








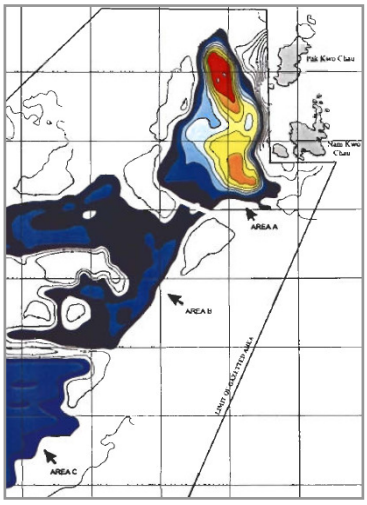

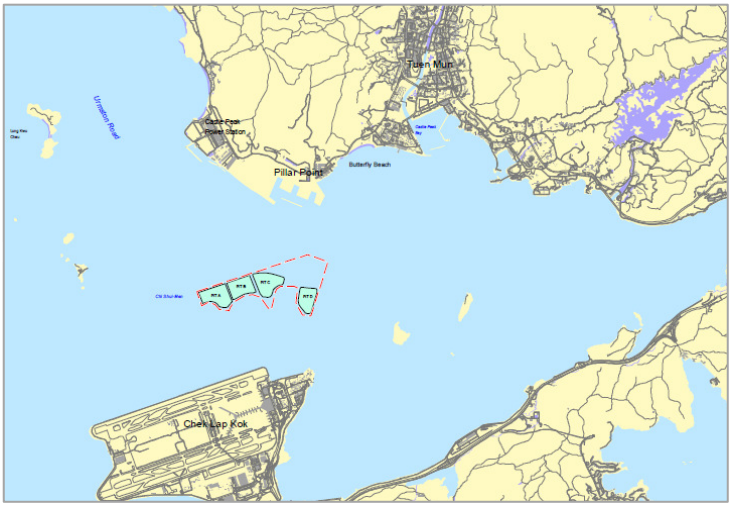

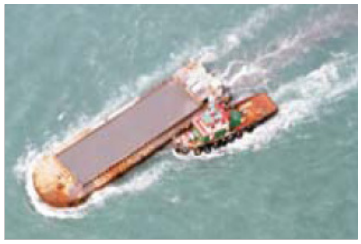

土木工程拓展署
Civil Engineering and Development Department

# Environmental Monitoring and Audit for Contaminated Mud Pit at Sha Chau (2009-2013) – Investigation

***Agreement No. CE 4/2009(EP)***

## 17th Monthly Progress Report for Contaminated Mud Pits at Sha Chau – November 2010

Revision 0

29 December 2010

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# Environmental Monitoring and Audit for Contaminated Mud Pit at Sha Chau (2009-2013) – Investigation

## 17th Monthly Progress Report for Contaminated Mud Pits at Sha Chau – November 2010

*Revision 0*

***Document Code: 0103262 Nov 10 Monthly Report.doc***


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| Client: | Project No: |
|---|---|
| Civil Engineering and Development Department (CEDD) | 0103262 |
| Summary: | Date: 29 December 2010 |
| This document presents progress of monitoring works on contaminated mud pits at Sha Chau in November 2010 under Agreement No. CE 4/2009 (EP). | Approved by: *Dr Robin Kennish* *Director* |

| Revision | Description | By | Checked | Approved | Date |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |
| 0 | 17th Monthly Progress Report for CMP – Revision 0 | JT | CAR | RK | 29/12/10 |



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**Agreement No. CE 4/2009 (EP)**
**Environmental Monitoring and Audit**
**for Contaminated Mud Pit at Sha Chau (2009-2013) - Investigation**

# 17th MONTHLY PROGRESS REPORT FOR CONTAMINATED MUD PITS AT SHA CHAU - November 2010

## *1.1 BACKGROUND*

Since 1992, the East of Sha Chau area has been the site of a series of dredged contaminated mud pits (CMPs) designed to provide confined marine disposal capacity for contaminated mud arising from the HKSAR's dredging and reclamation projects. CMP IVc is presently in operation for backfilling by contaminated mud and is anticipated to reach its capacity in 2011. A series of four newly constructed seabed pits at the East of Sha Chau area, CMP Va-d, will be provided for the disposal of contaminated mud after CMP IVc is full. Dredging operations are now taking place to construct CMP Vb. The environmental monitoring and audit (EM&A) programme for the CMPs at the East of Sha Chau area presently covers disposal and capping operations at CMP IV and dredging operations at CMP Vb.

## *1.2 REPORTING PERIOD*

This *Monthly Progress Report* covers the monitoring period of November 2010.

## *1.3 DETAILS OF SAMPLING AND LABORATORY TESTING ACTIVITIES*

Sediment Quality Monitoring was conducted on 23 November in this monthly period for CMP IVc. For CMP V, sampling for *Impact Water Quality Monitoring during Dredging Operations* was conducted on 9, 11 and 13 November. A summary of field activities are presented in *Annex A*.

## *1.4 DETAILS OF OUTSTANDING SAMPLING AND / OR ANALYSIS*

No outstanding sampling and laboratory analysis remained from November 2010.

## *1.5 BRIEF DISCUSSION OF THE MONITORING RESULTS*

Results of *Impact Water Quality Monitoring during Dredging Operations* for November 2010 are presented for CMP V. Detailed results will be discussed in the relevant *Quarterly Reports*.

### *1.5.1 CMP V*

*Impact Water Quality Monitoring during Dredging Operations of CMP V – November 2010*

*Impact Water Quality Monitoring during Dredging Operations of CMP V* was conducted on 9, 11 and 13 November 2010. On each survey day, sampling was conducted during both mid-ebb and mid-flood tides at two Reference (Upstream) stations upstream and five Impact (Downstream) stations downstream of the dredging operations at CMP V. Monitoring was also conducted at the Ma Wan station. At each station, *in-situ* measurements of water quality parameters as well as water samples were taken from three depths in the water column (ie surface: 1 m below sea surface, mid-depth and bottom: 1 m above the seabed).

Monitoring results are presented in *Table B1* of *Annex B*. Levels of Dissolved Oxygen (DO), Turbidity and Total Suspended Solids (TSS) complied with the Action and Limit Levels set in the *Baseline Monitoring Report* [1]. Therefore, there appears to be no evidence of any unacceptable adverse water quality impacts arising from the dredging operations of CMP V at ESC.

## *1.6 ACTIVITIES SCHEDULED FOR THE NEXT MONTH*

The following monitoring events are scheduled for the CMPs:

CMP IV

- Pit Specific Sediment Chemistry Monitoring;
- Cumulative Impact Sediment Chemistry Monitoring;
- Sediment Toxicity Monitoring;
- Water Column Profiling;
- Water Quality Monitoring during Capping;
- Benthic Recolonisation Monitoring; and
- Demersal Trawling.

*Impact Water Quality Monitoring during Dredging* will be undertaken for CMP V in the next monitoring month.

The sampling schedule is presented in *Annex A*.

([1]) ERM (2009) Baseline Monitoring Report. Environmental Monitoring and Audit for Contaminated Mud Pit at Sha Chau (2009-2013) – Investigation. Agreement No. CE 4/2009(EP). Submitted to EPD in September 2009.

## *1.7 STUDY PROGRAMME*

A summary of the Study programme is presented in *Annex C*.

Annex A

# Sampling Schedule

*Annex A1 - East of Sha Chau Environmental Monitoring and Audit Sampling Schedule for CMP IVc (July 2009 - December 2010)*

| | | | 2009 | | | | | | 2010 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Pit Specific Sediment Chemistry** | **Code** | **Frequency** | **J** | **A** | **S** | **O** | **N** | **D** | **J** | **F** | **M** | **A** | **M** | **J** | **J** | **A** | **S** | **O** | **N** | **D** |
| Active-Pit | | | | | | | | | | | | | | | | | | | | |
| | NCA 1 - 8 | 3 times per year | | * | | | | * | | | | * | | | | * | | | | * |
| | NCB 1 - 8 | 3 times per year | | * | | | | * | | | | * | | | | * | | | | * |
| Pit-Edge | | | | | | | | | | | | | | | | | | | | |
| | CPA 1-8 | 3 times per year | | * | | | | * | | | | * | | | | * | | | | * |
| | CPB 1-8 | 3 times per year | | * | | | | * | | | | * | | | | * | | | | * |
| Near-Pit | | | | | | | | | | | | | | | | | | | | |
| | CNA 1-8 | 3 times per year | | * | | | | * | | | | * | | | | * | | | | * |
| | CNB 1-8 | 3 times per year | | * | | | | * | | | | * | | | | * | | | | * |

| **Cumulative Impact Sediment Chemistry** | | | **J** | **A** | **S** | **O** | **N** | **D** | **J** | **F** | **M** | **A** | **M** | **J** | **J** | **A** | **S** | **O** | **N** | **D** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Near-field Stations | | | | | | | | | | | | | | | | | | | | |
| | RNA 1-9 | 2 times per year | | * | | | | * | | | | | | | | * | | | | * |
| | RNB 1-9 | 2 times per year | | * | | | | * | | | | | | | | * | | | | * |
| Mid-field Stations | | | | | | | | | | | | | | | | | | | | |
| | RMA 1-9 | 2 times per year | | * | | | | * | | | | | | | | * | | | | * |
| | RMB 1-9 | 2 times per year | | * | | | | * | | | | | | | | * | | | | * |
| Capped Pit Stations | | | | | | | | | | | | | | | | | | | | |
| | RCA 1-9 | 2 times per year | | * | | | | * | | | | | | | | * | | | | * |
| | RCB 1-9 | 2 times per year | | * | | | | * | | | | | | | | * | | | | * |
| Far-Field Stations | | | | | | | | | | | | | | | | | | | | |
| | RFA 1-9 | 2 times per year | | * | | | | * | | | | | | | | * | | | | * |
| | RFB 1-9 | 2 times per year | | * | | | | * | | | | | | | | * | | | | * |

| **Sediment Toxicity Tests** | | | **J** | **A** | **S** | **O** | **N** | **D** | **J** | **F** | **M** | **A** | **M** | **J** | **J** | **A** | **S** | **O** | **N** | **D** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Near-Field Stations | | | | | | | | | | | | | | | | | | | | |
| | TCA | 2 times per year | | 3 | | | | 3 | | | | | | | | 3 | | | | 3 |
| | TCB | 2 times per year | | 3 | | | | 3 | | | | | | | | 3 | | | | 3 |
| Reference Stations | | | | | | | | | | | | | | | | | | | | |
| | TRA | 2 times per year | | 3 | | | | 3 | | | | | | | | 3 | | | | 3 |
| | TRB | 2 times per year | | 3 | | | | 3 | | | | | | | | 3 | | | | 3 |

| **Tissue/ Whole Body Sampling** | | | **J** | **A** | **S** | **O** | **N** | **D** | **J** | **F** | **M** | **A** | **M** | **J** | **J** | **A** | **S** | **O** | **N** | **D** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Near-Pit Stations | | | | | | | | | | | | | | | | | | | | |
| | INA | 2 times per year | | * | | | | | | * | | | | | | * | | | | |
| | INB | 2 times per year | | * | | | | | | * | | | | | | * | | | | |
| Reference North | | | | | | | | | | | | | | | | | | | | |
| | TNA | 2 times per year | | * | | | | | | * | | | | | | * | | | | |
| | TNB | 2 times per year | | * | | | | | | * | | | | | | * | | | | |
| Reference South | | | | | | | | | | | | | | | | | | | | |
| | TSA | 2 times per year | | * | | | | | | * | | | | | | * | | | | |
| | TSB | 2 times per year | | * | | | | | | * | | | | | | * | | | | |

| **Demersal Trawling** | | | **J** | **A** | **S** | **O** | **N** | **D** | **J** | **F** | **M** | **A** | **M** | **J** | **J** | **A** | **S** | **O** | **N** | **D** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Near Pit Stations | | | | | | | | | | | | | | | | | | | | |
| | INA 1-5 | 4 times per year | 5 | 5 | | | | | 5 | 5 | | | | | 5 | 5 | | | | |
| | INB 1-5 | 4 times per year | 5 | 5 | | | | | 5 | 5 | | | | | 5 | 5 | | | | |
| Reference North | | | | | | | | | | | | | | | | | | | | |
| | TNA 1-5 | 4 times per year | 5 | 5 | | | | | 5 | 5 | | | | | 5 | 5 | | | | |
| | TNB 1-5 | 4 times per year | 5 | 5 | | | | | 5 | 5 | | | | | 5 | 5 | | | | |
| Reference South | | | | | | | | | | | | | | | | | | | | |
| | TSA 1-5 | 4 times per year | 5 | 5 | | | | | 5 | 5 | | | | | 5 | 5 | | | | |
| | TSB 1-5 | 4 times per year | 5 | 5 | | | | | 5 | 5 | | | | | 5 | 5 | | | | |

| **Capping** | | | **J** | **A** | **S** | **O** | **N** | **D** | **J** | **F** | **M** | **A** | **M** | **J** | **J** | **A** | **S** | **O** | **N** | **D** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ***Ebb Tide*** | | | | | | | | | | | | | | | | | | | | |
| Impact Station Downcurrent | | | | | | | | | | | | | | | | | | | | |
| | IPE1 | 4 times per year | 3 | 3 | | | | 3 | | 3 | | | | 3 | | 3 | | | | 3 |
| | IPE2 | 4 times per year | 3 | 3 | | | | 3 | | 3 | | | | 3 | | 3 | | | | 3 |
| | IPE3 | 4 times per year | 3 | 3 | | | | 3 | | 3 | | | | 3 | | 3 | | | | 3 |
| | IPE4 | 4 times per year | 3 | 3 | | | | 3 | | 3 | | | | 3 | | 3 | | | | 3 |
| | PFC1 | 4 times per year | 3 | 3 | | | | 3 | | 3 | | | | 3 | | 3 | | | | 3 |
| Intermediate Station Downcurrent | | | | | | | | | | | | | | | | | | | | |
| | INE1 | 4 times per year | 3 | 3 | | | | 3 | | 3 | | | | 3 | | 3 | | | | 3 |
| | INE2 | 4 times per year | 3 | 3 | | | | 3 | | 3 | | | | 3 | | 3 | | | | 3 |
| | INE3 | 4 times per year | 3 | 3 | | | | 3 | | 3 | | | | 3 | | 3 | | | | 3 |
| | INE4 | 4 times per year | 3 | 3 | | | | 3 | | 3 | | | | 3 | | 3 | | | | 3 |
| | INE5 | 4 times per year | 3 | 3 | | | | 3 | | 3 | | | | 3 | | 3 | | | | 3 |
| Reference Station Upcurrent | | | | | | | | | | | | | | | | | | | | |
| | RFE1 | 4 times per year | 3 | 3 | | | | 3 | | 3 | | | | 3 | | 3 | | | | 3 |
| | RFE2 | 4 times per year | 3 | 3 | | | | 3 | | 3 | | | | 3 | | 3 | | | | 3 |
| | RFE3 | 4 times per year | 3 | 3 | | | | 3 | | 3 | | | | 3 | | 3 | | | | 3 |
| | RFE4 | 4 times per year | 3 | 3 | | | | 3 | | 3 | | | | 3 | | 3 | | | | 3 |
| | RFE5 | 4 times per year | 3 | 3 | | | | 3 | | 3 | | | | 3 | | 3 | | | | 3 |
| ***Flood Tide*** | | | | | | | | | | | | | | | | | | | | |
| Impact Station Downcurrent | | | | | | | | | | | | | | | | | | | | |
| | INF1 | 4 times per year | 3 | 3 | | | | 3 | | 3 | | | | 3 | | 3 | | | | 3 |
| | PFC2 | 4 times per year | 3 | 3 | | | | 3 | | 3 | | | | 3 | | 3 | | | | 3 |
| | INF3 | 4 times per year | 3 | 3 | | | | 3 | | 3 | | | | 3 | | 3 | | | | 3 |
| Intermediate Station Downcurrent | | | | | | | | | | | | | | | | | | | | |
| | IPF1 | 4 times per year | 3 | 3 | | | | 3 | | 3 | | | | 3 | | 3 | | | | 3 |
| | IPF2 | 4 times per year | 3 | 3 | | | | 3 | | 3 | | | | 3 | | 3 | | | | 3 |
| | IPF3 | 4 times per year | 3 | 3 | | | | 3 | | 3 | | | | 3 | | 3 | | | | 3 |
| Reference Station Upcurrent | | | | | | | | | | | | | | | | | | | | |
| | RFF1 | 4 times per year | 3 | 3 | | | | 3 | | 3 | | | | 3 | | 3 | | | | 3 |
| | RFF2 | 4 times per year | 3 | 3 | | | | 3 | | 3 | | | | 3 | | 3 | | | | 3 |
| | RFF3 | 4 times per year | 3 | 3 | | | | 3 | | 3 | | | | 3 | | 3 | | | | 3 |

| **Routine Water Quality Monitoring** | | | **J** | **A** | **S** | **O** | **N** | **D** | **J** | **F** | **M** | **A** | **M** | **J** | **J** | **A** | **S** | **O** | **N** | **D** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ***Ebb Tide*** | | | | | | | | | | | | | | | | | | | | |
| Impact Station Downcurrent | | | | | | | | | | | | | | | | | | | | |
| | IPE1 | 2 times per year | | * | | | | | | * | | | | | | * | | | | |
| | IPE2 | 2 times per year | | * | | | | | | * | | | | | | * | | | | |
| | IPE3 | 2 times per year | | * | | | | | | * | | | | | | * | | | | |
| | IPE4 | 2 times per year | | * | | | | | | * | | | | | | * | | | | |
| | IPE5 | 2 times per year | | * | | | | | | * | | | | | | * | | | | |
| Intermediate Station Downcurrent | | | | | | | | | | | | | | | | | | | | |
| | INE1 | 2 times per year | | * | | | | | | * | | | | | | * | | | | |
| | INE2 | 2 times per year | | * | | | | | | * | | | | | | * | | | | |
| | INE3 | 2 times per year | | * | | | | | | * | | | | | | * | | | | |
| | INE4 | 2 times per year | | * | | | | | | * | | | | | | * | | | | |
| | INE5 | 2 times per year | | * | | | | | | * | | | | | | * | | | | |
| Reference Station Upcurrent | | | | | | | | | | | | | | | | | | | | |
| | RFE1 | 2 times per year | | * | | | | | | * | | | | | | * | | | | |
| | RFE2 | 2 times per year | | * | | | | | | * | | | | | | * | | | | |
| | RFE3 | 2 times per year | | * | | | | | | * | | | | | | * | | | | |
| | RFE4 | 2 times per year | | * | | | | | | * | | | | | | * | | | | |
| | RFE5 | 2 times per year | | * | | | | | | * | | | | | | * | | | | |
| ***Flood Tide*** | | | | | | | | | | | | | | | | | | | | |
| Impact Station Downcurrent | | | | | | | | | | | | | | | | | | | | |
| | INF1 | 2 times per year | | * | | | | | | * | | | | | | * | | | | |
| | INF2 | 2 times per year | | * | | | | | | * | | | | | | * | | | | |
| | INF3 | 2 times per year | | * | | | | | | * | | | | | | * | | | | |
| Intermediate Station Downcurrent | | | | | | | | | | | | | | | | | | | | |
| | IPF1 | 2 times per year | | * | | | | | | * | | | | | | * | | | | |
| | IPF2 | 2 times per year | | * | | | | | | * | | | | | | * | | | | |
| | IPF3 | 2 times per year | | * | | | | | | * | | | | | | * | | | | |
| Reference Station Upcurrent | | | | | | | | | | | | | | | | | | | | |
| | RFF1 | 2 times per year | | * | | | | | | * | | | | | | * | | | | |
| | RFF2 | 2 times per year | | * | | | | | | * | | | | | | * | | | | |
| | RFF3 | 2 times per year | | * | | | | | | * | | | | | | * | | | | |

| **Water Column Profiling** | | | **J** | **A** | **S** | **O** | **N** | **D** | **J** | **F** | **M** | **A** | **M** | **J** | **J** | **A** | **S** | **O** | **N** | **D** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Plume Stations | WCP1 | 6 times per year | 2 | 2 | | | | 2 | 2 | 2 | | | | 2 | 2 | 2 | | | | 2 |
| | WCP2 | 6 times per year | 2 | 2 | | | | 2 | 2 | 2 | | | | 2 | 2 | 2 | | | | 2 |

| **Benthic Recolonisation Studies** | | | **J** | **A** | **S** | **O** | **N** | **D** | **J** | **F** | **M** | **A** | **M** | **J** | **J** | **A** | **S** | **O** | **N** | **D** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Capped Contaminated Mud Pits | | | | | | | | | | | | | | | | | | | | |
| | CPA 1-3 | 2 times per year | | 3 | | | | 3 | | | | | | | | 3 | | | | 3 |
| | CPB 1-3 | 2 times per year | | 3 | | | | 3 | | | | | | | | 3 | | | | 3 |
| | CPC 1-3 | 2 times per year | | 3 | | | | 3 | | | | | | | | 3 | | | | 3 |
| Reference Stations | | | | | | | | | | | | | | | | | | | | |
| | RBA 1-3 | 2 times per year | | 3 | | | | 3 | | | | | | | | 3 | | | | 3 |
| | RBB 1-3 | 2 times per year | | 3 | | | | 3 | | | | | | | | 3 | | | | 3 |
| | RBC 1-3 | 2 times per year | | 3 | | | | 3 | | | | | | | | 3 | | | | 3 |

"*" = Number of replicates depends on field catch or parameters

Sampling completed

Annex B

# Monitoring Results

*Table B1 Summary Table of DO, Turbidity and TSS Levels recorded in November 2010*

| Sampling Date | Tidal Period | Station | Average DO Levels (mg/L) | | Average Turbidity Level (NTU) | Average TSS Level (mg/L) |
|---|---|---|---|---|---|---|
| | | | Bottom | Surface and Mid Depth | | |
| 2010/11/09 | ME | DS1 | 6.46 | 6.51 | 14.09 | 19.83 |
| | | DS2 | 6.55 | 6.54 | 16.15 | 20.17 |
| | | DS3 | 6.44 | 6.65 | 7.62 | 9.33 |
| | | DS4 | 6.47 | 6.55 | 8.84 | 11.00 |
| | | DS5 | 6.59 | 6.63 | 8.89 | 11.50 |
| | | MW1 | 6.21 | 6.24 | 6.52 | 7.83 |
| | | US1 | 6.61 | 6.57 | 9.62 | 11.50 |
| | | US2 | 6.77 | 6.61 | 9.47 | 13.00 |
| | MF | DS1 | 6.73 | 6.49 | 20.98 | 27.33 |
| | | DS2 | 6.50 | 6.42 | 26.28 | 37.83 |
| | | DS3 | 6.58 | 6.40 | 16.30 | 23.33 |
| | | DS4 | 6.41 | 6.31 | 23.69 | 30.83 |
| | | DS5 | 6.38 | 6.30 | 14.92 | 17.33 |
| | | MW1 | 6.06 | 6.09 | 6.52 | 20.67 |
| | | US1 | 6.70 | 6.51 | 24.28 | 32.17 |
| | | US2 | 6.63 | 6.54 | 27.92 | 35.50 |
| 2010/11/11 | ME | DS1 | 6.44 | 6.57 | 9.26 | 11.83 |
| | | DS2 | 6.47 | 6.48 | 7.74 | 9.67 |
| | | DS3 | 6.25 | 6.50 | 9.54 | 11.50 |
| | | DS4 | 6.56 | 6.63 | 5.97 | 9.50 |
| | | DS5 | 6.44 | 6.73 | 5.35 | 7.67 |
| | | MW1 | 6.04 | 6.07 | 4.83 | 8.33 |
| | | US1 | 6.48 | 6.57 | 6.73 | 9.17 |
| | | US2 | 6.43 | 6.59 | 6.16 | 7.33 |
| | MF | DS1 | 6.40 | 6.28 | 12.31 | 16.83 |
| | | DS2 | 6.47 | 6.36 | 10.19 | 11.83 |
| | | DS3 | 6.23 | 6.33 | 10.90 | 14.33 |
| | | DS4 | 6.26 | 6.18 | 16.93 | 22.17 |
| | | DS5 | 6.28 | 6.35 | 10.00 | 12.00 |
| | | MW1 | 6.14 | 6.16 | 9.91 | 13.83 |
| | | US1 | 6.33 | 6.30 | 14.24 | 17.50 |
| | | US2 | 6.39 | 6.29 | 14.47 | 15.50 |
| 2010/11/13 | ME | DS1 | 6.42 | 6.36 | 9.79 | 8.33 |
| | | DS2 | 6.35 | 6.30 | 7.71 | 9.33 |
| | | DS3 | 6.23 | 6.22 | 7.27 | 8.83 |
| | | DS4 | 6.17 | 6.29 | 6.41 | 7.33 |
| | | DS5 | 6.11 | 6.23 | 6.72 | 6.00 |
| | | MW1 | 6.09 | 6.03 | 3.48 | 8.50 |
| | | US1 | 6.57 | 6.47 | 8.76 | 10.17 |
| | | US2 | 6.44 | 6.47 | 10.34 | 12.50 |
| | MF | DS1 | 6.34 | 6.56 | 5.61 | 13.33 |
| | | DS2 | 6.42 | 6.62 | 5.91 | 10.33 |
| | | DS3 | 6.36 | 6.48 | 5.73 | 8.83 |
| | | DS4 | 6.52 | 6.57 | 4.43 | 9.50 |
| | | DS5 | 6.43 | 6.58 | 4.56 | 8.50 |
| | | MW1 | 6.03 | 6.01 | 4.48 | 5.50 |
| | | US1 | 6.42 | 6.58 | 8.83 | 11.50 |
| | | US2 | 6.92 | 6.59 | 7.94 | 14.00 |

Notes:

1. Cell shaded yellow indicates value exceeding the Action Level criteria.
2. Cell shaded red indicates value exceeding the Limit Level criteria.

Annex C

# Study Programme

| ID | Task Name |
|---|---|
| 1 | **Project Commencement** |
| 2 | |
| 3 | **For CMP IV and New Facility at East Sha Chau** |
| 4 | |
| 5 | Submission of Draft Inception Report & Draft Programme |
| 6 | Submission of Final Inception Report & Final Programme |
| 7 | Submission of Draft Operations Manual |
| 8 | Submission of Final Operations Manual |
| 9 | **Submission of Operations Manual Updates** |
| 17 | Submission of Draft Monitoring And Audit Manual (Rev 1) |
| 18 | Submission of Final Monitoring And Audit Manual (Rev 1) |
| 19 | Submission of Draft Monitoring And Audit Manual (Rev 2) |
| 20 | Submission of Final Monitoring And Audit Manual (Rev 2) |
| 21 | **Submission of EM&A Manual Updates** |
| 29 | |
| 30 | **Monitoring Contract Works** |
| 31 | Prepare Draft Letters of Invitation, Gazette Documents & Tender Documents |
| 32 | Submission of Draft Tender Documents |
| 33 | Submission of Draft Gazette Documents |
| 34 | Submission of Final Tender Documents |
| 35 | Submission of Final Gazette Documents |
| 36 | Tendering and Tender Assessment |
| 37 | Prepare Contact Documents |
| 38 | Submission of Contract Documents |
| 39 | Administrate and Supervise Contracted Field and Laboratory Works |
| 40 | **Submission of Report on Dredging & Capping Operations** |
| 49 | **Monthly Progress Report** |
| 101 | **Quarterly EM&A Reports** |
| 115 | **Submission of Annual Review Report** |
| 120 | **Submission of Annual Risk Assessment Report** |
| 125 | **Submission of Draft Final Report** |
| 126 | **Submission of the Final Report** |
| 127 | **Submission of Draft Executive Summary Report** |
| 128 | **Submission of Final Executive Summary Reports** |
| 129 | |
| 130 | **For East Tung Lung Chau Disposal Facility** |
| 131 | |
| 132 | **Submission of Monitoring Results & Monthly EM&A Progress Report** |
| 133 | October 2009 |
| 134 | November 2009 |
| 135 | December 2009 |
| 136 | January 2010 |

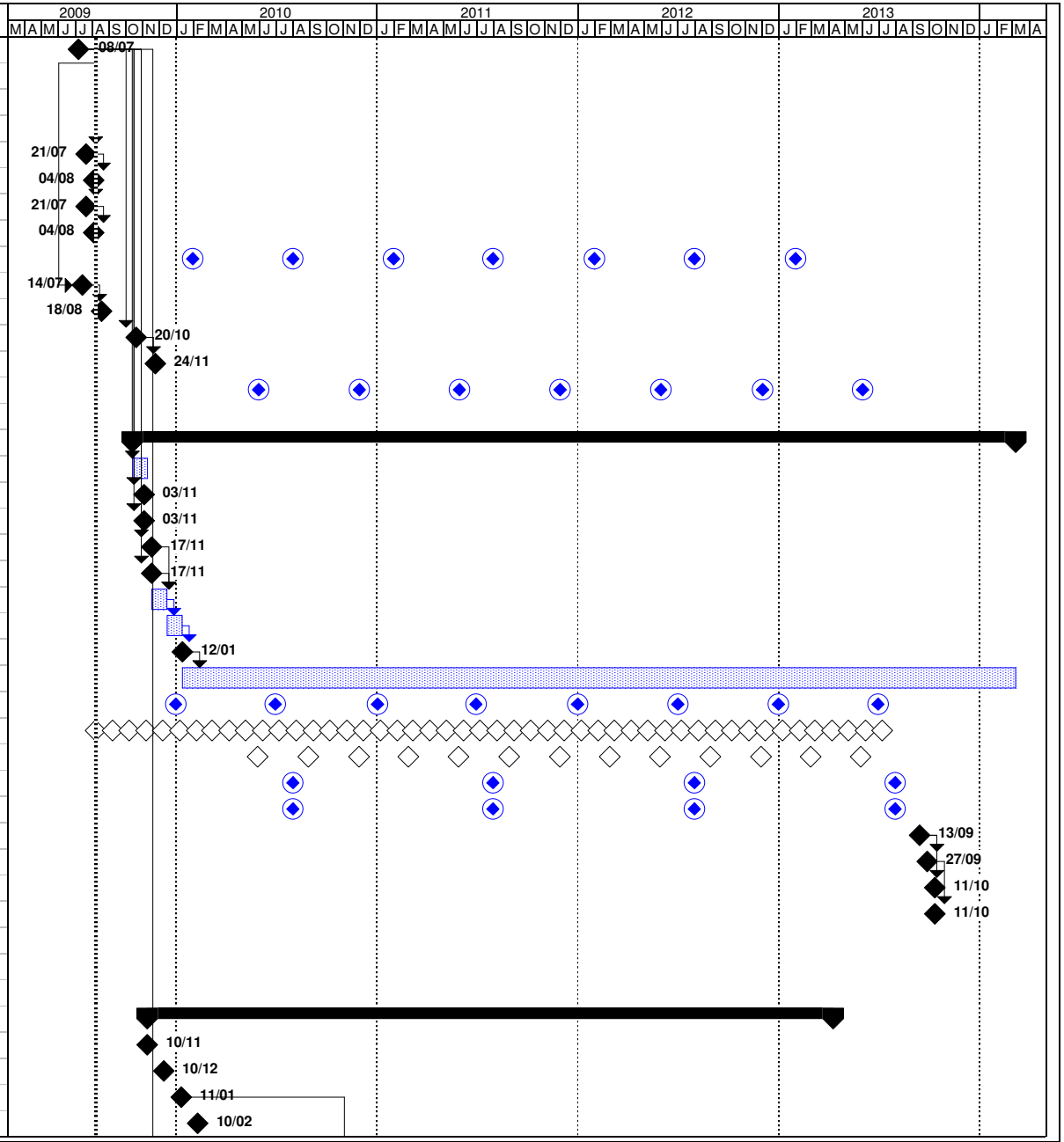


**Figure 4.1 - Study Programme**

Task | Milestone | Rolled Up Task
Progress | Summary | Rolled Up Milestone

**Project: Agreement No. CE 4/2009 (EP) Environmental Monitoring and Audit for Contaminated Mud Pits at Sha Chau (2009-2013) - Investigation**

| ID | Task Name |
|---|---|
| 137 | February 2010 |
| 138 | March 2010 |
| 139 | October 2010 |
| 140 | November 2010 |
| 141 | December 2010 |
| 142 | January 2011 |
| 143 | February 2011 |
| 144 | March 2011 |
| 145 | October 2011 |
| 146 | November 2011 |
| 147 | December 2011 |
| 148 | January 2012 |
| 149 | February 2012 |
| 150 | March 2012 |
| 151 | October 2012 |
| 152 | November 2012 |
| 153 | December 2012 |
| 154 | January 2013 |
| 155 | February 2013 |
| 156 | March 2013 |
| 157 | **Submission of Initial Review Report** |
| 158 | **Submission of Quarterly EM&A Report** |
| 159 | Quarter 1 2010 |
| 160 | Quarter 2 2010 |
| 161 | Quarter 3 2011 |
| 162 | Quarter 4 2011 |
| 163 | Quarter 5 2012 |
| 164 | Quarter 2 2012 |
| 165 | Quarter 1 2013 |
| 166 | **Submission of Annual Report** |
| 167 | Annual Report 1 2010 |
| 168 | Annual Report 2 2011 |
| 169 | Annual Report 3 2012 |
| 170 | |
| 171 | **Alternative / Modified Capping Design** |
| 172 | |
| 173 | **Submission of Investigation Report** |
| 174 | **Submission of Annual Report** |
| 175 | Capping Design Annual Report 2010 |
| 176 | Capping Design Annual Report 2011 |
| 177 | Capping Design Annual Report 2012 |

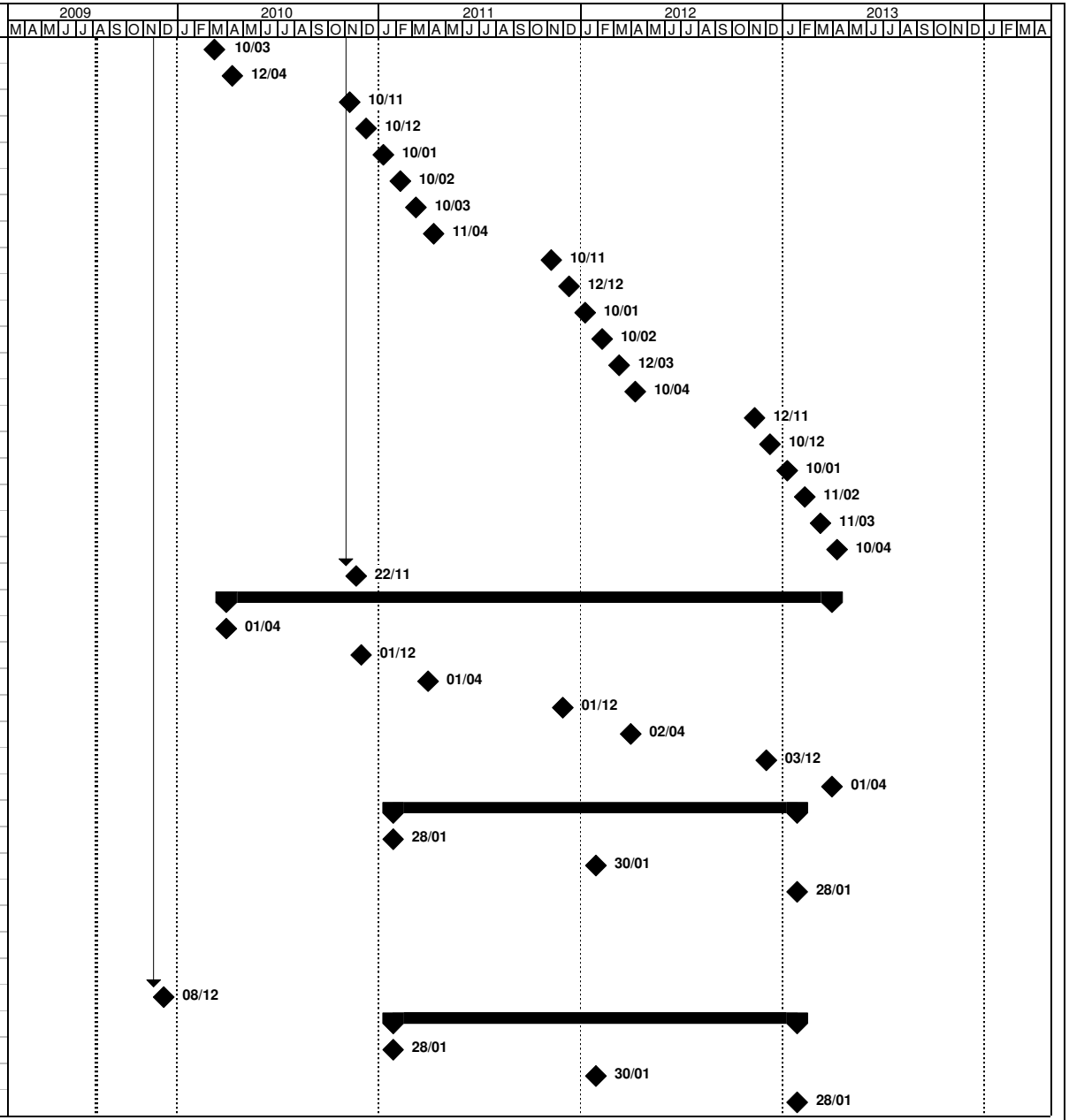


**Figure 4.1 - Study Programme**

Task | Milestone | Rolled Up Task
Progress | Summary | Rolled Up Milestone

**Project: Agreement No. CE 4/2009 (EP) Environmental Monitoring and Audit for Contaminated Mud Pits at Sha Chau (2009-2013) - Investigation**