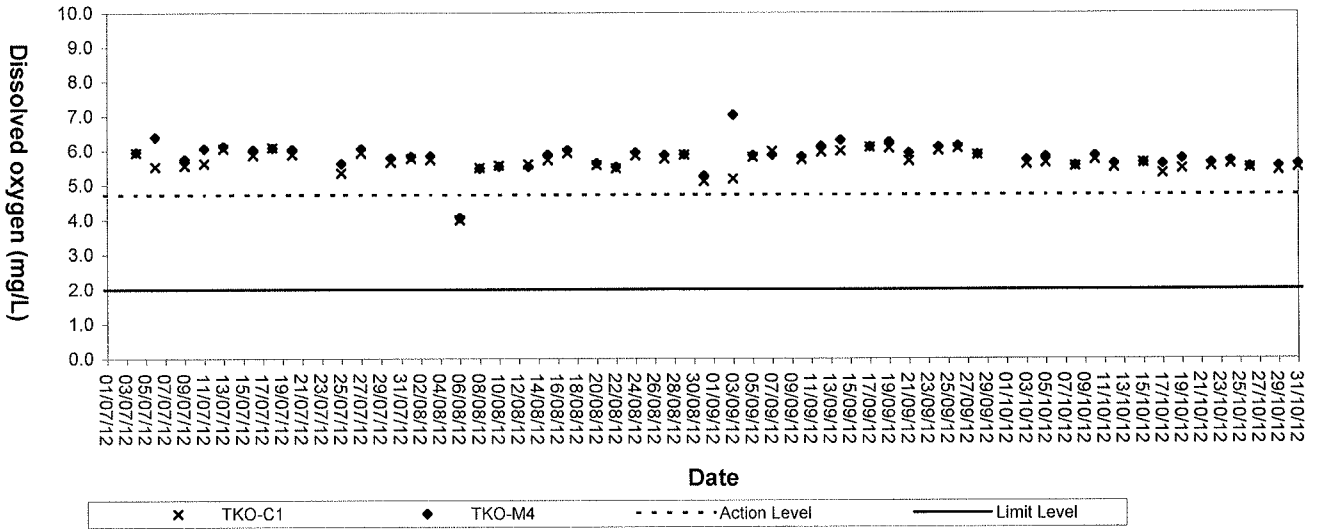


Dissolved Oxygen (Surface & Middle) at Mid-Ebb Tide

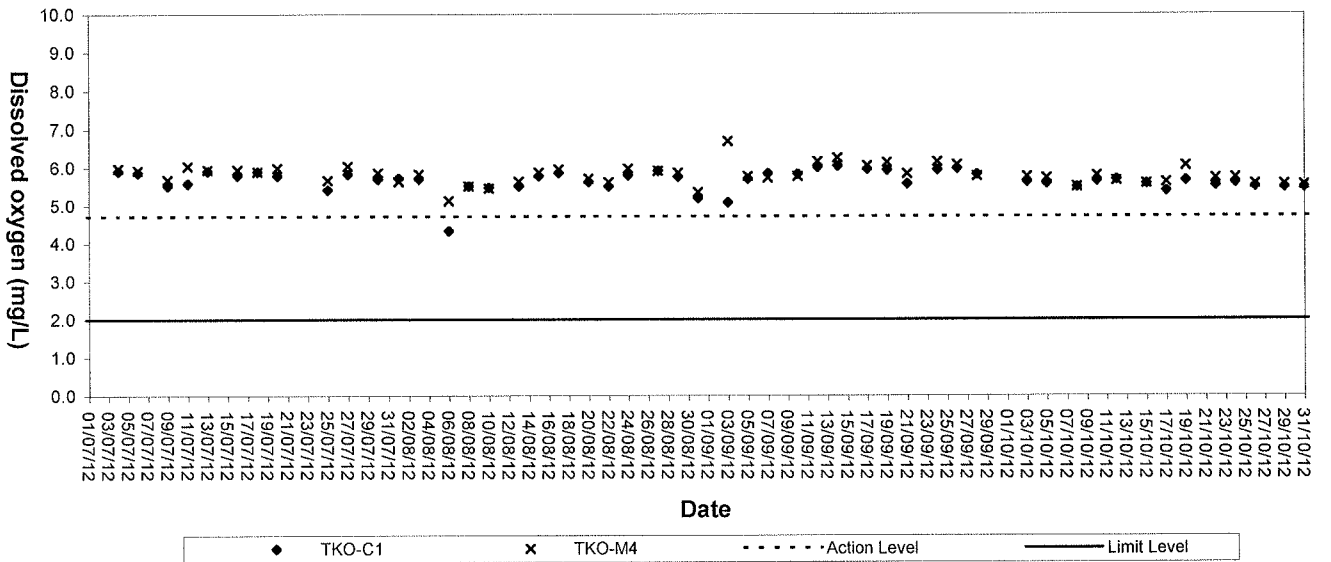




Dissolved Oxygen (Bottom) at Mid-Flood Tide

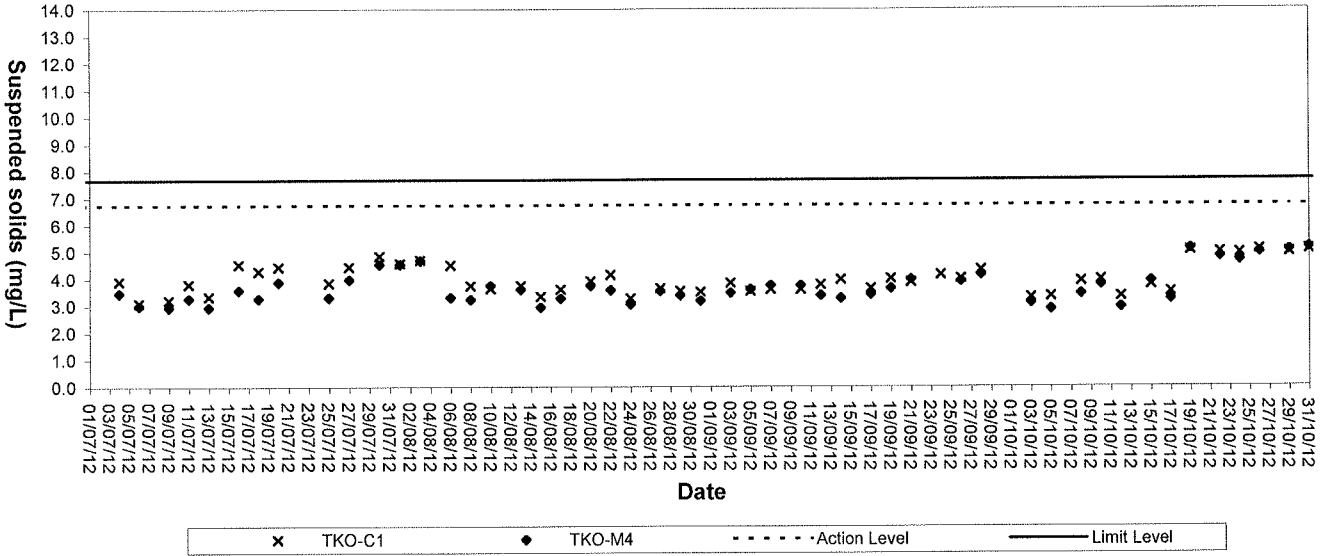


Dissolved Oxygen (Bottom) at Mid-Ebb Tide

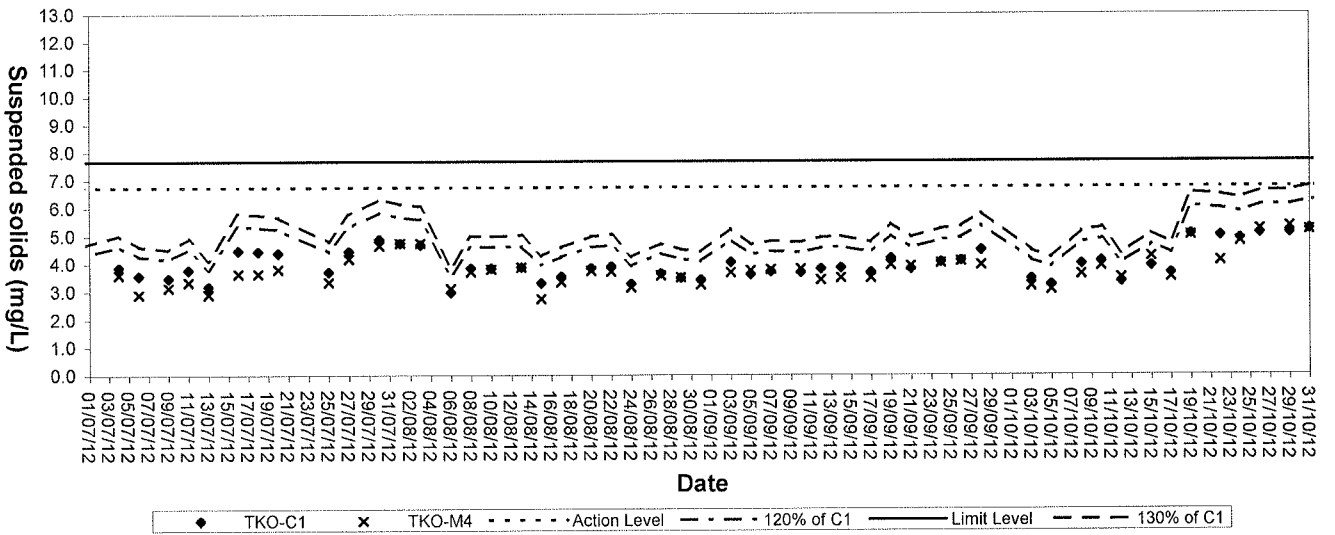




Suspended solids (Depth-average) at Mid-Flood Tide

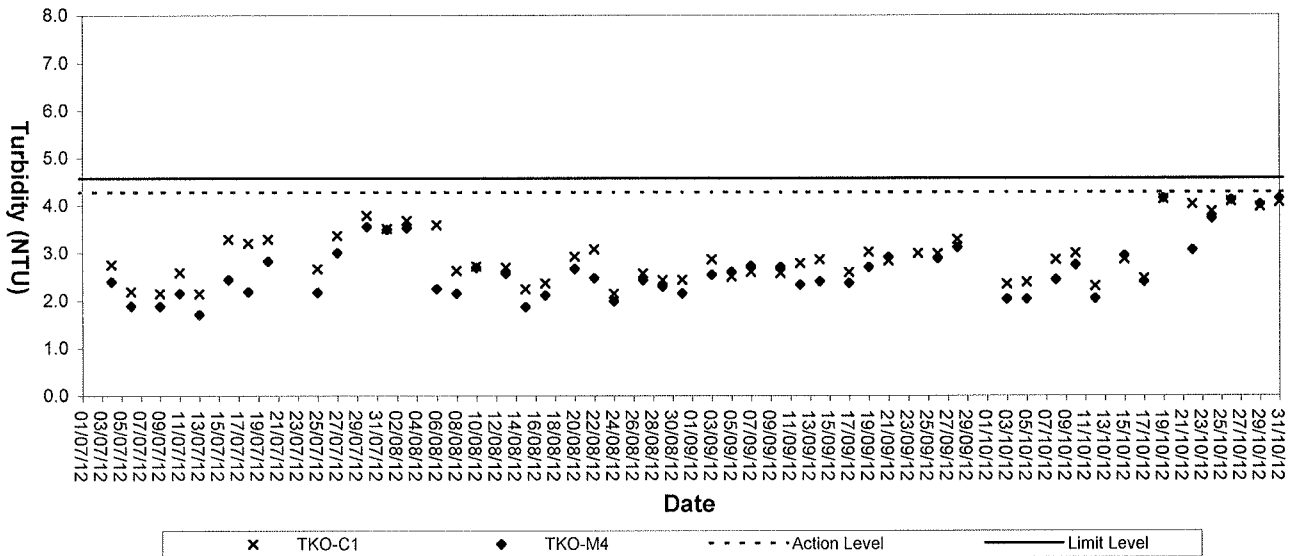


Suspended Solids (Depth-average) at Mid-Ebb Tide

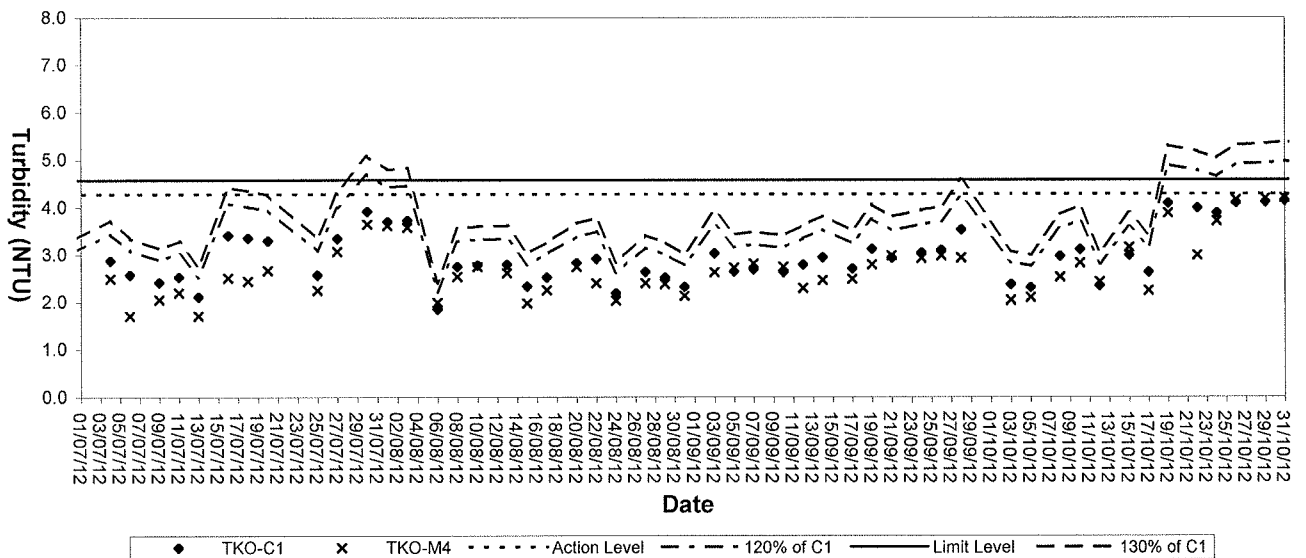




Turbidity (Depth-average) at Mid-Flood Tide



Turbidity (Depth-average) at Mid-Ebb Tide





Appendix E

Weather Condition

Extract of Meteorological Observations for Tseung Kwan O Automatic Weather Station, October 2012

| Date | Mean Pressure at M.S.L. (hPa) | Air Temperature | | | Mean Dew Point Temperature (deg C) | Relative Humidity | | |
|----------------|-------------------------------|-----------------|--------------|--------------|------------------------------------|-------------------|----------|----------|
| | | Max. (deg C) | Mean (deg C) | Min. (deg C) | | Max. (%) | Mean (%) | Min. (%) |
| Oct 1 | ***** | 28.6 | 25.5 | 24.0 | 20.0 | 82 | 72 | 58 |
| Oct 2 | ***** | 29.2 | 25.8 | 23.8 | 19.8 | 82 | 70 | 53 |
| Oct 3 | ***** | 28.9 | 24.7 | 21.5 | 20.2 | 94 | 77 | 57 |
| Oct 4 | ***** | 29.1 | 24.6 | 21.2 | 20.6 | 97 | 80 | 60 |
| Oct 5 | ***** | 29.9 | 25.9 | 23.9 | 19.3 | 83 | 69 | 34 |
| Oct 6 | ***** | 30.1 | 26.6 | 24.2 | 20.8 | 83 | 71 | 49 |
| Oct 7 | ***** | 29.6 | 26.3 | 24.1 | 19.6 | 88 | 67 | 48 |
| Oct 8 | ***** | 29.9 | 26.0 | 23.6 | 20.2 | 90 | 71 | 54 |
| Oct 9 | ***** | 31.1 | 25.3 | 21.9 | 20.6 | 93 | 77 | 48 |
| Oct 10 | ***** | 30.5 | 25.0 | 21.3 | 18.1 | 92 | 68 | 41 |
| Oct 11 | ***** | 29.3 | 24.0 | 20.5 | 17.7 | 93 | 70 | 42 |
| Oct 12 | ***** | 28.7 | 23.9 | 20.3 | 18.6 | 95 | 74 | 53 |
| Oct 13 | ***** | 28.6 | 24.0 | 20.2 | 20.1 | 94 | 79 | 59 |
| Oct 14 | ***** | 28.5 | 24.5 | 21.4 | 20.9 | 95 | 81 | 62 |
| Oct 15 | ***** | 30.2 | 25.5 | 22.8 | 20.4 | 90 | 74 | 49 |
| Oct 16 | ***** | 29.4 | 24.6 | 21.9 | 20.5 | 94 | 79 | 54 |
| Oct 17 | ***** | 29.7 | 25.0 | 21.9 | 19.3 | 96 | 72 | 52 |
| Oct 18 | ***** | 25.4 | 23.7 | 21.6 | 17.5 | 78 | 68 | 58 |
| Oct 19 | ***** | 26.5 | 24.1 | 22.9 | 18.5 | 80 | 72 | 53 |
| Oct 20 | ***** | 27.4 | 23.8 | 21.1 | 19.7 | 91 | 78 | 64 |
| Oct 21 | ***** | 28.7 | 23.6 | 20.3 | 18.9 | 94 | 77 | 52 |
| Oct 22 | ***** | 30.9 | 24.4 | 20.3 | 19.7 | 95 | 77 | 45 |
| Oct 23 | ***** | 31.4 | 25.1 | 19.5 | 20.1 | 96 | 76 | 47 |
| Oct 24 | ***** | 29.3 | 24.8 | 22.4 | 19.8 | 90 | 74 | 54 |
| Oct 25 | ***** | 29.4 | 25.3 | 23.6 | 20.5 | 88 | 75 | 54 |
| Oct 26 | ***** | 27.1 | 24.1 | 22.1 | 20.3 | 94 | 80 | 60 |
| Oct 27 | ***** | 28.5 | 25.6 | 23.8 | 21.7 | 91 | 80 | 63 |
| Oct 28 | ***** | 29.2 | 25.8 | 23.2 | 21.7 | 92 | 78 | 61 |
| Oct 29 | ***** | 25.3 | 24.8 | 24.3 | 21.4 | 89 | 82 | 78 |
| Oct 30 | ***** | 24.6 | 22.7 | 19.1 | 21.6 | 97 | 94 | 86 |
| Oct 31 | ***** | 22.4 | 18.4 | 17.0 | 15.4 | 96 | 83 | 64 |
| Mean | ***** | 28.6 | 24.6 | 21.9 | 19.8 | 91 | 76 | 55 |
| Maximum | ***** | 31.4 | 26.6 | 24.3 | 21.7 | 97 | 94 | 86 |
| Minimum | ***** | 22.4 | 18.4 | 17.0 | 15.4 | 78 | 67 | 34 |

Extract of Meteorological Observations for Tseung Kwan O Automatic Weather Station, October 2012

| Date | Total Rainfall (mm) | Prevailing Wind Direction (degrees) | Mean Wind Speed (km/h) |
|----------------|------------------------|---|------------------------------|
| Oct 1 | 0.0 | 030 | 8.0 |
| Oct 2 | 0.0 | 070 | 8.1 |
| Oct 3 | 0.0 | 070 | 5.6 |
| Oct 4 | 0.0 | 140 | 5.5 |
| Oct 5 | 0.0 | 150 | 8.1 |
| Oct 6 | 0.0 | 140 | 7.4 |
| Oct 7 | 0.0 | 140 | 6.6 |
| Oct 8 | 0.5 | 140 | 5.8 |
| Oct 9 | 0.0 | 020 | 5.4 |
| Oct 10 | 0.0 | 060 | 6.4 |
| Oct 11 | 0.0 | 070 | 5.1 |
| Oct 12 | 0.0 | 150 | 4.6 |
| Oct 13 | 0.0 | 110 | 4.8 |
| Oct 14 | 0.0 | 200 | 4.6 |
| Oct 15 | 0.0 | 150 | 5.1 |
| Oct 16 | 0.0 | 150 | 4.4 |
| Oct 17 | 0.0 | 050 | 7.9 |
| Oct 18 | 0.0 | 060 | 6.6 |
| Oct 19 | 0.0 | 050 | 7.6 |
| Oct 20 | 0.0 | 070 | 5.8 |
| Oct 21 | 0.0 | 060 | 5.5 |
| Oct 22 | 0.0 | 310 | 4.4 |
| Oct 23 | 0.0 | 140# | 5.3# |
| Oct 24 | 0.0 | 140 | 7.8 |
| Oct 25 | 0.0 | 060 | 7.4 |
| Oct 26 | 2.5 | 030 | 9.4 |
| Oct 27 | 0.0 | 030 | 7.2 |
| Oct 28 | 0.0 | 040 | 8.0 |
| Oct 29 | 0.0 | 140 | 7.7 |
| Oct 30 | 34.0 | 040 | 7.7 |
| Oct 31 | 10.0 | 050 | 9.5 |
| Mean | ----- | 060# | 6.6# |
| Total | 47.0 | --- | ----- |
| Maximum | 34.0 | --- | 9.5# |
| Minimum | 0.0 | --- | 4.4# |

*** unavailable

missing (less than 24 hourly observations a day)

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



Appendix F

Event-Action Plans

EVENT/ACTION PLAN FOR AIR QUALITY EXCEEDANCE

ACTION

IC(E)

ER

Contractor

ET Leader

ACTION LEVEL

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

EVENT/ACTION PLAN FOR AIR QUALITY EXCEEDANCE

| EVENT | ACTION | | | |
|---|---|--|--|--|
| | ET Leader | IC(E) | ER | Contractor |
| 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

ACTION

EVENT

| | 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 | | | |
|--|--|--|---|---|
| | ET Leader | Contractor | ER | IEC |
| <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

ACTION

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

EVENT AND ACTION PLAN FOR WATER QUALITY EXCEEDANCE

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

EVENT AND ACTION PLAN FOR WATER QUALITY EXCEEDANCE

| Event | ACTION | | |
|---|--|--|---|
| | 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. |
| | | | IEC |
| | | | <ol style="list-style-type: none"> 1. Check monitoring data submitted by ET 2. Confirm ET assessment if exceedance is due / not due to the works 3. Discuss with ER, ET and Contractor on the mitigation measures. 4. Review proposals on mitigation measures submitted by Contractor and advise the ER accordingly. 5. Assess the effectiveness of the implemented mitigation measures. |



Appendix G

Works Programme

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

Site Location : Tseung Kwan O Area 137 Fill Bank

| ID | Activity | Original Duration | Start | Finish |
|---------|---|-------------------|------------|------------|
| S101000 | Taking Over the Existing Facilities | 0 | 19/01/2010 | |
| S102000 | Operation | 1096 | 19/01/2010 | 18/01/2013 |
| S103000 | Operation and Maintenance of Tipping Halls | 1096 | 19/01/2010 | 18/01/2013 |
| S104000 | Provision and Operation of a Crushing Plant | 1096 | 19/01/2010 | 18/01/2013 |
| S105000 | Handing Over the Facilities to the Employer | 0 | | 18/01/2013 |
| A101000 | Removal of Stockpile Area A3 | 100 | 19/01/2010 | 28/04/2010 |
| A102000 | Site Formation | 7 | 22/04/2010 | 28/04/2010 |
| A103000 | Provision of New Combined Reception and Exit Offices | 90 | 29/04/2010 | 27/07/2010 |
| A104000 | Provision of Inspection Platform | 60 | 28/07/2010 | 25/09/2010 |
| A105000 | Provision of Measurement Systems | 60 | 28/07/2010 | 25/09/2010 |
| A106000 | Provision of Surveillance Systems | 60 | 28/07/2010 | 25/09/2010 |
| A107000 | Provision of Wheel Washing Facilities | 60 | 28/07/2010 | 25/09/2010 |
| A109000 | Testing, Commissioning & Handover | 21 | 14/09/2010 | 10/04/2010 |
| A109100 | Removal of Existing Combined Reception & Exit Offices & other Facilities A3 | 14 | 10/05/2010 | 18/10/2010 |
| A109200 | Removal of Existing Combined Reception & Exit Offices & other Facilities A6 | 14 | 10/05/2010 | 18/10/2010 |
| A201000 | Removal of Stockpile Area at Portion A6 | 316 | 19/01/2010 | 30/11/2010 |
| A209100 | Construction of Access Road at Portion A6 | 60 | 20/10/2010 | 18/12/2010 |
| A209200 | Construction of Access Road at Portion A3 | 61 | 19/10/2010 | 18/12/2010 |



Appendix H

IEC's Site Audit Records

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

Inspection

Date: 10 October 2012

Time: 10:45

Location: TKO Area 137

Checklist No. CEDPFRSFEM00_121010_TKOFB

Inspected by

CEDD: CK WOO

IEC: JASON LAM

ET: KW MAK

Contractor: SW SUNG

PART A: GENERAL INFORMATION

Weather: Sunny Fine Cloudy Rainy

Temperature: 28 °C

Humidity: High Moderate Low

Wind: Strong Breeze Light Calm

PART B: SITE AUDIT

| Not Obs. | Yes | No | Follow up | N/A | Photo/Remarks |
|----------|-----|----|-----------|-----|---------------|
|----------|-----|----|-----------|-----|---------------|

Section 1: Water Quality

| | | | | | | | |
|------|--|-------------------------------------|-------------------------------------|--------------------------|-------------------------------------|--------------------------|------------------|
| 1.01 | Is an effluent discharge license obtained for the Project? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 1.02 | Is the effluent discharged in accordance with the discharge licence? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 1.03 | Is the discharge of turbid water avoided? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 1.04 | Are temporary intercepting drains provided at the stockpiling area to divert polluted stormwater to the intercepting channels? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 1.05 | Are all catchpits, sand and silt removal facilities, and the drainage and intercepting channels on site properly maintained? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | obs 10, p11, p12 |
| 1.06 | Is the stormwater intercepting system effective to collect of runoff and remove suspended solids before discharge? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 1.07 | Is water retained in receptacles and standing water avoided to prevent mosquito breeding? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 1.08 | Is the material properly covered to prevent washed away especially before rainstorm? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 1.09 | Is the temporary slope surface covered with impermeable sheet or sprayed with water or protected by other method approved by CEDD when rainstorm is imminent or forecast? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 1.10 | Is the final slope surface treated by compaction, followed by hydroseeding or other suitable surface stabiliser approved by CEDD to prevent washing away of stockpiled material? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 1.11 | Is a wheel washing bay with high pressure water jets provided at the site exit? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 1.12 | Is sand and silt settled out or removed before being discharged into storm drains? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 1.13 | Are the manholes covered and sealed? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 1.14 | Is sewage from toilets discharged in to a foul sewer, or chemical toilets provided? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 1.15 | Is sewage from chemical toilets collected by a licensed contractor for disposal and maintenance of these facilities? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 1.16 | Are tipping halls enclosed with top and 3-sides to prevent spillage of material into marine water? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 1.17 | Is silt curtain provided at the outward side at the TKO basin near the barging point? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | Fu ④ : p8 |
| 1.18 | Is a waste collection vessel deployed to remove floating debris? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 1.19 | Is foam, oil, grease, scum, litter or other objectionable matters avoided on the water in vicinity of the barging facilities during the work activities? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 1.20 | Are the barges 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 washing? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |

| | Not Obs. | Yes | No | Follow up | N/A | Photo/ Remarks |
|-------------------------------|-------------------------------------|-------------------------------------|--------------------------|--------------------------|-------------------------------------|----------------|
| 1.21 | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 1.22 | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 1.23 | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 1.24 | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 1.25 | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 1.26 | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 1.27 | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 1.28 | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 1.29 | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| Section 2: Air Quality | | | | | | |
| 2.01 | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 2.02 | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 2.03 | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 2.04 | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 2.05 | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 2.06 | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 2.07 | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 2.08 | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 2.09 | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 2.10 | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 2.11 | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 2.12 | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 2.13 | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 2.14 | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 2.15 | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 2.16 | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 2.17 | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 2.18 | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 2.19 | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 2.20 | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |

| | Not Obs. | Yes | No | Follow up | N/A | Photo/Remarks |
|---|-------------------------------------|-------------------------------------|--------------------------|--------------------------|--------------------------|---------------|
| 2.21 | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 2.22 | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Section 3: Noise | | | | | | |
| 3.01 | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 3.02 | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 3.03 | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 3.04 | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 3.05 | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 3.06 | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 3.07 | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 3.08 | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 3.09 | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 3.10 | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Section 4: Waste/Chemical Management | | | | | | |
| 4.01 | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 4.02 | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 4.03 | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 4.04 | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 4.05 | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 4.06 | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 4.07 | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 4.08 | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 4.09 | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 4.10 | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 4.11 | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 4.12 | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 4.13 | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |

| | | Not Obs. | Yes | No | Follow up | N/A | Photo/Remarks |
|--|--|-------------------------------------|-------------------------------------|--------------------------|--------------------------|--------------------------|---------------|
| 4.14 | Are the chemical wastes separated for special handling and appropriate treatment at the Chemical Waste Treatment Facility? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 4.15 | Are chemical wastes including waste oil stored properly in designated areas, e.g. chemical waste storage area? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 4.16 | Is the designated chemical waste storage area used for storing chemical wastes only? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 4.17 | Is chemical waste storage area suitable for the substance they are holding, resistant to corrosion, maintained in good condition? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 4.18 | Is chemical waste storage area enclosed on at least 3 sides and securely closed? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 4.19 | Is chemical waste storage area provided with bunds of a capacity to contain 110% of the total volume of container? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 4.20 | Is chemical waste storage area well ventilated? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 4.21 | Is chemical wastes storage area covered to prevent rainfall entering?(water collected within the bund must be tested and disposal as chemical waste if necessary) | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 4.22 | Is chemical waste storage area arranged so that incompatible materials are adequately separated? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 4.23 | Are warning panels displayed at the waste storage area? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 4.24 | Is the waste storage area cleaned and maintained regularly? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 4.25 | Is chemical waste transported by a registered chemical waster collector to a facility licensed to receive chemical waste? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 4.26 | Are all generators, fuel and oil storage located within bundle areas? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 4.27 | Is oil leakage from machinery, vehicle and plant prevented? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 4.28 | Are procedures as outlined in the Spillage Response Plan followed in the event of chemical waste/dangerous goods/ chemical spillage or leakage? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 4.29 | Are the dangerous goods/chemical spillage or leakage procedures in place? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 4.30 | Is approved personnel nominated? For example, site manager, to be responsible for good site practices, arrangements for collection and effective disposal to an appropriate facility, of all wastes generated at the site. | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 4.31 | Is there any training of site personnel in proper waste management and chemical handling procedures provided? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 4.32 | Is good site practices 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? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 4.33 | Is there any recording system for the amount of wastes generated, recycled and disposed? For example, trip ticket system for chemical waste disposal. Quantities could be determined by weighting each load or other suitable methods. | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Section 5: Landscape & Visual | | | | | | | |
| 5.01 | Is the maximum stockpiling height at the fill bank limited to a maximum of +35.2mPD? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 5.02 | Is the landscape and visual mitigation measures in accordance with the landscape plan implemented during the operational and removal phases? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 5.03 | Is the surface of outer slopes of the Fill Bank preferably hydroseeded or covered with geo-textile matting of appropriate colour (e.g dark green/brown) once completed? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 5.04 | Is the design of the fill bank and plant form heights adopted allowed the fill bank to fit into the general topography of the surrounding land (straight edged slopes should be avoided)? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 5.05 | Is the operation of barging point not allowed from 7:00 p.m. to 8:00 a.m. daily to avoid potential visual impact from glare? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |

| Not Obs. | Yes | No | Follow up | N/A | Photo/Remarks |
|----------|-----|----|-----------|-----|---------------|
|----------|-----|----|-----------|-----|---------------|

Section 6: Others


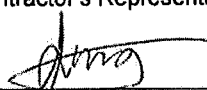
| | | | | | | | |
|------|--|--------------------------|-------------------------------------|--------------------------|--------------------------|--------------------------|--|
| 6.01 | Is the fill bank site restricted access by the general public? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 6.02 | Is environmental permit displaced conspicuously on site? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |

Section 7: Follow-up for the Previous Environmental Inspection on date 19.09.2012 (Ref No. CEDPFRSFEM00_120919_TKOFB)

| | | | | | | |
|--|--------------------------|-------------------------------------|--------------------------|-------------------------------------|--------------------------|---------------------------|
| Is the situation in item <u>Fu① to ③</u> improved / rectified? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <u>closed; p2, p4, p6</u> |
| Is the situation in item <u>Fu④</u> improved / rectified? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <u>refer p8</u> |
| Is the situation in item <u>Fu⑤</u> improved / rectified? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <u>closed; p10</u> |
| Is the situation in item _____ improved / rectified? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Is the situation in item _____ improved / rectified? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |

Remarks:

Follow up=
 - Fu① to Fu③ & Fu⑤ had been rectified. (closed)
 - Fu④ is still outstanding. (Follow up)
 Observation=
 - ① Turbid water and rubbish are found at Catchpits near CREO.

| | | | |
|---|---------------------------|--------------------------|---|
| Signature: CEDD's Representative | Signature: IEC Auditor | Signature: ET Auditor | Signature: Contractor's Representative |
|  | <u>Jason</u> | <u>Mak</u> |  |
| Name: <u>C. Kwok</u> | Name: <u>KCLAI</u> | Name: <u>Mak Kei Wai</u> | Name: <u>S.W. Sanga</u> |
| Date: <u>10-10-2012</u> | Date: <u>10 Oct 2012</u> | Date: <u>10/10/12</u> | Date: <u>10/10/2012</u> |

Contract No.: CV/2009/02

Inspection Date: 10 October 2012

(1) Follow up the previous inspection

Checklist No.: CEDPFRSFEM00_120919_TKOFB

Before

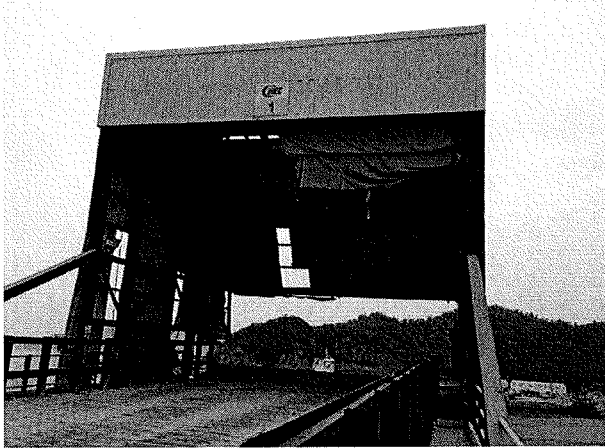


Photo 1 – Tipping Hall No.1

After

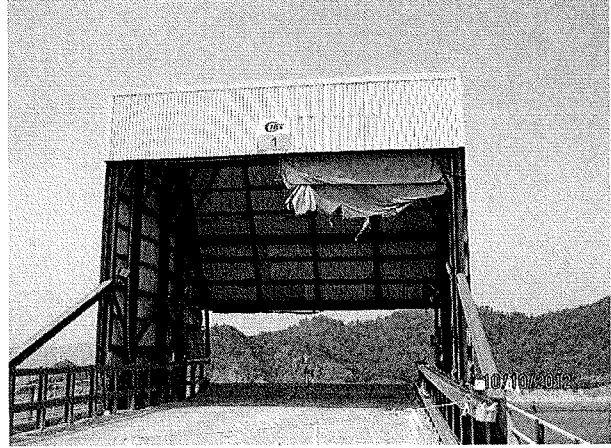


Photo 2 – Tipping Hall No.1

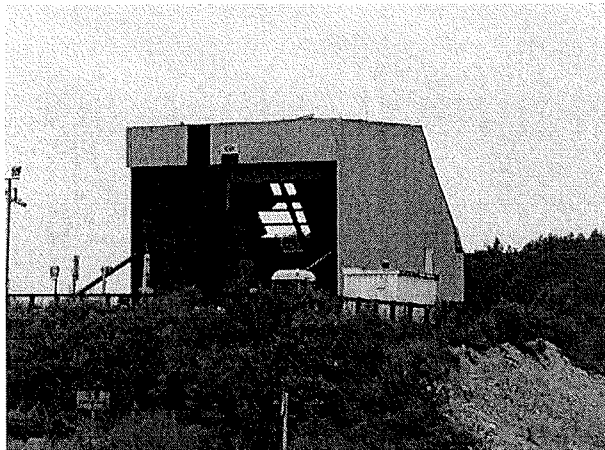


Photo 3 – Tipping Hall No.2

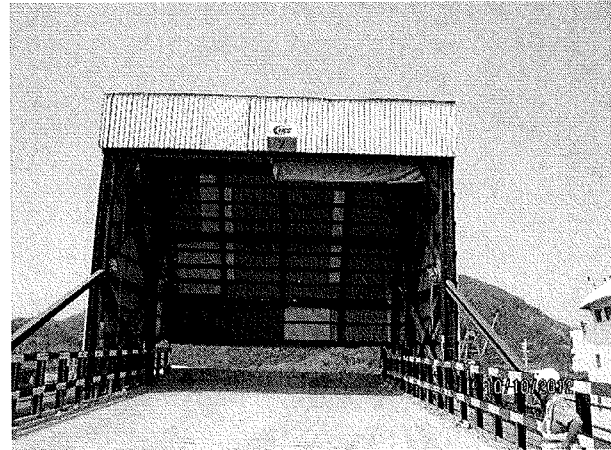


Photo 4 – Tipping Hall No.2

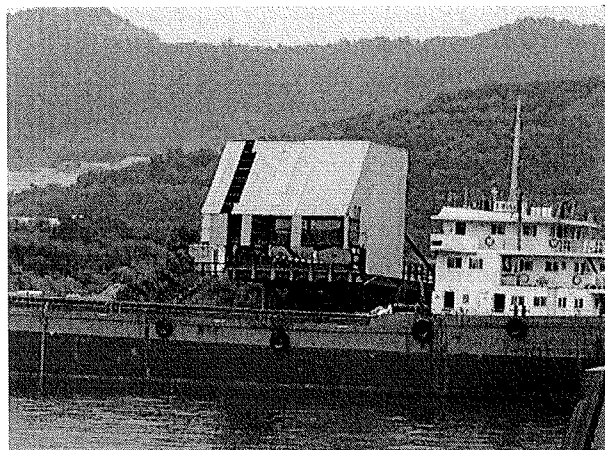


Photo 5 – Tipping Hall No.3

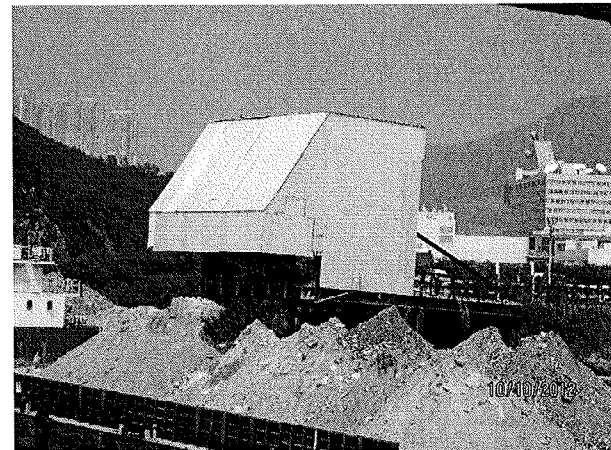


Photo 6 – Tipping Hall No.3

Tipping Hall No.1 to No.3 were damaged.
The Contractor should repair the damaged parts of tipping hall.

Tipping Halls (No.1 to No.3) had been repaired.
(Closed)

Photo Record

Before

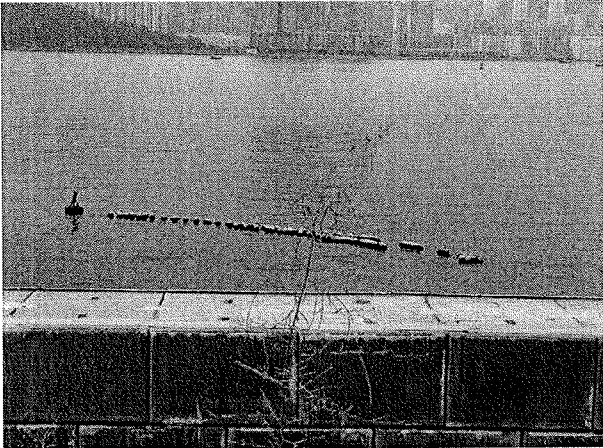


Photo 7

Silt Curtain

Silt curtain near Pier No.1 was not properly fixed.

After



Photo 8

Silt Curtain

The Contractor was reminded to provide silt curtain properly at TKOFB. **(Follow up)**



Photo 9

Tyre Workshop

Poor housekeeping was observed at Tyre Workshop.

The Contractor was reminded to tidy up the area properly.

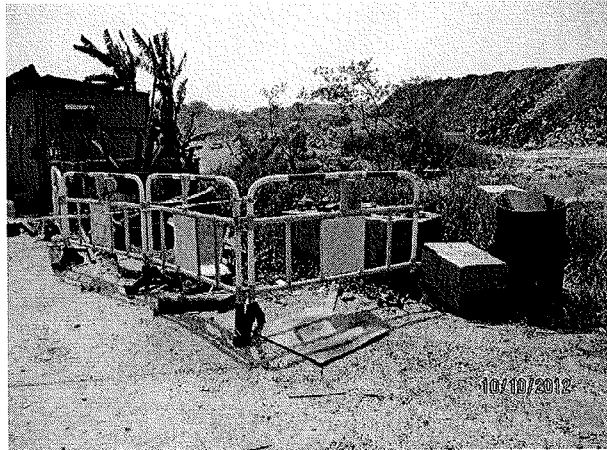


Photo 10

Tyre Workshop

Housekeeping was improved. **(Closed)**

(2) Observation during site inspection

Checklist No.: CEDPFRSFEM00_121010_TKOFB

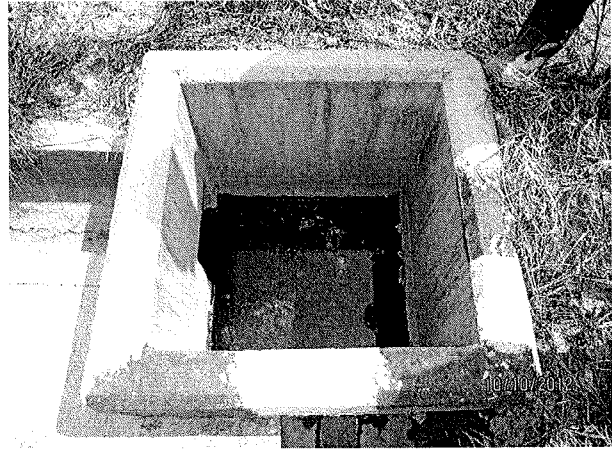
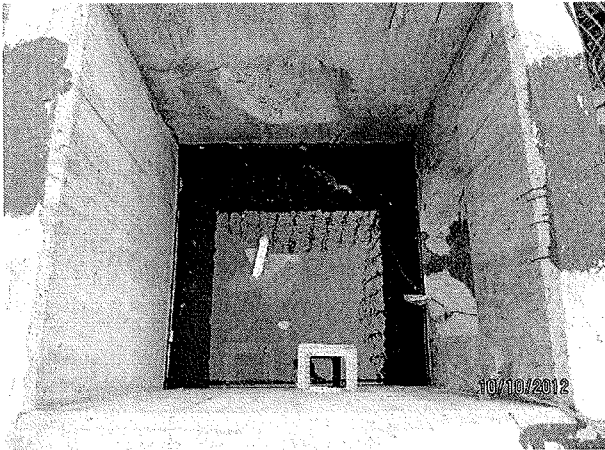


Photo 11 and 12

CREO

Turbid water and rubbish are found at catchpits.

The Contractor is reminded to properly maintain all drainage facilities at site.

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

Inspection

Date: 25 October 2012

Time: 10:30

Location: TKO Area 137

Checklist No. CEDPFRSFEM00_121025_TKOFB

Inspected by

CEDD: CK WOO

IEC: JASON LAM

ET: KW MAK

Contractor: SW SUNG

PART A: GENERAL INFORMATION

Weather: Sunny Fine Cloudy Rainy

Temperature: 27 °C

Humidity: High Moderate Low

Wind: Strong Breeze Light Calm

PART B: SITE AUDIT

| Not Obs. | Yes | No | Follow up | N/A | Photo/Remarks |
|----------|-----|----|-----------|-----|---------------|
|----------|-----|----|-----------|-----|---------------|

Section 1: Water Quality

| | | | | | | | |
|------|--|-------------------------------------|-------------------------------------|--------------------------|-------------------------------------|--------------------------|---------------|
| 1.01 | Is an effluent discharge license obtained for the Project? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 1.02 | Is the effluent discharged in accordance with the discharge licence? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 1.03 | Is the discharge of turbid water avoided? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 1.04 | Are temporary intercepting drains provided at the stockpiling area to divert polluted stormwater to the intercepting channels? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 1.05 | Are all catchpits, sand and silt removal facilities, and the drainage and intercepting channels on site properly maintained? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | obs ①: p7, p8 |
| 1.06 | Is the stormwater intercepting system effective to collect of runoff and remove suspended solids before discharge? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 1.07 | Is water retained in receptacles and standing water avoided to prevent mosquito breeding? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 1.08 | Is the material properly covered to prevent washed away especially before rainstorm? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 1.09 | Is the temporary slope surface covered with impermeable sheet or sprayed with water or protected by other method approved by CEDD when rainstorm is imminent or forecast? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 1.10 | Is the final slope surface treated by compaction, followed by hydroseeding or other suitable surface stabiliser approved by CEDD to prevent washing away of stockpiled material? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 1.11 | Is a wheel washing bay with high pressure water jets provided at the site exit? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 1.12 | Is sand and silt settled out or removed before being discharged into storm drains? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 1.13 | Are the manholes covered and sealed? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 1.14 | Is sewage from toilets discharged in to a foul sewer, or chemical toilets provided? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 1.15 | Is sewage from chemical toilets collected by a licensed contractor for disposal and maintenance of these facilities? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 1.16 | Are tipping halls enclosed with top and 3-sides to prevent spillage of material into marine water? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 1.17 | Is silt curtain provided at the outward side at the TKO basin near the barging point? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 1.18 | Is a waste collection vessel deployed to remove floating debris? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 1.19 | Is foam, oil, grease, scum, litter or other objectionable matters avoided on the water in vicinity of the barging facilities during the work activities? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 1.20 | Are the barges 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 washing? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |

| | Not Obs. | Yes | No | Follow up | N/A | Photo/ Remarks |
|-------------------------------|-------------------------------------|-------------------------------------|--------------------------|--------------------------|-------------------------------------|----------------|
| 1.21 | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 1.22 | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 1.23 | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 1.24 | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 1.25 | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 1.26 | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 1.27 | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 1.28 | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 1.29 | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| Section 2: Air Quality | | | | | | |
| 2.01 | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 2.02 | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 2.03 | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 2.04 | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 2.05 | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 2.06 | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 2.07 | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 2.08 | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 2.09 | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 2.10 | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 2.11 | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 2.12 | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 2.13 | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 2.14 | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 2.15 | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 2.16 | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 2.17 | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 2.18 | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 2.19 | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 2.20 | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |

| | Not Obs. | Yes | No | Follow up | N/A | Photo/Remarks |
|---|-------------------------------------|-------------------------------------|--------------------------|--------------------------|--------------------------|---------------|
| 2.21 | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 2.22 | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Section 3: Noise | | | | | | |
| 3.01 | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 3.02 | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 3.03 | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 3.04 | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 3.05 | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 3.06 | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 3.07 | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 3.08 | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 3.09 | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 3.10 | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Section 4: Waste/Chemical Management | | | | | | |
| 4.01 | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 4.02 | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 4.03 | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 4.04 | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 4.05 | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 4.06 | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 4.07 | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 4.08 | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 4.09 | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 4.10 | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 4.11 | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 4.12 | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 4.13 | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |

| | | Not Obs. | Yes | No | Follow up | N/A | Photo/Remarks |
|--|--|-------------------------------------|-------------------------------------|--------------------------|--------------------------|--------------------------|---------------|
| 4.14 | Are the chemical wastes separated for special handling and appropriate treatment at the Chemical Waste Treatment Facility? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 4.15 | Are chemical wastes including waste oil stored properly in designated areas, e.g. chemical waste storage area? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 4.16 | Is the designated chemical waste storage area used for storing chemical wastes only? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 4.17 | Is chemical waste storage area suitable for the substance they are holding, resistant to corrosion, maintained in good condition? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 4.18 | Is chemical waste storage area enclosed on at least 3 sides and securely closed? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 4.19 | Is chemical waste storage area provided with bunds of a capacity to contain 110% of the total volume of container? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 4.20 | Is chemical waste storage area well ventilated? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 4.21 | Is chemical wastes storage area covered to prevent rainfall entering?(water collected within the bund must be tested and disposal as chemical waste if necessary) | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 4.22 | Is chemical waste storage area arranged so that incompatible materials are adequately separated? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 4.23 | Are warning panels displayed at the waste storage area? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 4.24 | Is the waste storage area cleaned and maintained regularly? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 4.25 | Is chemical waste transported by a registered chemical waster collector to a facility licensed to receive chemical waste? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 4.26 | Are all generators, fuel and oil storage located within bundle areas? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 4.27 | Is oil leakage from machinery, vehicle and plant prevented? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 4.28 | Are procedures as outlined in the Spillage Response Plan followed in the event of chemical waste/dangerous goods/ chemical spillage or leakage? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 4.29 | Are the dangerous goods/chemical spillage or leakage procedures in place? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 4.30 | Is approved personnel nominated? For example, site manager, to be responsible for good site practices, arrangements for collection and effective disposal to an appropriate facility, of all wastes generated at the site. | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 4.31 | Is there any training of site personnel in proper waste management and chemical handling procedures provided? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 4.32 | Is good site practices 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? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 4.33 | Is there any recording system for the amount of wastes generated, recycled and disposed? For example, trip ticket system for chemical waste disposal. Quantities could be determined by weighting each load or other suitable methods. | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Section 5: Landscape & Visual | | | | | | | |
| 5.01 | Is the maximum stockpiling height at the fill bank limited to a maximum of +35.2mPD? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 5.02 | Is the landscape and visual mitigation measures in accordance with the landscape plan implemented during the operational and removal phases? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 5.03 | Is the surface of outer slopes of the Fill Bank preferably hydroseeded or covered with geo-textile matting of appropriate colour (e.g dark green/brown) once completed? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 5.04 | Is the design of the fill bank and plant form heights adopted allowed the fill bank to fit into the general topography of the surrounding land (straight edged slopes should be avoided)? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 5.05 | Is the operation of barging point not allowed from 7:00 p.m. to 8:00 a.m. daily to avoid potential visual impact from glare? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |

| Not Obs. | Yes | No | Follow up | N/A | Photo/Remarks |
|----------|-----|----|-----------|-----|---------------|
|----------|-----|----|-----------|-----|---------------|

Section 6: Others

| | | | | | | | |
|------|--|--------------------------|-------------------------------------|--------------------------|--------------------------|--------------------------|--|
| 6.01 | Is the fill bank site restricted access by the general public? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 6.02 | Is environmental permit displaced conspicuously on site? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |

Section 7: Follow-up for the Previous Environmental Inspection on date 10.10.12 (Ref No. CEDPFRSFEM00_121010_TKOFB)

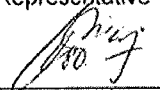



| | | | | | | |
|---|--------------------------|-------------------------------------|--------------------------|--------------------------|--------------------------|-----------------------|
| Is the situation in item <u>Fu①</u> improved / rectified? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <u>closed; p3, p4</u> |
| Is the situation in item <u>Fu②</u> improved / rectified? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <u>closed; pb</u> |
| Is the situation in item _____ improved / rectified? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Is the situation in item _____ improved / rectified? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Is the situation in item _____ improved / rectified? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |

Remarks:

Follow up:
 - Fu① + Fu② had been rectified. (closed)

Observation:

Catchpit No. 8
 - Deposition of silt and silty water are found at CREO.

| | | | |
|---|---|---|---|
| Signature: CEDD's Representative | Signature: IEC Auditor | Signature: ET Auditor | Signature: Contractor's Representative |
|  |  |  |  |
| Name: <u>C. K. Woo</u> | Name: <u>KC WAI</u> | Name: <u>Mark Kiu Wan</u> | Name: <u>S. W. Sui</u> |
| Date: <u>25-10-2012</u> | Date: <u>25.10.12</u> | Date: <u>25/10/12</u> | Date: <u>25/10/2012</u> |

Contract No.: CV/2009/02

Inspection Date: 25 October 2012

(1) Follow up the previous inspection

Checklist No.: CEDPFRSFEM00_121010_TKOFB

Before

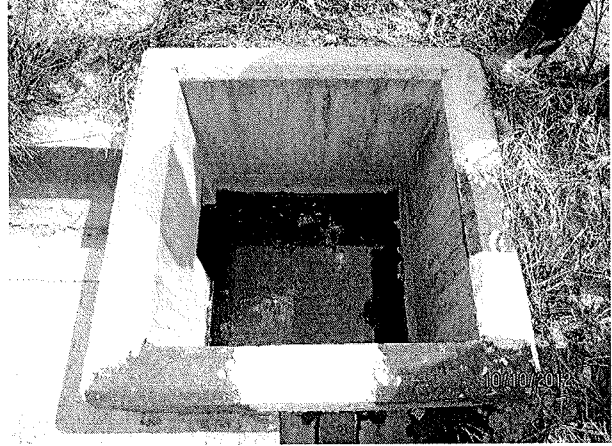
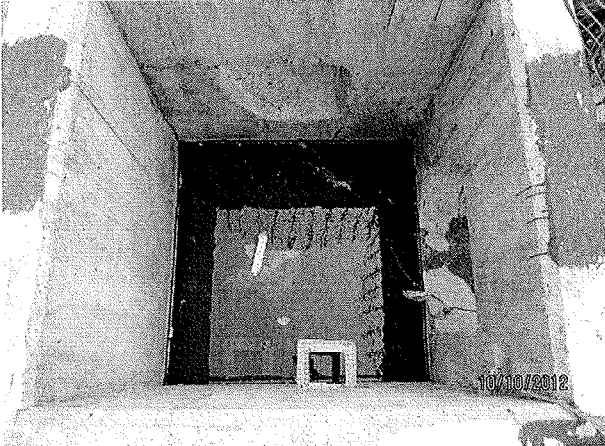


Photo 1 and 2

CREO

Turbid water and rubbish are found at catchpits.

The Contractor is reminded to properly maintain all drainage facilities at site.

After

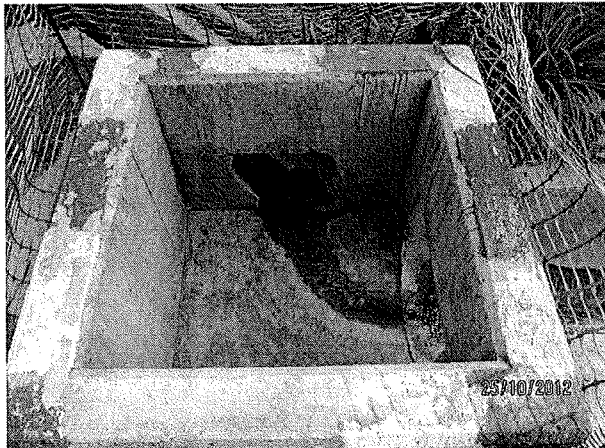


Photo 3 and 4

CREO

Catchpit had been temporarily filled to keep water running at u-channel. **(Closed)**

Before

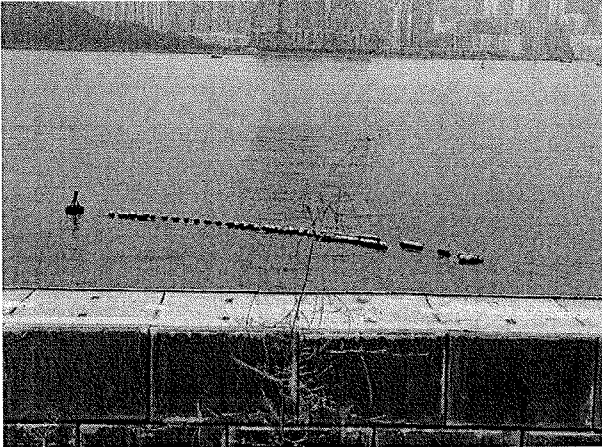


Photo 5
Silt Curtain
Silt curtain near Pier No.1 was not properly fixed.

After

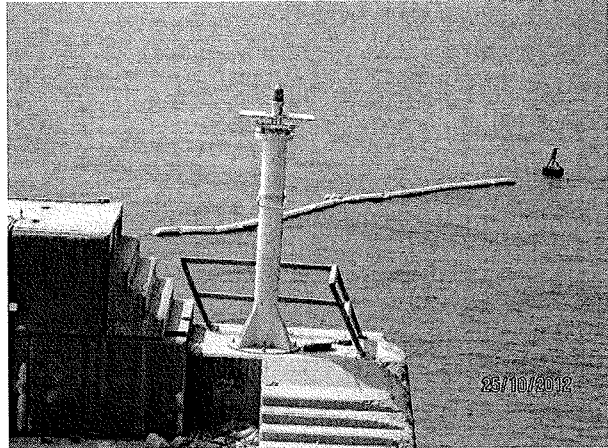


Photo 6
Silt Curtain
Silt curtain had been properly fixed near Pier No.1.
(Closed)

(2) Observation during site inspection

Checklist No.: CEDPFRSFEM00_121025_TKOFB



Photo 7 and 8
Catchpit No.8
Deposition of silt and silty water are found at Catchpit No.8 at CREO.
The Contractor is reminded to frequently clean and maintain the catchpit.


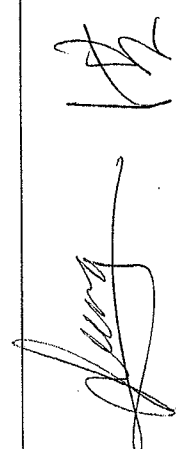



Appendix I

Weekly ET's Site Inspection Record

CEDD Contract No.: CV/2009/02
 Handling of Surplus Public Fill - Tseung Kwan O Fill Bank

Inspection Date : 3/10/12
 Time : 10:40
 Weather : Sunny / (Fine) Cloudy / Overcast / Drizzle / Rain / Storm / Hazy
 Wind : Calm / (Light) Breeze / Strong
 Temperature : 30°C
 Humidity : High / Moderate / (Low)

| Inspected by | CEDD | Contractor / Sub-Contractor | ET |
|--------------|--|---|---|
| Signature: |  |  |  |
| Name: | C.K. Loo Kenneth | S.W. Sung W. Sun | Mak Hei Wan |
| Title | AEOPB 25/1/13 | AEOPB S/S | E.T |

| Environmental Checklist | | Implementation Stages* | | | Remark |
|-------------------------------------|--|-------------------------------------|--------------------------|--------------------------|--------|
| | | Yes | No | N/A | |
| Fugitive Dust Emission | | | | | |
| <input checked="" type="checkbox"/> | Dust control / mitigation measures shall be provided to prevent dust nuisance. | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Item 2 |
| <input checked="" type="checkbox"/> | 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. | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| <input checked="" type="checkbox"/> | Water sprays shall be provided and used to dampen materials. | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| <input checked="" type="checkbox"/> | Regular cleaning and watering the site shall be provided to minimize the fugitive dust emissions. | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| <input checked="" type="checkbox"/> | All vehicles shall be restrict to a maximum speed of 10 km per hour. | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| <input checked="" type="checkbox"/> | 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. | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| <input checked="" type="checkbox"/> | The designated site main haul road shall be paved or regular watering. | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| <input checked="" type="checkbox"/> | Frequent watering of work site shall be at least three times per day. | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| <input checked="" type="checkbox"/> | Wheel washing facilities including high-pressure water jet shall be provided at the entrance of work site. | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| <input checked="" type="checkbox"/> | Every vehicle shall be washed to remove any dusty materials from its body and wheels before leaving the fill bank. | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| <input checked="" type="checkbox"/> | All plant and equipment should be well maintained e.g. without black smoke emission. | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| <input checked="" type="checkbox"/> | Open burning should be prohibited. | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| <input checked="" type="checkbox"/> | The temporary slope surfaces, especially those facing to the north of the site shall be covered with impermeable sheet or sprayed with water or protected by other method approved by CEDD. | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| <input checked="" type="checkbox"/> | Final slope surfaces, especially those facing to the north of the site shall be treated by compaction, followed by hydroseeding, vegetation planting or sealing with shot concrete, latex, vinyl, bitumen, or other suitable surface stabilizer approved by CEDD. | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| <input checked="" type="checkbox"/> | When fill material is transfer by belt conveyor systems, the conveyors shall be enclosed on top and 2 sides. | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| <input checked="" type="checkbox"/> | The belt scraper shall be equipped with bottom plates or other similar means to prevent falling of material from the return belt. | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| <input checked="" type="checkbox"/> | 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. | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Noise Impact | | | | | |
| <input checked="" type="checkbox"/> | The approved method of working, equipment and sound-reducing measures (e.g. use of silenced type of equipment, etc.) shall be adapted. | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| <input checked="" type="checkbox"/> | Only well maintained plant should be operated on-site and plant should be serviced regularly during the construction works. | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| <input checked="" type="checkbox"/> | Powered mechanical equipment (PME) should be covered or shielded by appropriate acoustic materials. | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| <input checked="" type="checkbox"/> | Air compressors and hand held breakers should have noise labels. | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| <input checked="" type="checkbox"/> | Machines and plants that may be in intermittent use should be shut down between work periods or should be throttled down to a minimum. | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| <input checked="" type="checkbox"/> | Noisy equipment and mobile plant shall always be site away from NSRs. | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |


| Environmental Checklist | | Implementation Stages* | Remark |
|-------------------------------------|---|-------------------------------------|--------|
| | | | |
| Water Quality | | | |
| <input checked="" type="checkbox"/> | Drainage system should be adequate and well maintained to prevent flooding and overflow, especially after rain storms. | <input checked="" type="checkbox"/> | |
| <input checked="" type="checkbox"/> | The permanent drainage channels should have sediment basin, traps and baffles and maintain properly. | <input checked="" type="checkbox"/> | |
| <input checked="" type="checkbox"/> | Temporary intercepting drains should be used at the stockpiling area to divert polluted stormwater to the intercepting channels. Earth bunds and sand bay barriers shall be used to assist the diversion of polluted stormwater to the intercepting channels. | <input checked="" type="checkbox"/> | |
| <input checked="" type="checkbox"/> | Manholes should be covered and sealed. | <input checked="" type="checkbox"/> | |
| <input checked="" type="checkbox"/> | Unnecessary water retained in receptacles and standing water should be avoided to prevent mosquito breeding. | <input checked="" type="checkbox"/> | |
| <input checked="" type="checkbox"/> | A buffer distance of at least 100m shall be maintained between the boundary of the public fill stockpiling area and the sea front. | <input checked="" type="checkbox"/> | |
| <input checked="" type="checkbox"/> | A buffer distance of at least 20m shall be maintained between the boundary of the C&DMSF and the seafront. | <input checked="" type="checkbox"/> | |
| <input checked="" type="checkbox"/> | The stormwater intercepting system shall be effective to collect of runoff and remove suspended solids before discharge. | <input checked="" type="checkbox"/> | |
| <input checked="" type="checkbox"/> | The temporary slope surfaces, especially those facing to the north of the site shall be covered with impermeable sheet or sprayed with water or protected by other method approved by CEDD. | <input checked="" type="checkbox"/> | |
| <input checked="" type="checkbox"/> | Final slope surfaces, especially those facing to the north of the site shall be treated by compaction, followed by hydroseeding, vegetation planting or sealing with shotcrete, latex, vinyl, bitumen, or other suitable surface stabilizer approved by CEDD. | <input checked="" type="checkbox"/> | |
| <input checked="" type="checkbox"/> | Existing and newly constructed Catchpits, sand and silt removal facilities and intercepting channels shall be maintained, and the deposited silt and grit shall be removed weekly and on a need basis especially at the onset of and after each rainstorm to ensure that these facilities are functioning properly at all times. | <input checked="" type="checkbox"/> | |
| <input checked="" type="checkbox"/> | A wheel washing bay shall be provided at the site exit and wash-water shall have sand and silt settled out or removed before being discharged into storm drains. | <input checked="" type="checkbox"/> | |
| <input checked="" type="checkbox"/> | The section of construction road between wheel washing bay and the public road shall be paved with concrete, bituminous materials or hardcores to reduce vehicle tracking of soil and to prevent site run-off from entering public road drains. | <input checked="" type="checkbox"/> | |
| <input checked="" type="checkbox"/> | Sewage from toilets shall be discharged in to a foul sewer, or chemical toilets shall be provided. The chemical toilets (if use) shall be provided by a licensed contractor, who will be responsible for disposal and maintenance of these facilities. | <input checked="" type="checkbox"/> | |
| <input checked="" type="checkbox"/> | Oil intercept in addition of sand / silt removal facilities shall be provided at the car parking areas. | <input checked="" type="checkbox"/> | |
| <input checked="" type="checkbox"/> | Oil interceptor shall be provided at work shop. | <input checked="" type="checkbox"/> | |
| <input checked="" type="checkbox"/> | Tipping halls enclosed with top and 3-side to prevent spillage of material into marine water. | <input checked="" type="checkbox"/> | Item 2 |
| <input checked="" type="checkbox"/> | The barges shall be in right size such that adequate clearance is maintained between the vessels and the seabed at all states of the tide to ensure the undue turbidity is not generated by turbulence from vessel movement or propeller wash. | <input checked="" type="checkbox"/> | |
| <input checked="" type="checkbox"/> | All vessels used for transportation of fill material shall have tight fitting seals to their bottom openings to prevent leakage of material during transport. | <input checked="" type="checkbox"/> | |
| <input checked="" type="checkbox"/> | Adequate environmental control measures shall be provided to prevent / avoid dropping of fill material into the sea during the transfer. | <input checked="" type="checkbox"/> | |
| <input checked="" type="checkbox"/> | Barges shall not be filled to a level which may cause the overflow of material during loading or transportation. Barge effluents shall be properly collected and treated before disposal. | <input checked="" type="checkbox"/> | |
| <input checked="" type="checkbox"/> | The work activities shall not cause any visible foam, oil, grease, scum, litter or other objectionable matters to be present on the water in the vicinity of the barging facilities. | <input checked="" type="checkbox"/> | |
| <input checked="" type="checkbox"/> | Existing silt curtain at the outward side of the basin near the Barging Handling Area throughout the period shall be repair, maintain and service when there is public fill intake by barges to the Fill Bank in accordance with PS Clause 1.68. The total length of the silt curtains shall not be less than 160m, and a gap of about 80m shall be left open for access of barges. The silt curtain shall be properly maintained such that it can also serve the function of refuse containment boom to confine floating refuse. | <input checked="" type="checkbox"/> | Item 1 |
| <input checked="" type="checkbox"/> | A waste collection vessel shall be deployed to remove floating debris. | <input checked="" type="checkbox"/> | |

| 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. | √ | √ | Item 4 and 6 |
| ▪ | 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 25/09/12, item 1 on 12/09/12, item 1 on 05/09/12, item 1 on 29/08/12, item 1 on 23/08/12, item 1 on 15/08/12, item 1 on 08/08/12, item 1 on 01/08/12, item 1 on 25/07/12, item 3 on 20/07/12, item 3 on 11/07/12, floating booms of silt curtain near tipping hall No.1 were still found damaged. | To repair the silt curtain as soon as possible. | 121003_001 | Yes | 10/10/12 |
| 2 | Follow up action to item 2 on 25/09/12, item 2 on 19/09/12, item 2 on 12/09/12, item 2 on 05/09/12, item 2 on 29/08/12, item 2 on 23/08/12, item 2 on 15/08/12, item 2 on 08/08/12, item 2 on 01/08/12, item 2 on 25/07/12, item 4 on 20/07/12, item 4 on 11/07/12, the enclosure of tipping hall No.3 was still found damaged. | To repair the damaged part of the tipping hall as soon as possible. | 121003_002 | Yes | 10/10/12 |
| 3 | Follow up action to item 4 on 25/09/12, item 4 on 19/09/12, item 4 on 12/09/12, item 4 on 05/09/12, item 4 on 29/08/12, item 5 on 23/08/12, item 5 on 15/08/12, item 5 on 08/08/12, item 6 on 01/08/12, item 6 on 25/07/12, the enclosure of tipping hall No.2 was found repaired. | --- | 121003_003 | No | --- |
| 4 | Follow up action to item 6 on 25/09/12, waste oil was still found inside the cargo near the tire repair workshop. | To relocate and store the waste oil properly at the chemical waste storage area immediately. | 121003_004 | Yes | 10/10/12 |
| 5 | Follow up action to item 7 on 25/09/12, oil stain next to the generator near the workshop was cleaned up. | --- | 121003_005 | No | --- |
| 6 | A chemical drum was discarded at Section A6 - 軟王. | To collect and store / dispose of the chemical drum properly. | 121003_006 | Yes | 10/10/12 |

Remark

| | | | |
|---|-----------|------------------------------|-----------------|
| Signature | | Date | |
|  | | 03 October 2012 | |
| Checked by | Name | Title | Date |
| | Linda Law | Senior Environmental Officer | 03 October 2012 |

Photos

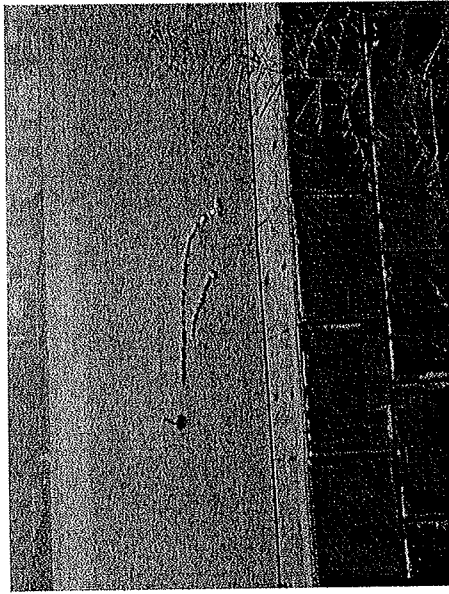


Photo 121003_001 (Silt curtain near the tipping hall No.1)

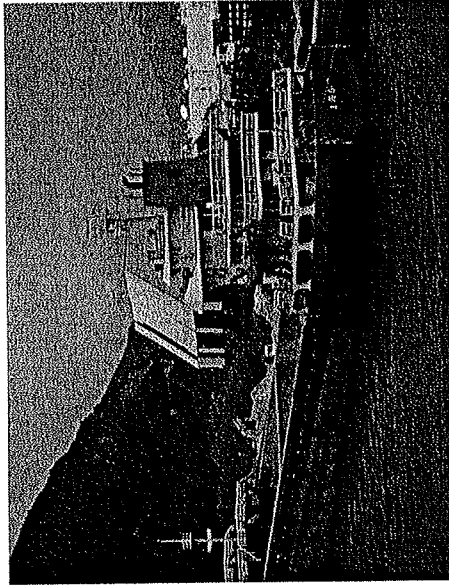


Photo 121003_002 (Tipping hall No.3)

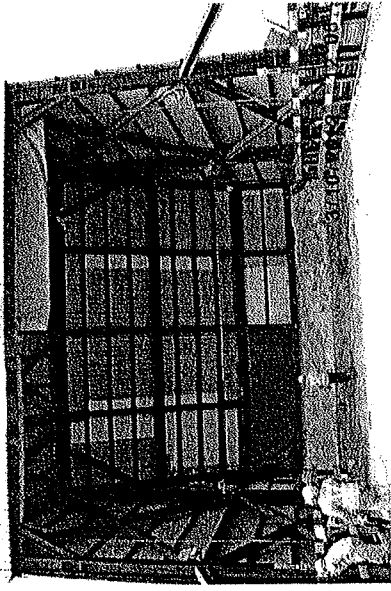


Photo 121003_003 (Tipping hall No.2)

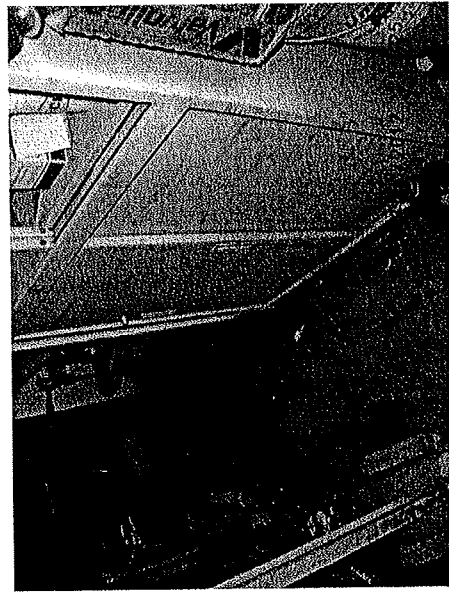


Photo 121003_004 (Cargo near tire repair workshop)

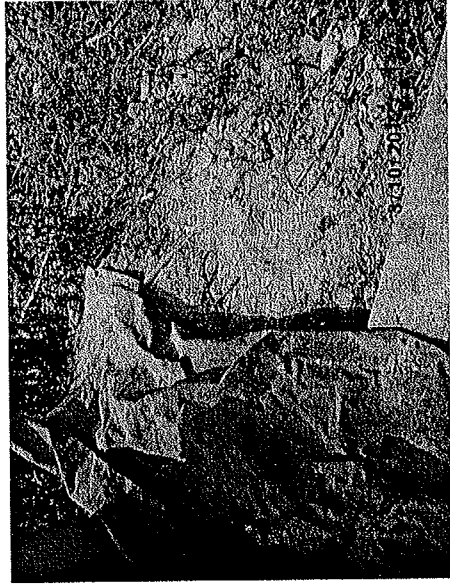


Photo 121003_005 (Generator near workshop)

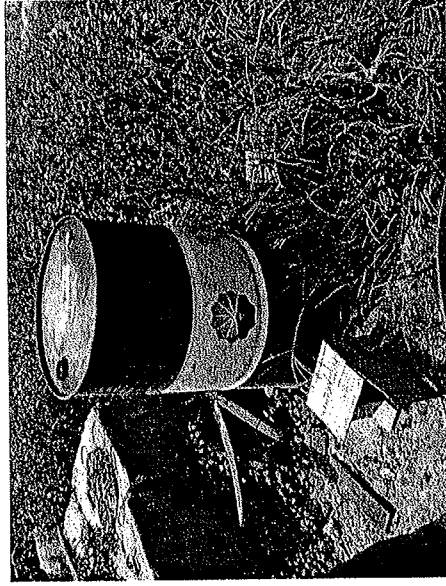

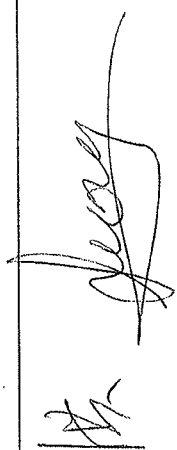



Photo 121003_006 (Chemical drum near Section A6 - 軟王)

CEDD Contract No.: CV/2009/02
Handling of Surplus Public Fill - Tseung Kwun O Fill Bank

Inspection Date : 10/10/12
 Time : 10:45
 Weather : Sunny / Fine / Cloudy / Overcast / Drizzle / Rain / Storm / Hazy
 Wind : Calm / Light / Breeze / Strong
 Temperature : 28°C
 Humidity : High / Moderate / Low

| Inspected by | CEDD | Contractor / Sub-Contractor | ET |
|--------------|---|---|---|
| Signature: |  |  |  |
| Name: | C.K. Woo KEMEK | W. Kwok Yee SUN SHING | Wak Kin Wan |
| Title | ACOW W&A | S.S. AEO | E.T |

CEDD Contract No.: CV/2009/02
Handling of Surplus Public Fill - Tseung Kwan O Fill Bank

| Implementation Stages* | Remark | |
|--------------------------------|--|-----|
| | | Yes |
| Environmental Checklist | | |
| 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. | |
| Noise Impact | | |
| ✓ | The approved method of working, equipment and sound-reducing measures (e.g. use of silenced type of equipment, etc.) shall be adapted. | |
| ✓ | Only well maintained plant should be operated on-site and plant should be serviced regularly during the construction works. | |
| ✓ | Powered mechanical equipment (PME) should be covered or shielded by appropriate acoustic materials. | |
| ✓ | Air compressors and hand held breakers should have noise labels. | |
| ✓ | Machines and plants that may be in intermittent use should be shut down between work periods or should be throttled down to a minimum. | |
| ✓ | Noisy equipment and mobile plant shall always be site away from NSRs. | |

CEDD Contract No.: CV/2009/02
Handling of Surplus Public Fill - Tseung Kwan O 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 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 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. | √ | | Item 5 |
| Existing silt curtain at the outward side of the basin near the Barging Handling Area throughout the period shall be repair, maintain and service when there is public fill intake by barges to the Fill Bank in accordance with PS Clause 1.68. The total length of the silt curtains shall not be less than 160m, and a gap of about 80m shall be left open for access of barges. The silt curtain shall be properly maintained such that it can also serve the function of refuse containment boom to confine floating refuse. | √ | | Item 1 |
| 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 1 on 03/10/12, item 1 on 25/09/12, item 1 on 19/09/12, item 1 on 12/09/12, item 1 on 05/09/12, item 1 on 29/08/12, item 1 on 23/08/12, item 1 on 15/08/12, item 1 on 08/08/12, item 1 on 01/08/12, item 1 on 25/07/12, item 3 on 20/07/12 and item 3 on 11/07/12, silt curtain near tipping hall No. 1 were still found damaged. | To repair the silt curtain as soon as possible. | 121010_001 | Yes | 17/10/12 |
| 2 | Follow up action to item 2 on 03/10/12, item 2 on 25/09/12, item 2 on 19/09/12, item 2 on 12/09/12, item 2 on 05/09/12, item 2 on 29/08/12, item 2 on 23/08/12, item 2 on 15/08/12, item 2 on 08/08/12, item 2 on 01/08/12, item 2 on 25/07/12, item 4 on 20/07/12 and item 4 on 11/07/12, the enclosure of tipping hall No.3 was repaired. | --- | 121010_002 | No | --- |
| 3 | Follow up action to item 6 on 25/09/12 and item 4 on 03/10/12, waste oil inside the cargo near the tire repair workshop was cleared. | --- | 121010_003 | No | --- |
| 4 | Follow up action to item 6 on 03/10/12, chemical drum discarded at Section A6 - 軟王 was collected. | --- | 121010_004 | No | --- |
| 5 | Oil stain was noted on the water inside the drainage chamber at check point. | To clear and treat the contaminated water as chemical waste. | 121010_005 | Yes | 17/10/12 |

Remark

| |
|--|
| |
|--|

| Name | Title | Signature | Date |
|-----------|------------------------------|---|-----------------|
| Linda Law | Senior Environmental Officer |  | 10 October 2012 |

Photos

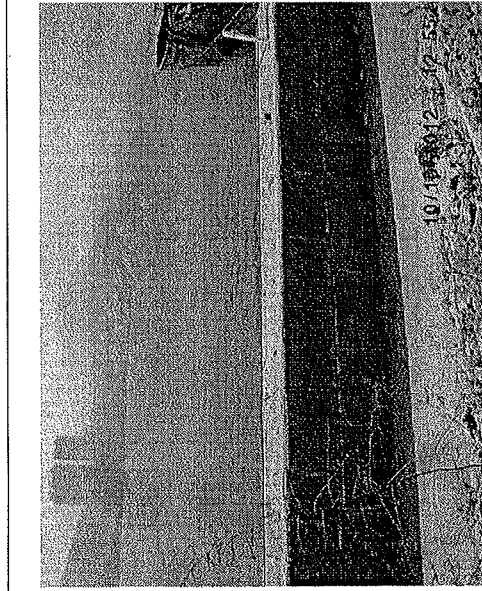


Photo 121010_001 (Silt curtain near the tipping hall No.1)

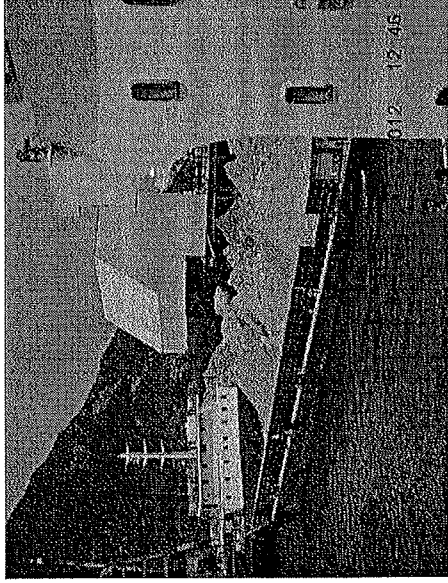


Photo 121010_002 (Tipping hall No.3)



Photo 121010_003 (Cargo near tire repair workshop)



Photo 121010_004 (Chemical drum near Section A6 -- 軟土)

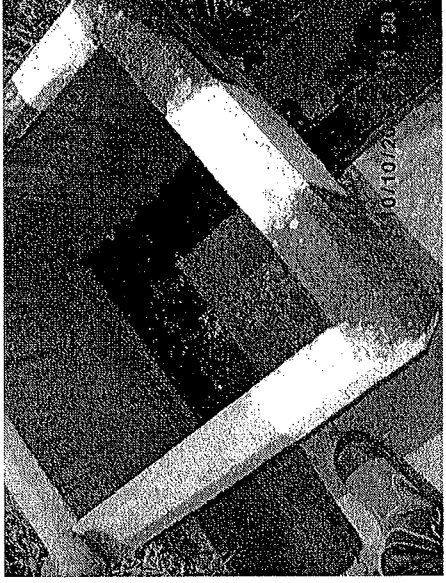
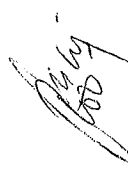




Photo 121010_005 (Check Point)



CEDD Contract No.: CV/2009/02
Handling of Surplus Public Fill - Tseung Kwun O Fill Bank

Inspection Date : 17/10/12
 Time : 10:45
 Weather : Sunny / Fine / Cloudy / Overcast / Drizzle / Rain / Storm / Hazy
 Wind : Calm / Light / Breeze / Strong
 Temperature : 28°C
 Humidity : High / Moderate / Low

| Inspected by | CEDD | Contractor / Sub-Contractor | ET |
|--------------|---|---|---|
| Signature: |  |  |  |
| Name: | C.K. Woo | A.W. Suen | Mark Kiu Wan |
| Title | AIOWP | S.S. | E.T |

| Environmental Checklist | | Implementation Stages* | | Remark |
|-------------------------------|--|------------------------|----------|--------|
| | | Yes | No / N/A | |
| Fugitive Dust Emission | | | | |
| ▪ | Dust control / mitigation measures shall be provided to prevent dust nuisance. | ✓ | | |
| ▪ | 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 property fitting side and tail boards. Material having the potential to create dust shall not be loaded to a level higher than the side and tail boards, and shall be covered by a clean tarpaulin. | ✓ | | |
| ▪ | The designated site main haul road shall be paved or regular watering. | ✓ | | |
| ▪ | Frequent watering of work site shall be at least three times per day. | ✓ | | |
| ▪ | Wheel washing facilities including high-pressure water jet shall be provided at the entrance of work site. | ✓ | | |
| ▪ | Every vehicle shall be washed to remove any dusty materials from its body and wheels before leaving the fill bank. | ✓ | | |
| ▪ | All plant and equipment should be well maintained e.g. without black smoke emission. | ✓ | | |
| ▪ | Open burning should be prohibited. | ✓ | | |
| ▪ | The temporary slope surfaces, especially those facing to the north of the site shall be covered with impermeable sheet or sprayed with water or protected by other method approved by CEDD. | ✓ | | |
| ▪ | Final slope surfaces, especially those facing to the north of the site shall be treated by compaction, followed by hydroseeding, vegetation planting or sealing with shot concrete, latex, vinyl, bitumen, or other suitable surface stabilizer approved by CEDD. | ✓ | | |
| ▪ | When fill material is transfer by belt conveyor systems, the conveyors shall be enclosed on top and 2 sides. | ✓ | | |
| ▪ | The belt scraper shall be equipped with bottom plates or other similar means to prevent falling of material from the return belt. | ✓ | | |
| ▪ | The level of stockpiling belt conveyor shall be adjustable such that the vertical distance between the belt conveyor and the material landing point is maintained at no more than 1m. | ✓ | | |
| Noise Impact | | | | |
| ▪ | The approved method of working, equipment and sound-reducing measures (e.g. use of silenced type of equipment, etc.) shall be adapted. | ✓ | | |
| ▪ | Only well maintained plant should be operated on-site and plant should be serviced regularly during the construction works. | ✓ | | |
| ▪ | Powered mechanical equipment (PME) should be covered or shielded by appropriate acoustic materials. | ✓ | | |
| ▪ | Air compressors and hand held breakers should have noise labels. | ✓ | | |
| ▪ | Machines and plants that may be in intermittent use should be shut down between work periods or should be throttled down to a minimum. | ✓ | | |
| ▪ | Noisy equipment and mobile plant shall always be site away from NSRs. | ✓ | | |


| Environmental Checklist | | Implementation Stages* | | Remark |
|-------------------------|---|------------------------|----------|--------|
| | | Yes | No / N/A | |
| Water Quality | | | | |
| ▪ | Drainage system should be adequate and well maintained to prevent flooding and overflow, especially after rain storms. | ✓ | | |
| ▪ | The permanent drainage channels should have sediment basin, traps and baffles and maintain properly. | ✓ | | |
| ▪ | Temporary intercepting drains should be used at the stockpiling area to divert polluted stormwater to the intercepting channels. Earth bunds and sand bay barriers shall be used to assist the diversion of polluted stormwater to the intercepting channels. | ✓ | | |
| ▪ | Manholes should be covered and sealed. | ✓ | | |
| ▪ | Unnecessary water retained in receptacles and standing water should be avoided to prevent mosquito breeding. | ✓ | | |
| ▪ | A buffer distance of at least 100m shall be maintained between the boundary of the public fill stockpiling area and the sea front. | ✓ | | |
| ▪ | A buffer distance of at least 20m shall be maintained between the boundary of the C&DMSF and the seafront. | ✓ | | |
| ▪ | The stormwater intercepting system shall be effective to collect of runoff and remove suspended solids before discharge. | ✓ | | |
| ▪ | The temporary slope surfaces, especially those facing to the north of the site shall be covered with impermeable sheet or sprayed with water or protected by other method approved by CEDD. | ✓ | | |
| ▪ | Final slope surfaces, especially those facing to the north of the site shall be treated by compaction, followed by hydroseeding, vegetation planting or sealing with shotconcrete, latex, vinyl, bitumen, or other suitable surface stabilizer approved by CEDD. | ✓ | | |
| ▪ | Existing and newly constructed Catchpits, sand and silt removal facilities and intercepting channels shall be maintained, and the deposited silt and grit shall be removed weekly and on a need basis especially at the onset of and after each rainstorm to ensure that these facilities are functioning properly at all times. | ✓ | | |
| ▪ | A wheel washing bay shall be provided at the site exit and wash-water shall have sand and silt settled out or removed before being discharged into storm drains. | ✓ | | |
| ▪ | The section of construction road between wheel washing bay and the public road shall be paved with concrete, bituminous materials or 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 licenced 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. | ✓ | | Item 1 |
| ▪ | A waste collection vessel shall be deployed to remove floating debris. | ✓ | | |

| Environmental Checklist | | Implementation Stages* | | | Remark |
|------------------------------------|--|------------------------|----|-----|--------|
| | | Yes | No | N/A | |
| Landscaping and Visual | | | | | |
| ✓ | | | | | |
| ✓ | | | | | |
| ✓ | | | | | |
| ✓ | | | | | |
| Other Environmental Factors | | | | | |
| ✓ | | | | | |
| ✓ | | | | | |
| ✓ | | | | | |
| ✓ | | | ✓ | | |
| ✓ | | | | | |
| ✓ | | | | | |
| ✓ | | | | | |
| ✓ | | | | | |
| ✓ | | | | | |

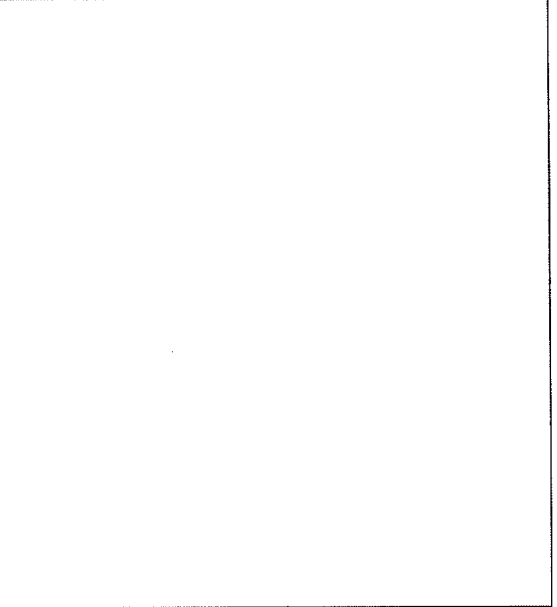
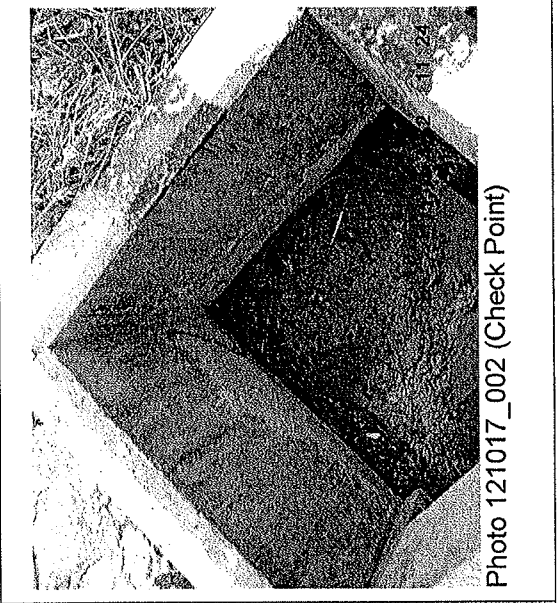
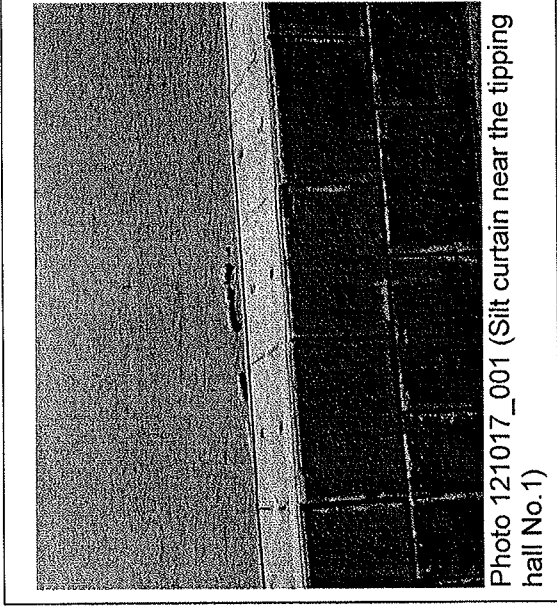
Summary of the Weekly Site Inspection:

| 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 10/10/12, item 1 on 03/10/12, item 1 on 25/09/12, item 1 on 19/09/12, item 1 on 12/09/12, item 1 on 05/09/12, item 1 on 29/08/12, item 1 on 23/08/12, item 1 on 15/08/12, item 1 on 08/08/12, item 1 on 01/08/12, item 1 on 25/07/12, item 3 on 20/07/12 and item 3 on 11/07/12, silt curtain near tipping hall No.1 were still found damaged. | To repair the silt curtain as soon as possible. | 121017_001 | Yes | 24/10/12 |
| 2 | Follow up action to item 5 on 17/10/12, no oil stain was noted on the water inside the drainage chamber at check point. | -- | 121017_002 | No | -- |

Remark


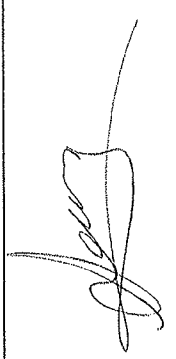

| Name | Title | Signature | Date |
|-----------|------------------------------|---|-----------------|
| Linda Law | Senior Environmental Officer |  | 17 October 2012 |

Photos



CEDD Contract No.: CV/2009/02
Handling of Surplus Public Fill - Tseung Kwan O Fill Bank

Inspection Date : 25/10/12
 Time : 10:45
 Weather : Sunny / Fine / Cloudy / Overcast / Drizzle / Rain / Storm / Hazy
 Wind : Calm / Light / Breeze / Strong
 Temperature : 28°C
 Humidity : High / Moderate / Low

| Inspected by | CEDD | Contractor / Sub-Contractor | ET |
|--------------|---|--|---|
| Signature: |  |  |  |
| Name: | C. K. Dou | S.V. Sunk Hi Kungtung | Nak Tee Wan |
| Title | AE0 A10W/P3 | S.S. | E.T |

| Environmental Checklist | Implementation Stages* | | | Remark |
|---|------------------------|----|-----|--------|
| | Yes | No | N/A | |
| Fugitive Dust Emission | | | | |
| <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 road shall be paved or regular watering. ▪ Frequent watering of work site shall be at least three times per day. ▪ Wheel washing facilities including high-pressure water jet shall be provided at the entrance of work site. ▪ Every vehicle shall be washed to remove any dusty materials from its body and wheels before leaving the fill bank. ▪ All plant and equipment should be well maintained e.g. without black smoke emission. ▪ Open burning should be prohibited. ▪ The temporary slope surfaces, especially those facing to the north of the site shall be covered with impermeable sheet or sprayed with water or protected by other method approved by CEDD. ▪ Final slope surfaces, especially those facing to the north of the site shall be treated by compaction, followed by hydroseeding, vegetation planting or sealing with shot concrete, latex, vinyl, bitumen, or other suitable surface stabilizer approved by CEDD. ▪ When fill material is transfer by belt conveyor systems, the conveyors shall be enclosed on top and 2 sides. ▪ The belt scraper shall be equipped with bottom plates or other similar means to prevent falling of material from the return belt. ▪ The level of stockpiling belt conveyor shall be adjustable such that the vertical distance between the belt conveyor and the material landing point is maintained at no more than 1m. | ✓ | | | |
| Noise Impact | | | | |
| <ul style="list-style-type: none"> ▪ The approved method of working, equipment and sound-reducing measures (e.g. use of silenced type of equipment, etc.) shall be adapted. ▪ Only well maintained plant should be operated on-site and plant should be serviced regularly during the construction works. ▪ Powered mechanical equipment (PME) should be covered or shielded by appropriate acoustic materials. ▪ Air compressors and hand held breakers should have noise labels. ▪ Machines and plants that may be in intermittent use should be shut down between work periods or should be throttled down to a minimum. ▪ Noisy equipment and mobile plant shall always be site away from NSRs. | ✓ | | | |

Environmental Checklist


| | Implementation Stages* | | Remark |
|---|------------------------|----------|--------|
| | Yes | No / N/A | |
| Water Quality | | | |
| ▪ Drainage system should be adequate and well maintained to prevent flooding and overflow, especially after rain storms. | ✓ | | Item 2 |
| ▪ 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 seafloor. | ✓ | | |
| ▪ 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 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 1 on 10/10/12, item 1 on 03/10/12, item 1 on 25/09/12, item 1 on 19/09/12, item 1 on 12/09/12, item 1 on 05/09/12, item 1 on 29/08/12, item 1 on 23/08/12, item 1 on 15/08/12, item 1 on 08/08/12, item 1 on 01/08/12, item 1 on 25/07/12, item 3 on 20/07/12 and item 3 on 11/07/12, silt curtain near tipping hall No.1 were found repaired. | | 121025_001 | No | --- |
| 2 | Mud and silt were noted accumulated inside the drainage channel near Chung Shun Site Office. | To clean up the accumulated mud and silt and maintain the drainage channel properly. | 121025_002 | Yes | 31/10/12 |

Remark

| Name | Title | Signature | Date |
|-----------|------------------------------|---|-----------------|
| Linda Law | Senior Environmental Officer |  | 25 October 2012 |

Photos

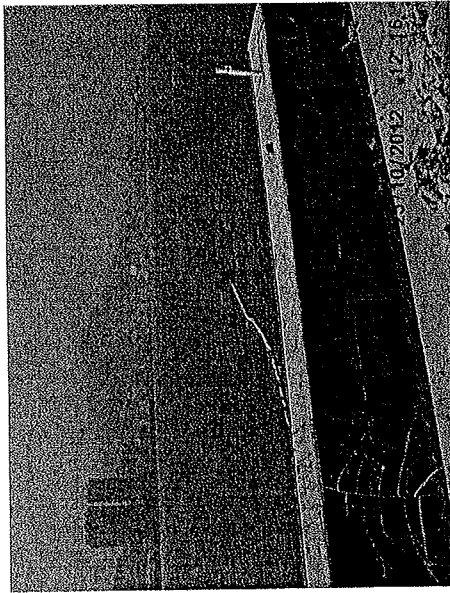


Photo 121025_001 (Silt curtain near the tipping hall No.1)

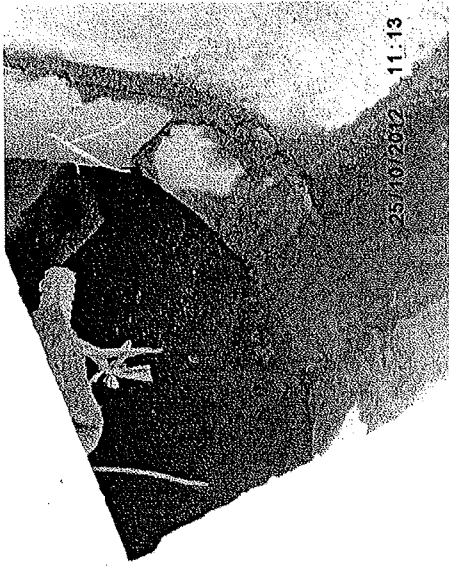
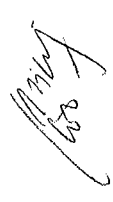
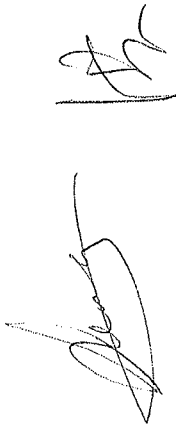



Photo 121025_002 (Near Chung Shun Site Office)

CEDD Contract No.: CV/2009/02
 Handling of Surplus Public Fill - Tseung Kwan O Fill Bank

Inspection Date : 31/10/12
 Time : 11:00
 Weather : Sunny / Fine / Cloudy / Overcast / Drizzle / Rain / Storm / Hazy
 Wind : Calm / Light / Breeze / Strong
 Temperature : 20°C
 Humidity : High / Moderate / Low

| Inspected by | CEDD | Contractor / Sub-Contractor | ET |
|--------------|---|---|---|
| Signature: |  |  |  |
| Name: | C. K. Woo | Sun-Sung Wilson | Mark See Man |
| Title | AE0/B3 | AE0 S.S. | E.T |

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

Environmental Checklist

| | Implementation Stages* | | | Remark |
|---|------------------------|----|-----|--------|
| | Yes | No | N/A | |
| Water Quality | | | | |
| Drainage system should be adequate and well maintained to prevent flooding and overflow, especially after rain storms. | ✓ | | | Item 1 |
| 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 2 |
| A buffer distance of at least 100m shall be maintained between the boundary of the public fill stockpiling area and the sea front. | ✓ | | | |
| A buffer distance of at least 20m shall be maintained between the boundary of the C&DMSF and the seafront. | ✓ | | | |
| The stormwater intercepting system shall be effective to collect of runoff and remove suspended solids before discharge. | ✓ | | | |
| The temporary slope surfaces, especially those facing to the north of the site shall be covered with impermeable sheet or sprayed with water or protected by other method approved by CEDD. | ✓ | | | |
| Final slope surfaces, especially those facing to the north of the site shall be treated by compaction, followed by hydroseeding, vegetation planting or sealing with shotconcrete, latex, vinyl, bitumen, or other suitable surface stabilizer approved by CEDD. | ✓ | | | |
| Existing and newly constructed Catchpits, sand and silt removal facilities and intercepting channels shall be maintained, and the deposited silt and grit shall be removed weekly and on a need basis especially at the onset of and after each rainstorm to ensure that these facilities are functioning properly at all times. | ✓ | | | |
| A wheel washing bay shall be provided at the site exit and wash-water shall have sand and silt settled out or removed before being discharged into storm drains. | ✓ | | | |
| The section of construction road between wheel washing bay and the public road shall be paved with concrete, bituminous materials or hardcores to reduce vehicle tracking of soil and to prevent site run-off from entering public road drains. | ✓ | | | |
| Sewage from toilets shall be discharged in to a foul sewer, or chemical toilets shall be provided. The chemical toilets (if use) shall be provided by a licensed contractor, who will be responsible for disposal and maintenance of these facilities. | ✓ | | | |
| Oil intercept in addition of sand / silt removal facilities shall be provided at the car parking areas. | ✓ | | | |
| Oil interceptor shall be provided at work shop. | ✓ | | | |
| Tipping halls enclosed with top and 3-side to prevent spillage of material into marine water. | ✓ | | | |
| 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, scurm, 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. | ✓ | | | |

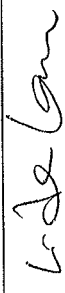
| Environmental Checklist | | Implementation Stages* | | Remark |
|------------------------------------|---|------------------------|----------|--------|
| | | Yes | No / N/A | |
| Landscape and Visual | | | | |
| ▪ | The design of the fill bank and platform heights adopted should allow the fill bank 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. | √ | | Item 2 |
| ▪ | 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 25/10/12, mud and silt were still noted accumulated inside the drainage channel near Chung Shun Site Office. | To clean up the accumulated mud and silt and maintain the drainage channel properly. | 121031_001 | Yes | 07/11/12 |
| 2 | Standing water and rubbish were noted inside the bucket of a repairing excavator near chemical waste storage area. | To clean up the standing water and rubbish properly. | 121031_002 | Yes | 07/11/12 |

Remark

| |
|--|
| |
|--|

| Name | Title | Signature | Date |
|-----------|------------------------------|---|-----------------|
| Linda Law | Senior Environmental Officer |  | 31 October 2012 |

Photos



Photo 121031_001 (Near Chung Shun Site Office)

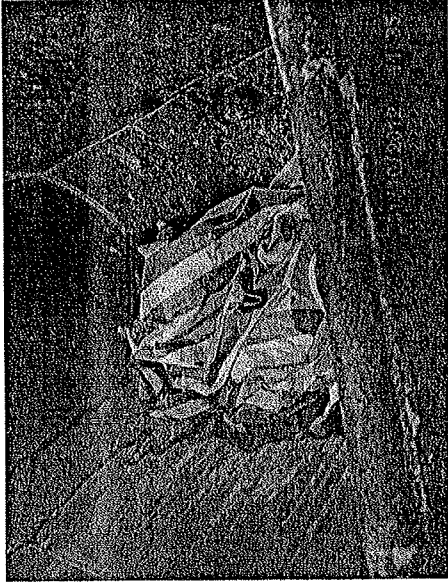


Photo 121031_002 (Near Chemical Waste Storage Area)



Appendix J

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. | | | | | | |
| 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 periods or should be throttled down to a minimum. ▪ Noisy equipment and mobile plant shall always be site away from NSRs. | | | | | | |

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



Appendix K

Site General Layout plan

- NOTES:**
1. ALL OPERATIONS ARE TO BE CONDUCTED IN ACCORDANCE WITH THE CITY OF SEATTLE'S ORDINANCES AND REGULATIONS.
 2. ALL OPERATIONS ARE TO BE CONDUCTED IN ACCORDANCE WITH THE CITY OF SEATTLE'S ORDINANCES AND REGULATIONS.
 3. ALL OPERATIONS ARE TO BE CONDUCTED IN ACCORDANCE WITH THE CITY OF SEATTLE'S ORDINANCES AND REGULATIONS.
 4. ALL OPERATIONS ARE TO BE CONDUCTED IN ACCORDANCE WITH THE CITY OF SEATTLE'S ORDINANCES AND REGULATIONS.
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 6. ALL OPERATIONS ARE TO BE CONDUCTED IN ACCORDANCE WITH THE CITY OF SEATTLE'S ORDINANCES AND REGULATIONS.
 7. ALL OPERATIONS ARE TO BE CONDUCTED IN ACCORDANCE WITH THE CITY OF SEATTLE'S ORDINANCES AND REGULATIONS.
 8. ALL OPERATIONS ARE TO BE CONDUCTED IN ACCORDANCE WITH THE CITY OF SEATTLE'S ORDINANCES AND REGULATIONS.
 9. ALL OPERATIONS ARE TO BE CONDUCTED IN ACCORDANCE WITH THE CITY OF SEATTLE'S ORDINANCES AND REGULATIONS.
 10. ALL OPERATIONS ARE TO BE CONDUCTED IN ACCORDANCE WITH THE CITY OF SEATTLE'S ORDINANCES AND REGULATIONS.

LEGEND:

- SITE BOUNDARY
- EXISTING BUILDING AREA
- EXISTING UTILIZATION LIST
- EXISTING ZONE
- EXISTING CONCRETE ACCESS ROAD
- EXISTING PAVING

| REVISION | DATE | DESCRIPTION | BY | CHECKED |
|----------|----------|-------------------|---------|---------|
| 1 | 01/15/00 | ISSUED FOR PERMIT | J. COOK | J. COOK |
| 2 | 02/15/00 | REVISED TO SHOW | J. COOK | J. COOK |
| 3 | 03/15/00 | REVISED TO SHOW | J. COOK | J. COOK |
| 4 | 04/15/00 | REVISED TO SHOW | J. COOK | J. COOK |
| 5 | 05/15/00 | REVISED TO SHOW | J. COOK | J. COOK |
| 6 | 06/15/00 | REVISED TO SHOW | J. COOK | J. COOK |
| 7 | 07/15/00 | REVISED TO SHOW | J. COOK | J. COOK |
| 8 | 08/15/00 | REVISED TO SHOW | J. COOK | J. COOK |
| 9 | 09/15/00 | REVISED TO SHOW | J. COOK | J. COOK |
| 10 | 10/15/00 | REVISED TO SHOW | J. COOK | J. COOK |

HANDLING OF SURPLUS PUBLIC FILL

PROJECT NO. 137
 DRAWING NO. FM10056-6
 SHEET NO. 1 OF 1
 DATE: 01/15/00

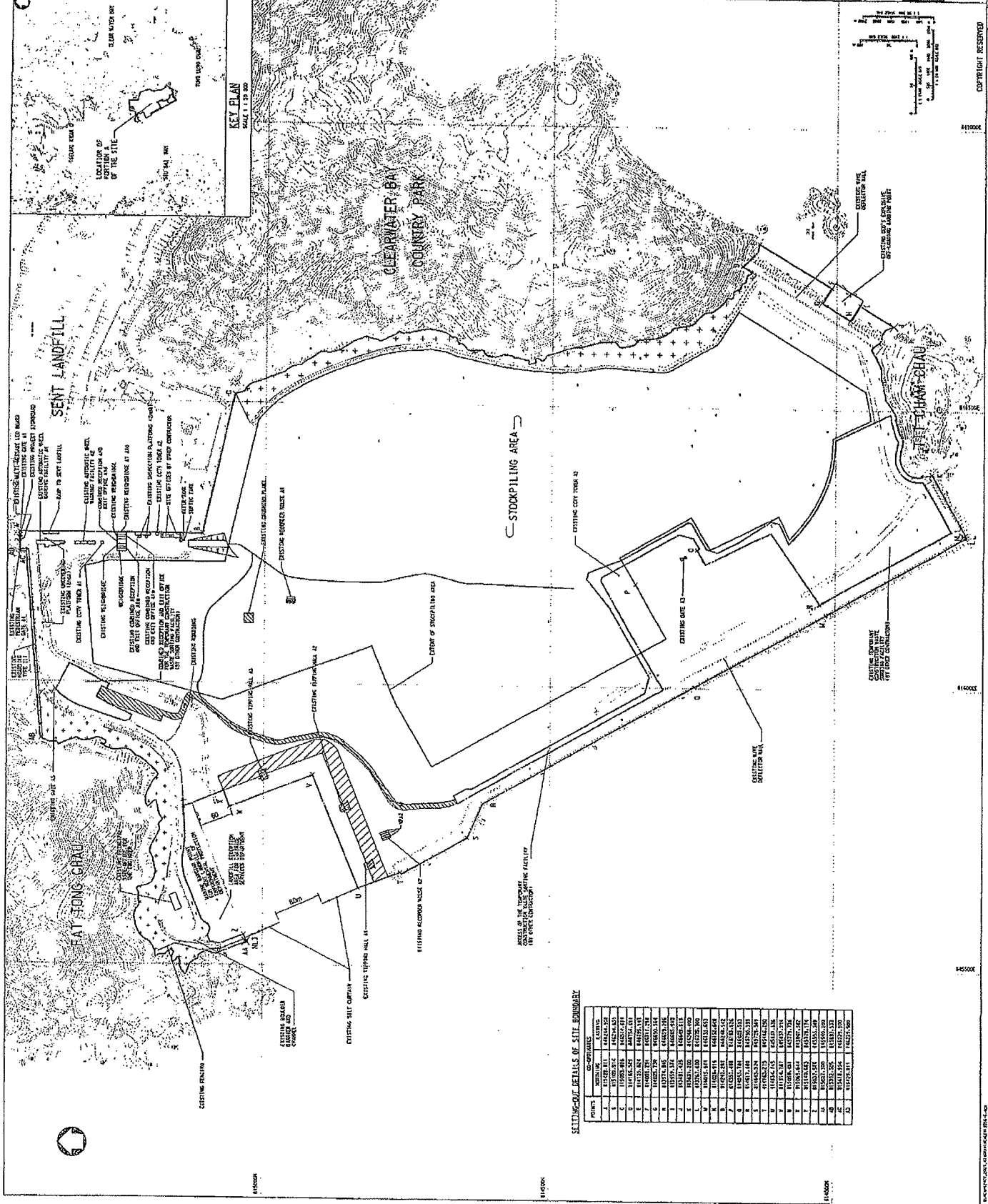
PROJECT: TESSING NEAR D AREA 137
 FILL BANK
 GENERAL LAYOUT OF EXISTING FACILITIES

SCALE: 1" = 50'
 NORTH

PROJECT: FILL MANAGEMENT DIVISION
 CIVIL ENGINEERING OFFICE

CEDD CIVIL ENGINEERING AND DEVELOPMENT CORPORATION

COPYRIGHT RESERVED



SECTIONAL DETAILS OF SITE BOUNDARY

| POINT | COORDINATES |
|-------|-------------|
| A | 442647.524 |
| B | 442647.524 |
| C | 442647.524 |
| D | 442647.524 |
| E | 442647.524 |
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Appendix L

Monitoring Schedule for the Coming Month



Contract No. CV/2009/02 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)

November 2012

| Sun | Mon | Tue | Wed | Thu | Fri | Sat |
|-----|---|------------------------|---|-----------------------|--|-----|
| | | | | 1 | 2 <u>1-hr & 24 hr TSP</u> <u>WQM</u> Mid-ebb (12:00 – 14:00) Mid-flood (16:30 – 18:30) | 3 |
| 4 | 5 <u>1-hr TSP</u> <u>WQM</u> Mid-flood (10:30 – 12:30) Mid-ebb (15:00 – 17:00) | 6 | 7 <u>1-hr TSP</u> <u>Weekly SI</u> <u>NM</u> <u>WQM</u> Mid-flood (12:00-14:00) Mid-ebb (17:00-19:00) | 8 <u>24 hr TSP</u> | 9 <u>1-hr TSP x 2</u> <u>WQM</u> Mid-ebb (07:30-09:30) Mid-flood (13:30-15:30) | 10 |
| 11 | 12 <u>1-hr TSP</u> <u>WQM</u> Mid-ebb (09:30 – 11:30) Mid-flood (15:30 – 17:30) | 13 | 14 <u>1-hr & 24 hr TSP</u> <u>Weekly SI</u> <u>WQM</u> Mid-ebb (11:00 -13:00) Mid-flood (16:00 -18:00) | 15 | 16 <u>1-hr TSP</u> <u>WQM</u> Mid-flood (07:30-09:30) Mid-ebb (13:00-15:00) | 17 |
| 18 | 19 <u>1-hr TSP</u> <u>WQM</u> Mid-flood (10:30-12:30) Mid-ebb (15:30-17:30) | 20 <u>24 hr TSP</u> | 21 <u>1-hr TSP x 2</u> <u>Weekly SI</u> <u>WQM</u> Mid-flood (12:30-14:30) Mid-ebb (17:30-19:30) | 22 | 23 <u>1-hr TSP</u> <u>WQM</u> Mid-ebb (07:30-09:30) Mid-flood (13:30-15:30) | 24 |
| 25 | 26 <u>1-hr & 24 hr TSP</u> <u>WQM</u> Mid-ebb (09:30-11:30) Mid-flood (15:00-17:00) | 27 | 28 <u>1-hr TSP</u> <u>Weekly SI</u> <u>WQM</u> Mid-ebb (11:00-13:00) Mid-flood (16:30-18:30) | 29 | 30 <u>1-hr TSP</u> <u>WQM</u> Mid-ebb (12:00-14:00) Mid-flood (16:00-18:00) | |



Appendix M

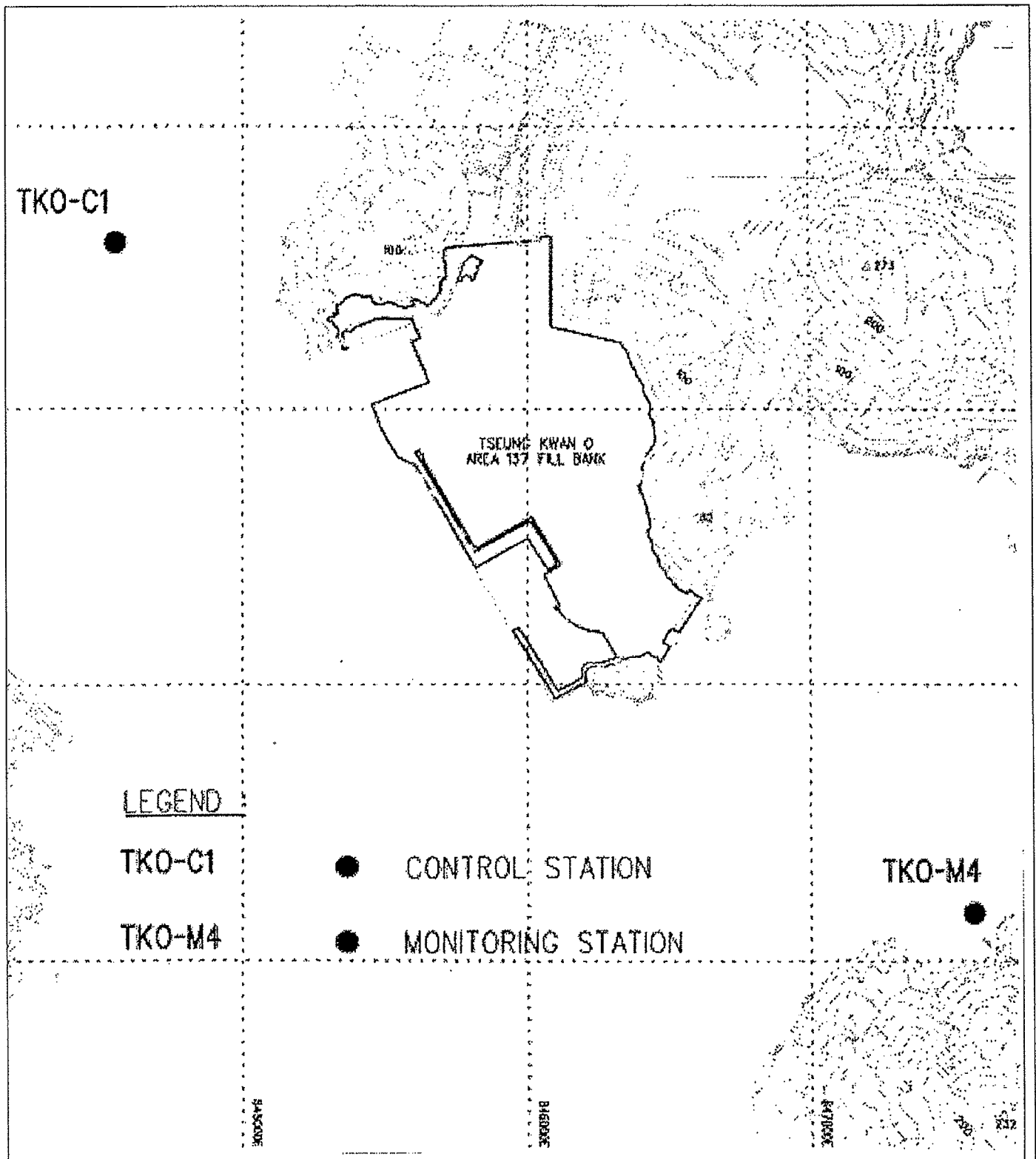
Complaint Log

Complaint Logs

| Log Ref. | Location | Received Date | Details of Complaint | Investigation / Mitigation Action | Status |
|----------|-------------------------------|-------------------|--|---|--------|
| 001 | Working Area of the Fill Bank | 25 August 2010 | Three complaints received on 06 and 08 Aug 2010 was forwarded by the EPD on 25 August 2010 (Ref No.: (3) in EP3/N08/RE/00013438-10) from a citizen against dust emission at working area of the Fill Bank which caused by no water spray. The complainant complained that the dust generated caused an environmental nuisance. | <p>In response to the complaint, EPD had taken site investigations on 12 Aug 2010. During the site investigation, some improvements in the situation were noted by EPD and EPD reminded the Contractor to implement appropriate dust control measures as suggested in the EIA report to minimize dust impact to the environment, such as increasing the frequency of watering and spraying the site area especially during dry weather.</p> <p>Besides, a complaint Investigation report of this event have prepared by ET. From the investigation report, it noted that water spraying in the Fill Bank was not sufficient during the weekly site inspection on 07 Aug 2010 but there was no exceedance in air quality on 07 and 08 Aug 2010. Nevertheless, in view of our observation on site, the Contractor was still urged to increase the frequency of watering in the Project site especially during dry weather condition in order to enhance the air quality of the Project site. During the subsequently weekly site inspection on 14 Aug 2010, no more dust emission was observed in the Project site. It believed that the Contractor had provided as much as dust control measures to mitigate the problem and the air quality was further improved.</p> | Closed |
| 002 | Working Area of the Fill Bank | 20 September 2011 | Two complaints received on 24 and 29 August 2011 was forwarded by the EPD on 20 September 2011 (Ref No.: (2) in EP3/N08/RE/00017553-11) from public against dust emission at TKO137 Fill Bank. The complainant complained that the dust generated caused an environmental nuisance. | <p>Refer the EPD site investigation, no excessive emission of dust was revealed from the TKO137 Fill Bank. However, the Contractor was reminded to take more effort on the dust depression measures in the site area.</p> <p>Besides, a complaint Investigation report of this event have prepared by ET. From the investigation report, it noted that no fugitive dust emission was observed at TKO137 Fill Bank during the weekly site inspection on 24 and 31 August 2011 and no air quality exceedance was recorded during the dust monitoring period from 24 to 31 August 2011. Generally, the Contractor has implemented dust control measures to reduce dust impact to the environment but some improvement should be carried out. The Contractor should take more effort on the frequency of watering on site especially during dry weather.</p> | Closed |



Figures

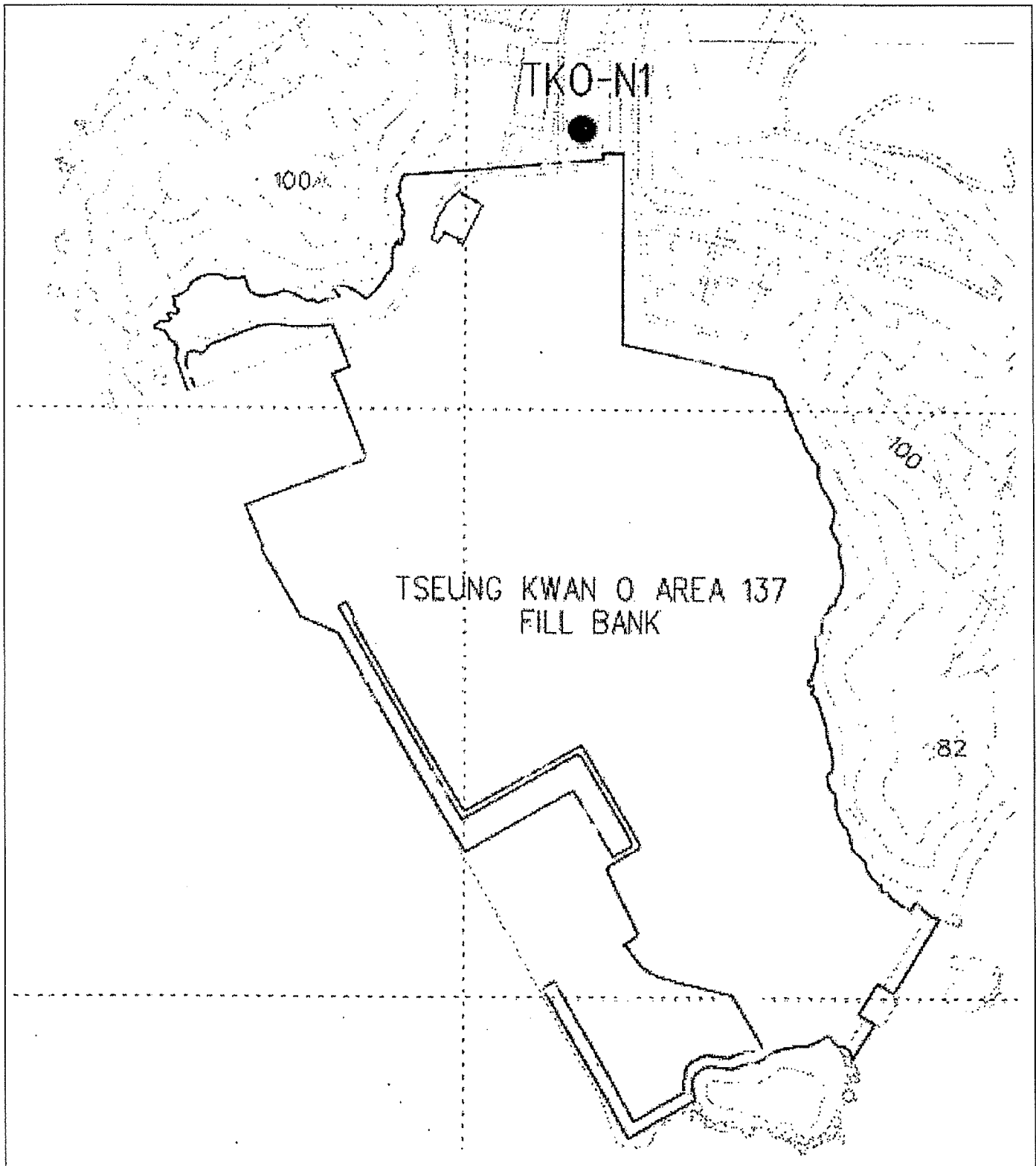


Contract No. CV/2009/02
 Handling of Surplus Public Fill

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



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

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



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

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

ETS-Testconsult
Ltd

Figure 3a

