



Environmental Monitoring and Audit for Contaminated Mud Pits to the South of The Brothers and at East Sha Chau (2012-2017) – Investigation Agreement No. CE 23/2012(EP)

34<sup>th</sup> Monthly Progress Report for Contaminated Mud Pits to the South of The Brothers and at East Sha Chau – June 2015

Final (Revision 1)

20 August 2015

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# **Environmental Monitoring and Audit for** Contaminated Mud Pits to the South of The Brothers and at East Sha Chau (2012-2017) -Investigation

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#### Client: Project No: Civil Engineering and Development Department (CEDD) 0175086 Summary: Date: 20 August 2015 Approved by: This document presents the 34<sup>th</sup> monthly progress report for Contaminated Mud Pits at the South of The Brothers and at East Sha Chau. Craig A. Reid Partner v1 34<sup>th</sup> Monthly Progress Report for ESC CMPs and SB CMPs CY JT CAR 20/8/15 34<sup>th</sup> Monthly Progress Report for ESC CMPs and SB CMPs CY JT CAR 14/7/15 v0 Revision Description By Checked Approved Date Distribution This report has been prepared by Environmental Resources Management the trading name of 'ERM Hong-Kong, Limited', with all reasonable skill, care and diligence within the terms of the Contract with the client, incorporating our General Terms and Conditions of Business and Internal taking account of the resources devoted to it by agreement with the client. We disclaim any responsibility to the client and others in respect of any matters outside the Public scope of the above. This report is confidential to the client and we accept no responsibility of whatsoever nature to third parties to whom this report, or any part thereof, is made known. Any such party relies on Confidential ISO 9001 : 2008 the report at their own risk. Certificate No. FS 32515

### **Environmental Resources** Management

16/F

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# Dredging, Management and Capping of Contaminated Sediment Disposal Facility to the South of The Brothers

# Environmental Certification Sheet EP-427/2011/A

#### **Reference Document/Plan**

| Document/ <del>Plan t</del> o be Certified/ Verified: | 34 <sup>th</sup> Monthly Progress Report for Contaminated Mud Pits to<br>the South of The Brothers and at East Sha Chau – June 2015 |
|---|---|
| Date of Report:                                       | 14 July 2015  |
| Date prepared by ET:                                  | 14 July 2015  |
| Date received by IA:                                  | 14 July 2015  |

#### **Reference EP Condition**

Environmental Permit Condition:

Condition No.: 4.4

4 hard copies and 1 electronic copy of monthly EM&A Report shall be submitted to the Director within 2 weeks after the end of the reporting month. The EM&A Reports shall include a summary of all noncompliance (exceedances) of the environmental quality performance limits (Action and Limit Levels). The submissions shall be certified by the ET Leader and verified by the Independent Auditor. Additional copies of the submission shall be provided to the Director upon request by the Director.

### **ET** Certification

I hereby certify that the above referenced document/<del>plan</del> complies with the above referenced condition of EP-427/2011/A

Craig A. Reid, Environmental Team Leader:



Date: 14/7/2015

#### IA Verification

I hereby verify that the above referenced document/plan complies with the above referenced condition of EP-427/2011/A

Dr Wang Wen Xiong, Independent Auditor:

Tens's Mars

Date:

14/7/2015

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# <u>Agreement No. CE 23/2012 (EP)</u> <u>Environmental Monitoring and Audit</u> <u>for Contaminated Mud Pits to the South of The Brothers and at East Sha</u> <u>Chau (2012-2017) - Investigation</u>

#### 34<sup>TH</sup> MONTHLY PROGRESS REPORT FOR JUNE 2015

### 1.1 BACKGROUND

- 1.1.1 Since early 1990s, contaminated sediment <sup>(1)</sup> arising from various construction works (e.g. dredging and reclamation projects) in Hong Kong has been disposed of at a series of seabed pits at East of Sha Chau (ESC). In late 2008, a review indicated that the existing and planned facilities at ESC would not be able to meet the disposal demand after 2012. In order to meet this demand, the Hong Kong Special Administrative Region Government (HKSARG) decided to implement a new contained aquatic disposal (CAD) <sup>(2)</sup> facility at the South of The Brothers (SB CMPs) which had been under consideration for a number of years.
- 1.1.2The environmental acceptability of the construction and operation of the<br/>Project had been confirmed by findings of the associated Environmental<br/>Impact Assessment (EIA) study completed in 2005 under Agreement No.<br/>
  <br/>
  <br
- 1.1.3 In accordance with the EIA recommendation, prior to commencement of construction works for the SB CMPs, the Civil Engineering and Development Department (CEDD) undertook a detailed review and update of the EIA findings for the SB site <sup>(4)</sup>. Findings of the EIA review undertaken in 2009/2010 confirmed that the construction and operation of the SB site had been predicted to be environmentally acceptable.

According to the Management Framework of Dredged / Excavated Sediment of ETWB TC(W) No. 34/2002, contaminated sediment in general shall mean those sediment requiring Type 2 – Confined Marine Disposal as determined according to this TC(W).

<sup>(2)</sup> CAD options may involve use of excavated borrow pits, or may involve purpose-built excavated pits. CAD sites are those which involve filling a seabed pit with contaminated mud and capping it with uncontaminated material such that the original seabed level is restored and the contaminated material is isolated from the surrounding marine environment.7

<sup>(3)</sup> Detailed Site Selection Study for a Proposed Contaminated Mud Disposal Facility within the Airport East/ East of Sha Chau Area (Agreement No. CE 12/2002(EP))

<sup>(4)</sup> Under the CEDD study Contaminated Sediment Disposal Facility to the South of The Brothers (Agreement No. FM 2/2009)

- 1.1.4 Environmental Permits (EPs) (EP-312/2008/A and EP-427/2011A) were issued by the Environmental Protection Department (EPD) to the CEDD, the Permit Holder, on 28 November 2008 for ESC CMP V and on 23 December 2011 for SB CMPs, respectively. Under the requirements of the EPs, an Environmental Monitoring and Audit (EM&A) programme as set out in the EM&A Manuals <sup>(1) (2)</sup> is required to be implemented for the CMPs.
- 1.1.5 The present EM&A programme under *Agreement No. CE 23/2012 (EP)* covers the dredging, disposal and capping operations of the SB CMPs as well as ESC CMPs. Detailed works schedule for both CMPs is shown in *Figure 1.1*. In June 2015, the following works were being undertaken at the CMPs:
  - Capping operations at ESC CMPs;
  - Capping operations at SB CMP 1; and
  - Disposal of contaminated mud at SB CMP 2.

*Figure 1.1* Works Schedule for ESC CMPs and SB CMPs

| Pit      | Operation   |   | 20 | 12 |   |   |   |   |   |   | 20 | 013 | ; |   |     |     |     |   |   |   |   |   |   | 20 | 014 | Ļ |     |     |   |   |   |   |   |   |   | 2  | 01 | 5 |   |   |   |   |   |   |   |    |    |   |   | 20 |   |   |   |   |   |   | 2 | 201 | 7 |
|----------|-------------|---|----|----|---|---|---|---|---|---|----|-----|---|---|-----|-----|-----|---|---|---|---|---|---|----|-----|---|-----|-----|---|---|---|---|---|---|---|----|----|---|---|---|---|---|---|---|---|----|----|---|---|----|---|---|---|---|---|---|---|-----|---|
| FIL      | operation   | s | 0  | Ν  | D | J | F | М | Α | М | J  | J   | Α | S | 5 ( | I C | 1 1 | D | J | F | М | Α | М | J  | J   | Α | 1 5 | 6 0 | N | D | J | F | М | Α | Μ | IJ | ι. | J | A | s | 0 | Ν | D | , | J | FI | N. | Α | М | J  | J | А | s | 0 | Ν | D | J | J   | F |
|          | Dredging    |   |    |    |   |   |   |   |   |   |    |     |   |   |     |     |     |   |   |   |   |   |   |    |     |   |     |     |   |   |   |   |   |   |   |    |    |   |   |   |   |   |   |   |   |    |    |   |   |    |   |   |   |   |   |   |   |     |   |
| ESC CMP  | Backfilling |   |    |    |   |   |   |   |   |   |    |     |   |   |     |     |     |   |   |   |   |   |   |    |     |   |     |     |   |   |   |   |   |   |   |    |    |   |   |   |   |   |   |   |   |    |    |   |   |    |   |   |   |   |   |   |   |     |   |
|          | Capping     |   |    |    |   |   |   |   |   |   |    |     |   |   |     |     |     |   |   |   |   |   |   |    |     |   |     |     |   |   |   |   |   |   |   |    |    |   |   |   |   |   |   |   |   |    |    |   |   |    |   |   |   |   |   |   |   |     |   |
|          | Dredging    |   |    |    |   |   |   |   |   |   |    |     |   |   |     |     |     |   |   |   |   |   |   |    |     |   |     |     |   |   |   |   |   |   |   |    |    |   |   |   |   |   |   |   |   |    |    |   |   |    |   |   |   |   |   |   |   |     |   |
| SB CMP 1 | Backfilling |   |    |    |   |   |   |   |   |   |    |     |   |   |     |     |     |   |   |   |   |   |   |    |     |   |     |     |   |   |   |   |   |   |   |    |    |   |   |   |   |   |   |   |   |    |    |   |   |    |   |   |   |   |   |   |   |     |   |
|          | Capping     |   |    |    |   |   |   |   |   |   |    |     |   |   |     |     |     |   |   |   |   |   |   |    |     |   |     |     | Ι |   |   |   |   |   |   |    |    |   |   |   |   |   |   |   |   |    |    |   |   |    |   |   |   |   |   |   |   |     |   |
|          | Dredging    |   |    |    |   |   |   |   |   |   |    |     |   |   |     |     |     |   |   |   |   |   |   |    |     |   |     |     |   |   |   |   |   |   |   |    |    |   |   |   |   |   |   |   |   |    |    |   |   |    |   |   |   |   |   |   |   |     |   |
| SB CMP 2 | Backfilling |   |    |    |   |   |   |   |   |   |    |     |   |   |     |     |     |   |   |   |   |   |   |    |     |   |     |     |   |   |   |   |   |   |   |    |    |   |   |   |   |   |   |   |   |    |    |   |   |    |   |   |   |   |   |   |   |     |   |
|          | Capping     |   |    |    |   |   |   |   |   |   |    |     |   |   |     |     |     |   |   |   |   |   |   |    |     |   |     |     |   |   |   |   |   |   |   |    |    |   |   |   |   |   |   |   |   |    |    |   |   |    |   |   |   |   |   |   |   |     |   |

# 1.2 **REPORTING PERIOD**

- 1.2.1 This 34<sup>th</sup> Monthly Progress Report covers the EM&A activities for the reporting month of June 2015.
- 1.3 DETAILS OF SAMPLING AND LABORATORY TESTING ACTIVITIES
- 1.3.1The following monitoring activity has been undertaken for ESC CMPs in June<br/>2015:
  - *Water Quality Monitoring during Capping of ESC CMPs* was undertaken on 2 June 2015.
  - (1) ERM (2012) Environmental Monitoring and Audit (EM&A) Manual. Final First Review. Environmental Monitoring and Audit for Contaminated Mud Pits to the South of the Brothers and at East Sha Chau (2012-2017) – Investigation. Agreement No. CE 23/2012(EP). Submitted to EPD in November 2012.
  - (2) ERM (2010) Environmental Monitoring and Audit (EM&A) Manual. Final Second Review. Environmental Monitoring and Audit for Contaminated Mud Pit at Sha Chau (2009-2013) – Investigation. Agreement No. CE 4/2009(EP). Submitted to EPD in November 2010.

- 1.3.2 The following monitoring activities have been undertaken for SB CMPs in June 2015:
  - *Pit Specific Sediment Chemistry* of CMP 2 was undertaken on 8 June 2015;
  - *Cumulative Impact Specific Chemistry* of CMP 2 was undertaken 9 June 2015;
  - *Water Quality Monitoring during Capping Operations* of CMP 1 was undertaken on 10 June 2015; and
  - *Water Column Profiling* of CMP 2 was undertaken on 11 June 2015.

# 1.4 DETAILS OF OUTSTANDING SAMPLING AND/OR ANALYSIS

- 1.4.1 No outstanding sampling remained for June 2015. The following laboratory analyses were still in progress during the preparation of this monthly report and hence are not presented in this monthly report:
  - Laboratory analyses of sediment samples collected for *Pit Specific Sediment Chemistry* of CMP 2 in June 2015; and
  - Laboratory analyses of sediment samples collected for *Cumulative Impact Specific Chemistry* of CMP 2 in June 2015.
- 1.4.2 A summary of field activities conducted are presented in *Annex A*.

# 1.5 BRIEF DISCUSSION OF THE MONITORING RESULTS FOR ESC CMPs

1.5.1Brief discussion of the monitoring results of Water Quality Monitoring during<br/>Capping of ESC CMPs conducted on 2 June 2015 is presented below.

# 1.5.2 Water Quality Monitoring during Capping – June 2015

1.5.3 The monitoring results obtained during June 2015 sampling in the wet season have been assessed for compliance with the Water Quality Objectives (WQOs) through a review of the Environmental Protection Department (EPD) routine water quality monitoring data for the wet season period (April to October) of 2004 – 2013 from stations in the North Western Water Control Zone (WCZ), where ESC CMPs are located. For Salinity, the average value obtained from the Reference stations was used for the basis as the WQO. A total of sixteen (16) monitoring stations were sampled in June 2015 as shown in *Figure 1.2*. Graphical presentation of the monitoring results is provided in *Annex B*.

# In-situ Measurements

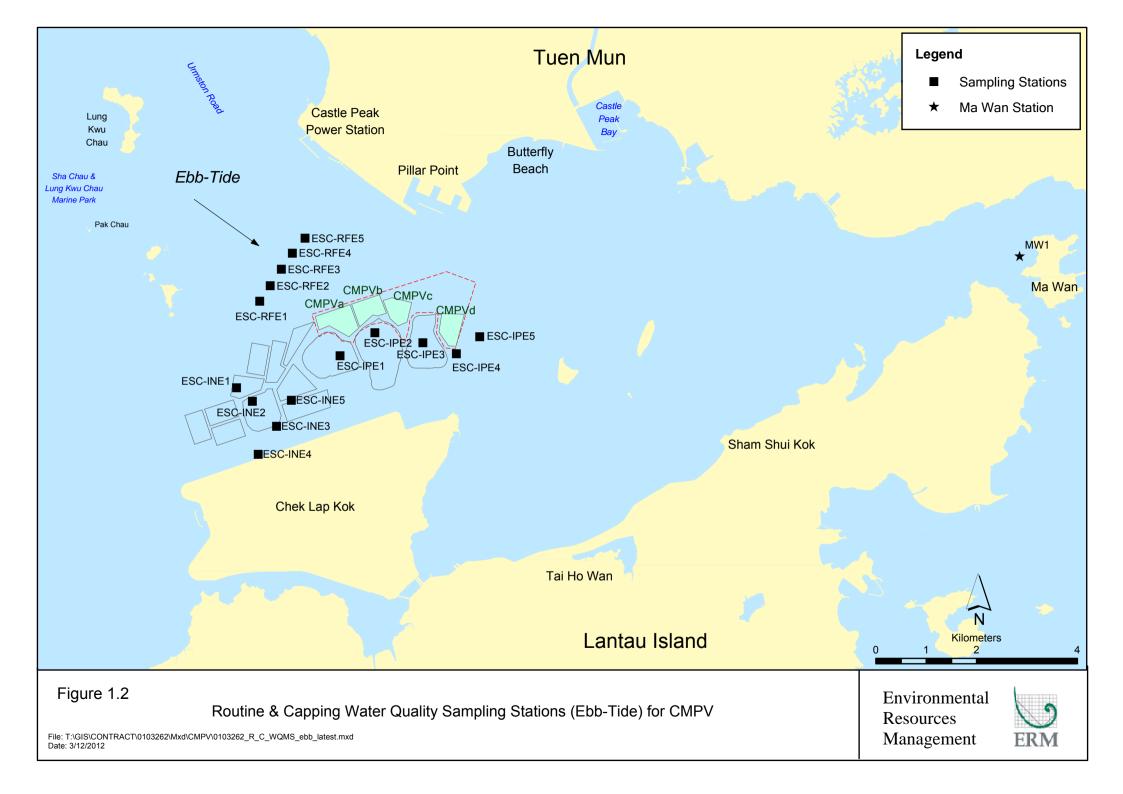
1.5.4 Graphical presentation of the monitoring results (Temperature, Dissolved Oxygen (DO), pH, Salinity and Turbidity) is shown in *Figures 1-6* of *Annex B*. Levels of DO, pH and Salinity at most stations in June 2015 complied with the WQO except Salinity at Ma Wan station. The higher Salinity recorded at Ma Wan station is likely to be caused by its greater separation distance from the Pearl River mouth, which is a key source of freshwater inputs in the area, when compared to the Reference stations. The turbidity complied with the Action and Limit levels at all stations in June 2015 (*Table C1* of *Annex C*).

# Laboratory Measurements for Suspended Solids (SS)

1.5.5 Concentrations of SS complied with the WQO at most stations except at Impact stations in June 2015 (*Figure 7 of Annex B; Table C2 of Annex C*). However, the SS complied with the Action and Limit levels at all stations in June 2015 (*Table C1 of Annex C*). Further statistical analysis will be undertaken in the quarterly report to investigate whether the capping operations at ESC CMPs is causing any unacceptable deterioration in water quality of the area.

# 1.6 BRIEF DISCUSSION OF THE MONITORING RESULTS FOR SB CMPs

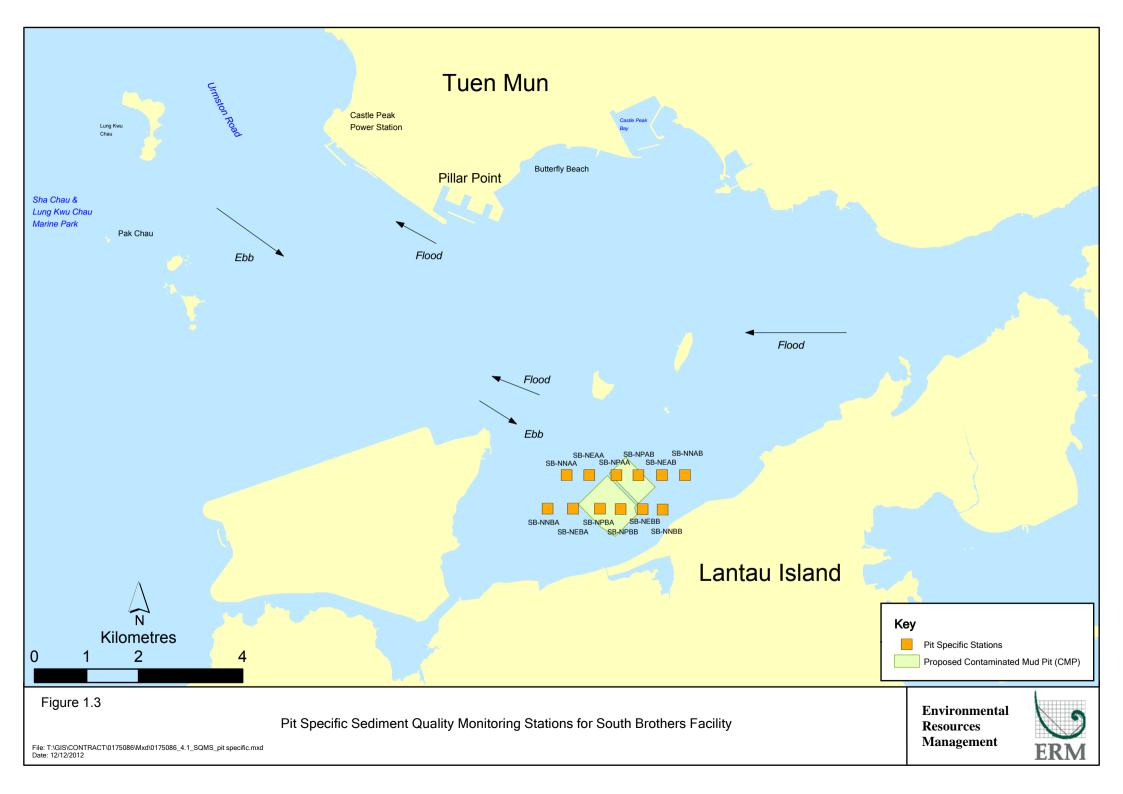
- 1.6.1Brief discussion of the monitoring results of the following activities for SB<br/>CMPs is presented in this 34th Monthly Progress Report:
  - Laboratory analyses of sediment samples collected for *Pit Specific Sediment Chemistry* of CMP 2 in May 2015;
  - *Water Quality Monitoring during Capping Operations* of CMP 1 conducted on 10 June 2015; and

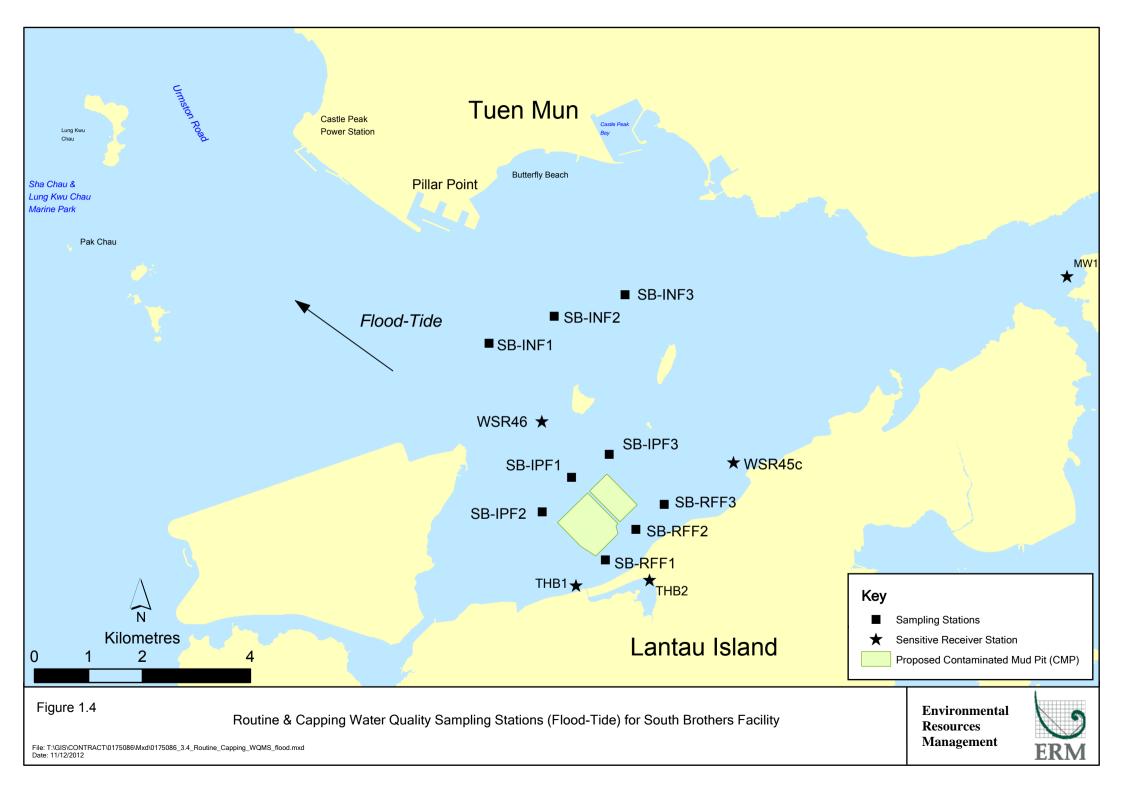


• *Water Column Profiling* of CMP 2 undertaken on 11 June 2015.

# 1.6.2 *Pit Specific Sediment Chemistry of CMP 2 – May 2015*

- 1.6.3Monitoring locations for *Pit Specific Sediment Chemistry for CMP* 2 are shown in<br/>*Figure 1.3.* A total of six (6) monitoring stations were sampled in May 2015.
- 1.6.4 Zinc exceeded the Lower Chemical Exceedance Level (LCEL) at Active Pit station SB-NPBA while Nickel exceeded the Upper Chemical Exceedance Level (UCEL) at Active Pit station SB-NPBB. In addition, Copper and Silver exceeded the UCEL at Active Pit stations SB-NPBA and SB-NPBB in May 2015. The concentrations of other inorganic contaminants (Cadmium, Chromium, Mercury, Lead and Arsenic) were lower than the LCEL at all stations. As higher Copper, Nickel, Silver and Zinc concentrations were recorded within the Active Pit stations only which were receiving contaminated mud during the reporting month, there is no evidence indicating any dispersal of contaminants from the active pit.
- 1.6.5 For organic contaminants, the concentrations of Total Organic Carbon (TOC) were similar at most stations except lower values were recorded at Pit Edge station SB-NEBB and Near Pit station SB-NNBB (*Figure 10* of *Annex B*). Tributyltin (TBT) concentrations were observed to be higher at Active Pit station SB-NPBA and Near Pit station SB-NNBB (*Figure 11* of *Annex B*). Total dichlorodiphenyltrichloroethane (DDT), 4,4'- dichlorodiphenyldichloroethylene (DDE), Total Polychlorinated Biphenyls (PCBs), Low and High Molecular Weight Polycyclic Aromatic Hydrocarbons (MW PAHs) were below the limit of reporting at most stations (except High MW PAHs at Active Pit station SB-NPBA) in May 2015 (*Figure 12* of *Annex B*).
- 1.6.6 Overall, there is no evidence indicating any unacceptable environmental impacts to sediment quality as a result of the contaminated mud disposal operations at CMP 2 in May 2015. Statistical analysis will be undertaken and presented in the quarterly report to investigate whether there are any unacceptable impacts in the area caused by the contaminated mud disposal.
- 1.6.7 Water Quality Monitoring during Capping Operations of CMP 1– June 2015
- 1.6.8 The monitoring results obtained during June 2015 sampling in the wet season have been assessed for compliance with the WQOs (see *Section 1.5.3* for details). A total of fourteen (14) monitoring stations were sampled in June 2015 as shown in *Figure 1.4*. Graphical presentation of the monitoring results is provided in *Annex B*.





## In-situ Measurements

- 1.6.9 Graphical presentation of the monitoring results (Temperature, Dissolved Oxygen (DO), pH, Salinity and Turbidity) is shown in *Figures 13-18* of *Annex B*. Levels of pH at all stations in June 2015 complied with the WQO. DO at most stations complied with the WQO except at Intermediate and Ma Wan stations. As Intermediate and Ma Wan stations are located further away from the CMP 1 and DO at the Impact stations complied with the WQO, it is considered that the WQO exceedances of DO at these stations were possibly caused by the natural background variation in water quality of the area, but not from the capping operation of CMP 1. The DO and turbidity complied with the Action and Limit levels at all stations in June 2015 (*Table C3* and *C4* of *Annex C*).
- 1.6.10 Levels of Salinity exceeded the WQO at most stations except at Tai Ho Bay stations. The lower Salinities recorded at Tai Ho Bay and Reference stations are likely due to the close proximity of the nearby streams and Pearl River mouth, which release large amount of freshwater runoff in the area during flooding. The Salinities at other stations were above the WQO as they were located further away from the Tai Ho Bay and Reference stations which experienced less freshwater runoff from the nearby streams.

# Laboratory Measurements

- 1.6.11 Concentrations of SS complied with the WQO (11.6 mg/L for wet season) at most stations in June 2015 except at Tai Ho Bay station 1 (*Figure 19 of Annex B*). However, SS at all stations complied with the Action and Limit Levels in June 2015 (*Table C3* and *C4* of *Annex C*).
- 1.6.12 For nutrients, concentrations of Ammonia (NH<sub>3</sub>) were relatively similar amongst most stations except a slightly lower value was recorded at Reference and Tai Ho Bay stations (*Figures 20 of Annex B*). Concentrations of Biochemical Oxygen Demand (BOD<sub>5</sub>) were similar at most stations except higher values were recorded at Tai Ho Bay stations in June 2015. Total Inorganic Nitrogen (TIN) at all stations exceeded the WQO of 0.5 mg/L in June 2015 (*Figure 22 of Annex B*). It should be noted that the North Western WCZ has historically experienced higher levels of TIN and the exceedances of TIN WQO at all stations are unlikely to be caused by the capping operation at CMP 1.
- 1.6.13 Since lower BOD<sub>5</sub> was recorded for both Impact and Reference stations, the higher concentration at Tai Ho Bay stations is likely due to the natural fluctuation of BOD<sub>5</sub> in the environment. Therefore, there is no evidence indicating any degradation of water quality due to the capping activities at CMP 1.
- 1.6.14 Statistical analysis will be undertaken and presented in the quarterly report to investigate whether the capping operations at CMP 1 is causing any unacceptable impacts in water quality of the area.

- 1.6.15 Water Column Profiling of CMP 2 June 2015
- 1.6.16 Water Column Profiling was undertaken at a total of two sampling stations (Upstream and Downstream stations) on 11 June 2015. The water quality monitoring results have been assessed for compliance with the WQOs as discussed in *Section 1.5.3*. The monitoring results were also compared with the Action and Limit Levels set in *Baseline Monitoring Report* (see *Table C3* of *Annex C* for details).

In-situ Measurements

1.6.17 Analyses of results for June 2015 indicated that levels of Temperature, Salinity, DO and pH complied with the WQOs at both Downstream and Upstream stations (*Table C5* of *Annex C*). DO and Turbidity at all stations complied with the Action and Limit Levels (*Tables C3* and *C5* of *Annex C*).

Laboratory Measurements for SS

- 1.6.18 Analyses of results for June 2015 indicated that the Suspended Solid (SS) levels at both Upstream and Downstream stations complied with the WQO. Both Upstream and Downstream stations also complied with the Action and Limit Levels (*Tables C3 and C5 of Annex C*).
- 1.6.19 Overall, the monitoring results indicated that the mud disposal operation at CMP 2 did not appear to cause any deterioration in water quality during this reporting period.

| 1.7 | ACTIVITIES SCHEDULED FOR T | THE NEXT MONTH |
|-----|----------------------------|----------------|
| 1.7 |                            |                |

- 1.7.1 The following monitoring activities will be conducted in the next monthly period of July 2015 for SB CMPs:
  - Pit Specific Sediment Chemistry of CMP 2;
  - Demersal Trawling for CMP 2;
  - Water Column Profiling of CMP 2; and
  - Routine Water Quality Monitoring of CMP 2.
- 1.7.2 No monitoring activity is scheduled to be conducted in the next monthly period of July 2015 for ESC CMPs.
- 1.7.3 The sampling schedule is presented in *Annex A*.
- 1.8 STUDY PROGRAMME
- 1.8.1 A summary of the Study programme is presented in *Annex D*.

Annex A

Sampling Schedule

#### Annex A1 - Environmental Monitoring and Audit Sampling Schedule for East of Sha Chau (September 2012 - February 2017)

|  | Annex A1 - Environmental Monitor | ing and Audit Sa | ımpliı    |   |     | or East    | t of Sh | ha Chai | u (Sep    | tember<br>2013 |          | - Febru                  | ıary 201 | 7)           |                          |     |     |     | 20  | 014    |           |                    |     |   |     |     |               | 201 | 15  |               |      |            |          |          |     |   | 2016 |          |   |     |     | 2017                   |
|--|----------------------------------|------------------|-----------|---|-----|------------|---------|---------|-----------|----------------|----------|--------------------------|----------|--------------|--------------------------|-----|-----|-----|-----|--------|-----------|--------------------|-----|---|-----|-----|---------------|-----|-----|---------------|------|------------|----------|----------|-----|---|------|----------|---|-----|-----|------------------------|
| Imary  | Pit Specific Sediment Chemistry  | Code             | S         |   |     | T          | FN      | MA      | М         |                |          | S                        | O N      | D            | T                        | FN  | ΛA  | N   |     |        | AS        | 0                  | ND  | Ţ | F   | MA  | M             |     |     | S             | O N  | D          | T        | FN       | A N | М |      |          | S | 0 1 | N D |                        |
| Image: Solution of the state stat    | Active-Pit                       | Couc             | 5         | 0 |     | ,          | 1 1     |         |           | <b>,</b> .     | J 11     |                          | 0 1      |              | ,                        |     |     | 1.1 | . , | ,      | <u> </u>  | 0                  | N D | , |     |     | ,.            | ,   | J   | 0             | 0 11 | 2          | <u> </u> |          |     |   | ) )  |          | 0 |     |     | ┿                      |
| App App App A <  |                                  | ESC-NPDA         | *         | * | * * | *          | * 1     | * *     | *         | *              | * *      |                          |          |              |                          |     |     |     |     |        |           |                    |     |   |     |     |               |     |     |               |      |            | *        | k 3      | * * | * | * *  | * *      | * | *   | * * | *                      |
| MACH       MACH      MACH      MACH       <   |                                  |                  | *         | * | * * | *          | * :     | * *     | *         | *              | * *      |                          |          |              |                          |     |     |     |     |        |           |                    |     |   |     |     |               |     |     |               |      |            | *        | k 3      | * * | * | * *  | * *      | * | *   | * * | *                      |
| MACH       MACH      MACH      MACH       <   | 'it-Edge                         |                  |           |   |     |            |         |         |           |                |          |                          |          |              |                          |     |     |     |     |        |           |                    |     |   |     |     |               |     |     |               |      |            |          |          |     |   |      |          |   |     |     |                        |
| ArrowA   | 0                                | ESC-NEDA         | *         | * | * * | *          | * 3     | * *     | *         | *              | * *      |                          |          |              |                          |     |     |     |     |        |           |                    |     |   |     |     |               |     |     |               |      |            | *        | k 3      | * * | * | * *  | * *      | * | *   | * * | *                      |
| No.  |                                  | ESC-NEDB         | *         | * | * * | *          | * :     | * *     | *         | *              | * *      |                          |          |              |                          |     |     |     |     |        |           |                    |     |   |     |     |               |     |     |               |      |            | *        | k 3      | * * | * | * *  | * *      | * | *   | * * | *                      |
| No.  | Near-Pit                         |                  |           |   |     |            |         |         |           |                |          |                          |          |              |                          |     |     |     |     |        |           |                    |     |   |     |     |               |     |     |               |      |            |          |          |     |   |      |          |   |     |     |                        |
| State  |                                  | ESC-NNDA         | *         | * | * * | *          | * 3     | * *     | *         | *              | * *      |                          |          |              |                          |     |     |     |     |        |           |                    |     |   |     |     |               |     |     |               |      |            | *        | k 3      | * * | * | * *  | * *      | * | *   | * * | *                      |
| ACAD       ACAD       ACAD       A   |                                  | ESC-NNDB         | *         | * | * * | *          | * :     | * *     | *         | *              | * *      |                          |          |              |                          |     |     |     |     |        |           |                    |     |   |     |     |               |     |     |               |      |            | *        | k 3      | * * | * | * *  | * *      | * | *   | * * | *                      |
| ACAD       ACAD       ACAD       A   |                                  |                  |           |   |     |            |         |         |           |                |          |                          |          |              |                          |     |     |     |     |        |           |                    |     |   |     |     |               |     |     |               |      |            |          |          |     |   |      |          |   |     |     |                        |
| Image: More marked into a state of the s      | Cumulative Impact Sediment Chen  | nistry           | S         | 0 | N D | J          | F N     | M A     | Μ         | J              | J A      | S                        | O N      | D            | J                        | F N | A A | M   | 1 J | J      | A S       | 0                  | N D | J | F I | M A | M             | J   | J A | S             | O N  | D          | J        | FN       | A A | Μ | JJ   | A        | S | 0 1 | N D | J                      |
| And Market       Image: Solution of the state stat                             | Jear-field Stations              |                  |           |   |     |            |         |         |           |                |          |                          |          |              |                          |     |     |     |     |        |           |                    |     |   |     |     |               |     |     |               |      |            |          |          |     |   |      |          |   |     |     |                        |
| WeichW   |                                  | ESC-RNA          |           |   | *   |            | *       |         |           | *              | *        |                          |          |              |                          |     |     |     |     |        |           |                    |     |   |     |     |               |     |     |               |      |            |          | k        |     |   | *    | *        |   |     | *   |                        |
| Image: A is a state of the                    |                                  | ESC-RNB          |           |   | *   |            | *       |         |           | *              | *        |                          |          |              |                          |     |     |     |     |        |           |                    |     |   |     |     |               |     |     |               |      |            |          | k        |     |   | *    | *        |   |     | *   |                        |
| Norm   | Aid-field Stations               |                  |           |   |     |            |         |         |           |                |          |                          |          |              |                          |     |     |     |     |        |           |                    |     |   |     |     |               |     |     |               |      |            |          |          |     |   |      |          |   |     |     |                        |
| Impurple       Impurple <th< td=""><td></td><td>ESC-RMA</td><td></td><td></td><td>*</td><td></td><td>*</td><td></td><td></td><td>*</td><td>*</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>:</td><td>k</td><td></td><td></td><td>*</td><td>*</td><td></td><td></td><td>*</td><td></td></th<>  |                                  | ESC-RMA          |           |   | *   |            | *       |         |           | *              | *        |                          |          |              |                          |     |     |     |     |        |           |                    |     |   |     |     |               |     |     |               |      |            | :        | k        |     |   | *    | *        |   |     | *   |                        |
| Image: A matrix  |                                  | ESC-RMB          |           |   | *   |            | *       |         |           | *              | *        |                          |          |              |                          |     |     |     |     |        |           |                    |     |   |     |     |               |     |     |               |      |            |          | k        |     |   | *    | *        |   |     | *   |                        |
| And     And <td>Capped Pit Stations</td> <td></td> <td>[</td> <td></td>  | Capped Pit Stations              |                  |           |   |     |            |         |         |           |                |          |                          |          |              |                          |     |     |     |     |        |           |                    |     |   |     |     |               |     |     | [             |      |            |          |          |     |   |      |          |   |     |     |                        |
| Field Station  |                                  |                  |           |   | *   |            |         |         | $\square$ | *              |          |                          |          | $\perp$      |                          |     |     |     |     |        |           |                    |     |   |     |     |               |     |     |               |      |            |          | k        |     |   |      |          | _ |     |     | _                      |
| Name     Nam     Name     Name     Name    <   |                                  | ESC-RCB          |           |   | *   |            | *       |         |           | *              | *        |                          |          |              |                          |     |     |     |     |        |           |                    |     |   |     |     |               |     |     |               |      |            |          | k        |     |   | *    | *        |   |     | *   |                        |
| Here Here<   | Far-Field Stations               |                  |           |   |     |            |         |         |           |                |          |                          |          |              |                          |     |     |     |     |        |           |                    |     |   |     |     |               |     |     |               |      |            |          |          |     |   |      |          |   |     |     |                        |
| Number Num   |                                  |                  |           |   | *   |            |         |         |           |                |          |                          |          | ╷╷╽          |                          |     |     |     |     |        |           |                    |     |   |     |     |               |     |     |               |      |            |          | k        |     |   |      |          |   |     |     |                        |
| NH     N </td <td></td> <td>ESC-RFB</td> <td></td> <td></td> <td>*</td> <td></td> <td>*</td> <td></td> <td></td> <td>*</td> <td>*</td> <td></td> <td>k</td> <td></td> <td></td> <td>*</td> <td>*</td> <td></td> <td></td> <td>*</td> <td></td>   |                                  | ESC-RFB          |           |   | *   |            | *       |         |           | *              | *        |                          |          |              |                          |     |     |     |     |        |           |                    |     |   |     |     |               |     |     |               |      |            |          | k        |     |   | *    | *        |   |     | *   |                        |
| N     N <td>Ma Wan Station</td> <td></td>  | Ma Wan Station                   |                  |           |   |     |            |         |         |           |                |          |                          |          |              |                          |     |     |     |     |        |           |                    |     |   |     |     |               |     |     |               |      |            |          |          |     |   |      |          |   |     |     |                        |
|  |                                  | MW1              |           |   | *   |            | *       |         |           | *              | *        |                          |          |              |                          |     |     |     |     |        |           |                    |     |   |     |     |               |     |     |               |      |            |          | k        |     |   | *    | *        |   |     | *   |                        |
|  |                                  |                  |           |   |     |            |         |         |           |                | _        |                          |          |              |                          |     | _   | _   |     |        |           |                    |     | - |     |     |               |     |     |               |      |            |          |          |     | _ |      | _        |   |     |     | _                      |
| ISCUM       ISCUM <th< td=""><td>ediment Toxicity Tests</td><td></td><td>S</td><td>0</td><td>N D</td><td>J</td><td>FN</td><td>MA</td><td>Μ</td><td>J</td><td>JA</td><td>S</td><td>O N</td><td>D</td><td>J</td><td>FN</td><td>A A</td><td>M</td><td>1 J</td><td>J</td><td>A S</td><td>0</td><td>N D</td><td>J</td><td>F 1</td><td>M A</td><td>M</td><td>J</td><td>JA</td><td>S</td><td>O N</td><td>D</td><td>J</td><td>FN</td><td>M A</td><td>Μ</td><td>JJ</td><td>A</td><td>S</td><td>0 1</td><td>N D</td><td>J</td></th<>   | ediment Toxicity Tests           |                  | S         | 0 | N D | J          | FN      | MA      | Μ         | J              | JA       | S                        | O N      | D            | J                        | FN  | A A | M   | 1 J | J      | A S       | 0                  | N D | J | F 1 | M A | M             | J   | JA  | S             | O N  | D          | J        | FN       | M A | Μ | JJ   | A        | S | 0 1 | N D | J                      |
| Image: Norme and the state of the state                    | Near-Field Stations              |                  | $\square$ |   |     |            |         |         |           |                |          | $ \downarrow \downarrow$ |          | $\downarrow$ | $ \downarrow \downarrow$ |     |     |     |     |        | $\vdash$  |                    |     |   |     |     |               |     |     |               |      |            |          |          |     |   |      |          |   |     |     | ╇┿                     |
| Image: State |                                  |                  | $\square$ |   |     |            |         |         |           |                |          |                          |          | +            |                          |     |     |     |     |        | $\vdash$  |                    |     |   |     |     | $\rightarrow$ |     |     |               |      |            |          | *        |     |   |      |          |   |     |     |                        |
| INC:       INC:      INC:      INC:      INC: <t< td=""><td></td><td>ESC-TDB</td><td><math>\square</math></td><td></td><td></td><td><math> \vdash </math></td><td>*</td><td></td><td>+</td><td></td><td>*</td><td>+</td><td></td><td>╷╷</td><td> </td><td></td><td></td><td></td><td>_</td><td></td><td></td><td></td><td></td><td> </td><td></td><td>-+</td><td>+</td><td></td><td></td><td><math>\rightarrow</math></td><td></td><td></td><td></td><td>κ.</td><td></td><td></td><td></td><td>*</td><td>+</td><td></td><td></td><td></td></t<>  |                                  | ESC-TDB          | $\square$ |   |     | $ \vdash $ | *       |         | +         |                | *        | +                        |          | ╷╷           |                          |     |     |     | _   |        |           |                    |     |   |     | -+  | +             |     |     | $\rightarrow$ |      |            |          | κ.       |     |   |      | *        | + |     |     |                        |
| BSC: BSC:<   | Reference Stations               |                  | $\vdash$  |   |     | $ \vdash $ | -       |         | +         |                | <u> </u> | +                        |          | ┼┨           | $\vdash$                 |     |     | _   | _   | $\mid$ | $\vdash$  | $\mid$             |     |   |     |     |               |     |     |               |      | ⊢          |          | _        |     | + |      | <u> </u> |   |     |     | ╉┼┼                    |
| Number       Image       Image </td <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>*</td> <td></td> <td>+</td> <td></td> <td></td> <td></td> <td></td> <td>┼╴┨</td> <td></td> <td></td> <td></td> <td>_</td> <td></td> <td></td> <td><math>\vdash</math></td> <td></td> <td>-</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>+</td>   |                                  |                  |           |   |     |            | *       |         | +         |                |          |                          |          | ┼╴┨          |                          |     |     | _   |     |        | $\vdash$  |                    |     |   |     |     |               |     |     |               |      |            |          |          |     | - |      |          |   |     |     | +                      |
| MM <th< td=""><td>A. Mar Chall</td><td>ESC-TRB</td><td><math>\vdash</math></td><td></td><td></td><td>┢┼┤</td><td>^</td><td></td><td>+</td><td></td><td>*</td><td>+</td><td></td><td>┼┨</td><td><math>\vdash</math></td><td></td><td></td><td>_</td><td>_</td><td> </td><td>+ <math>+</math> <math>-</math></td><td><math>\vdash</math></td><td></td><td> </td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td><math>\vdash</math></td><td></td><td><u> </u></td><td></td><td></td><td></td><td>*</td><td></td><td></td><td></td><td>╉╌┼</td></th<>  | A. Mar Chall                     | ESC-TRB          | $\vdash$  |   |     | ┢┼┤        | ^       |         | +         |                | *        | +                        |          | ┼┨           | $\vdash$                 |     |     | _   | _   |        | + $+$ $-$ | $\vdash$           |     |   |     |     |               |     |     |               |      | $\vdash$   |          | <u> </u> |     |   |      | *        |   |     |     | ╉╌┼                    |
| Set Work body sampling     S     S     V      V <td>via vvan Station</td> <td>N 47471</td> <td><math>\vdash</math></td> <td></td> <td></td> <td>┢┼┤</td> <td>*</td> <td></td> <td>+</td> <td></td> <td>*</td> <td>+</td> <td></td> <td>┼┨</td> <td><math>\vdash</math></td> <td></td> <td></td> <td>_</td> <td>_</td> <td> </td> <td>+ <math>+</math> <math>-</math></td> <td><math>\left  - \right </math></td> <td></td> <td> </td> <td></td> <td></td> <td>+</td> <td></td> <td></td> <td></td> <td></td> <td><math> \vdash </math></td> <td></td> <td>-</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>   | via vvan Station                 | N 47471          | $\vdash$  |   |     | ┢┼┤        | *       |         | +         |                | *        | +                        |          | ┼┨           | $\vdash$                 |     |     | _   | _   |        | + $+$ $-$ | $\left  - \right $ |     |   |     |     | +             |     |     |               |      | $ \vdash $ |          | -        |     |   |      |          |   |     |     |                        |
| part Station         par   |                                  | MIW1             |           |   |     |            | Ŷ       |         |           |                | ^        |                          |          |              |                          |     |     |     |     |        |           |                    |     |   |     |     |               |     |     |               |      |            |          | •        |     |   |      | î        |   |     |     | ┻┻                     |
| part Station         par   | Tissue/ Whole Body Sampling      |                  | S         | 0 | N D | T          | F N     | MA      | Μ         | I              | I A      | S                        | O N      | D            | T                        | F N | A A | M   | 1 I | I      | A S       | 0                  | N D | I | F I | M A | M             | Ţ   | I A | S             | O N  | D          | I        | FN       | A N | Μ | II   | A        | S | 0 1 | N D | TT                     |
| Final Markan                     | impact Stations                  |                  |           |   |     |            |         |         |           |                | ,<br>,   |                          |          |              |                          |     |     |     |     |        |           |                    |     |   |     |     |               |     | ,   |               |      |            |          |          |     |   | , ,  |          |   |     |     |                        |
|  | 1                                | ESC-INA          |           |   |     |            | *       |         |           |                | *        |                          |          |              |                          |     |     |     |     |        |           |                    |     |   |     |     |               |     |     |               |      |            |          | k        |     |   |      | *        |   |     |     |                        |
| BSC TAM  |                                  | ESC-INB          |           |   |     |            | *       |         |           |                | *        |                          |          |              |                          |     |     |     |     |        |           |                    |     |   |     |     |               |     |     |               |      |            |          | k        |     |   |      | *        |   |     |     |                        |
| BSC TAM  | Reference                        |                  |           |   |     |            | 1       |         | 1 1       |                |          |                          |          |              |                          |     |     |     |     |        |           |                    |     |   |     |     |               |     |     |               |      |            |          |          |     |   |      |          |   |     |     |                        |
| EC-TNA EC-TNA EC-TNA E I <th< td=""><td></td><td>ESC-TNA</td><td></td><td></td><td></td><td></td><td>*</td><td></td><td></td><td></td><td>*</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>k</td><td></td><td></td><td></td><td>*</td><td></td><td></td><td></td><td></td></th<>  |                                  | ESC-TNA          |           |   |     |            | *       |         |           |                | *        |                          |          |              |                          |     |     |     |     |        |           |                    |     |   |     |     |               |     |     |               |      |            |          | k        |     |   |      | *        |   |     |     |                        |
| ESC-TSB V <  |                                  | ESC-TNB          |           |   |     |            | *       |         |           |                | *        |                          |          |              |                          |     |     |     |     |        |           |                    |     |   |     |     |               |     |     |               |      |            |          | k        |     |   |      | *        |   |     |     |                        |
| ESC-TSB V <  |                                  |                  |           |   |     |            |         |         |           |                |          |                          |          |              |                          |     |     |     |     |        |           |                    |     |   |     |     |               |     |     |               |      |            |          |          |     |   |      |          |   |     |     | $\mathbf{T}^{\dagger}$ |
| Import Internal Traving       S       O       N       D       J       F       M       A       M       J       J       A       N       D       J       F       M       A       M       J       J       A       N       D       J       F       M       A       M       J       J       A       N       D       J       F       M       A       M       J       J       A       N       D       J       F       M       A       M       J       J       A       N       D       J       F       M       A       M       J       J       A       N       D       J       F       M       A       M       J       J       A       N       D       J       F       M       A       M       J       J       A       N       D       J       F       M       A       M       J       J       A       N       D       J       A       N       D       J       A       N       D       J       A       N       D       J       A       N       D       J       A       N       D       J       A       D <td></td> <td>ESC-TSA</td> <td></td> <td></td> <td></td> <td></td> <td>*</td> <td></td> <td></td> <td></td> <td>*</td> <td></td> <td>k</td> <td></td> <td></td> <td></td> <td>*</td> <td></td> <td></td> <td></td> <td></td>   |                                  | ESC-TSA          |           |   |     |            | *       |         |           |                | *        |                          |          |              |                          |     |     |     |     |        |           |                    |     |   |     |     |               |     |     |               |      |            |          | k        |     |   |      | *        |   |     |     |                        |
| A        A        A        A        A        A <td></td> <td>ESC-TSB</td> <td></td> <td></td> <td></td> <td></td> <td>*</td> <td></td> <td></td> <td></td> <td>*</td> <td></td> <td>k</td> <td></td> <td></td> <td></td> <td>*</td> <td></td> <td></td> <td></td> <td></td>  |                                  | ESC-TSB          |           |   |     |            | *       |         |           |                | *        |                          |          |              |                          |     |     |     |     |        |           |                    |     |   |     |     |               |     |     |               |      |            |          | k        |     |   |      | *        |   |     |     |                        |
| A        A        A        A        A        A <td></td>   |                                  |                  |           |   |     |            |         |         |           |                |          |                          |          |              |                          |     |     |     |     |        |           |                    |     |   |     |     |               |     |     |               |      |            |          |          |     |   |      |          |   |     |     |                        |
| BC-INA         ESC-INA         I       I         I         I <td>Demersal Trawling</td> <td></td> <td>S</td> <td>0</td> <td>N D</td> <td>J</td> <td>F N</td> <td>M A</td> <td>Μ</td> <td>J</td> <td>J A</td> <td>S</td> <td>O N</td> <td>D</td> <td>J</td> <td>F N</td> <td>A A</td> <td>M</td> <td>1 J</td> <td>J</td> <td>A S</td> <td>0</td> <td>N D</td> <td>J</td> <td>F I</td> <td>M A</td> <td>M</td> <td>J</td> <td>J A</td> <td>S</td> <td>O N</td> <td>D</td> <td>J</td> <td>FN</td> <td>M A</td> <td>Μ</td> <td>JJ</td> <td>I A</td> <td>S</td> <td>0</td> <td>N D</td> <td>J</td>  | Demersal Trawling                |                  | S         | 0 | N D | J          | F N     | M A     | Μ         | J              | J A      | S                        | O N      | D            | J                        | F N | A A | M   | 1 J | J      | A S       | 0                  | N D | J | F I | M A | M             | J   | J A | S             | O N  | D          | J        | FN       | M A | Μ | JJ   | I A      | S | 0   | N D | J                      |
| b         a  | mpact Stations                   |                  |           |   |     |            |         |         |           |                |          |                          |          |              |                          |     |     |     |     |        |           |                    |     |   |     |     |               |     |     |               |      |            |          |          |     |   |      |          |   |     |     |                        |
| A         A <th< td=""><td></td><td></td><td></td><td></td><td></td><td>*</td><td>*</td><td></td><td></td><td></td><td>* *</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>k</td><td></td><td></td><td>k</td><td>* *</td><td></td><td></td><td></td><td>*</td></th<>   |                                  |                  |           |   |     | *          | *       |         |           |                | * *      |                          |          |              |                          |     |     |     |     |        |           |                    |     |   |     |     |               |     |     |               |      |            |          | k        |     |   | k    | * *      |   |     |     | *                      |
| ESC-TNA         I       I         I         I  |                                  | ESC-INB          |           |   |     | *          | *       |         |           |                | * *      |                          |          |              |                          |     |     |     |     |        |           |                    |     |   |     |     |               |     |     |               |      |            | *        | k        |     |   | 1    | * *      |   |     |     | *                      |
| BSC-TMB         I        I         I         I <td>Reference Stations</td> <td></td>   | Reference Stations               |                  |           |   |     |            |         |         |           |                |          |                          |          |              |                          |     |     |     |     |        |           |                    |     |   |     |     |               |     |     |               |      |            |          |          |     |   |      |          |   |     |     |                        |
| A          |                                  |                  |           |   |     |            |         |         |           |                |          |                          |          |              |                          |     |     |     |     |        |           |                    |     |   |     |     |               |     |     |               |      |            |          | k        |     |   |      |          |   |     |     |                        |
| And and and and anotation         And ano  |                                  | ESC-TNB          |           |   |     | *          | *       |         |           |                | * *      |                          |          |              |                          |     |     |     |     |        |           |                    |     |   |     |     |               |     |     |               |      |            | *        | k        |     |   | لا   | * *      |   |     |     | *                      |
| And and and and anotation         And ano  |                                  |                  |           |   |     |            |         |         |           |                |          |                          |          |              |                          |     |     |     |     |        |           |                    |     |   |     |     |               |     |     |               |      |            |          |          |     |   |      |          |   |     |     |                        |
| And Propering       N       D       J       F       M       A       J       J       A       S       O       N       D       J       F       M       A       S       O       N       D       J       F       M       A       S       O       N       D       J       F       M       A       S       O       N       D       J       F       M       A       S       O       N       D       J       F       M       A       S       O       N       D       J       A       S       O       N       D       J       A       S       O       N       D       J       A       S       O       N       D       J       A       S       O       N       D       J       A       S       O       N       D       J       A       S       O       N       D       J       A       S       O       N       D       J       A       S       O       N       D       J       A       S       O       N       D       J       A       S       O       N       D       J       A       S       O       <  |                                  |                  |           |   |     |            | *       |         |           |                | * *      |                          |          |              |                          |     |     |     |     |        |           |                    |     |   |     |     |               |     |     |               |      |            |          | k        |     |   | لا   | * *      |   |     |     | *                      |
| Ime Stations       WCP1       *  |                                  | ESC-TSB          |           |   |     | *          | *       |         |           |                | * *      |                          |          |              |                          |     |     |     |     |        |           |                    |     |   |     |     |               |     |     |               |      |            | *        | k        |     |   | ł    | * *      |   |     |     | *                      |
| Ime Stations       WCP1       *  |                                  |                  |           |   |     |            |         |         |           |                |          |                          |          |              |                          |     |     |     |     |        |           |                    |     |   |     |     |               |     |     |               |      |            |          |          |     |   |      |          |   |     |     |                        |
|  | Vater Column Profiling           |                  | S         | 0 | N D | J          | F N     | MA      | Μ         | J              | JA       | S                        | O N      | D            | J                        | F N | A A | M   | 1 J | J      | A S       | 0                  | N D | J | F I | M A | M             | J   | J A | S             | O N  | D          |          | FN       | M A | Μ | JJ   | A        | S | 0   | N D | J                      |
| WCP2       *   | lume Stations                    |                  |           |   |     |            |         |         |           | *              | * *      |                          |          |              |                          |     |     |     |     |        |           |                    |     |   |     |     |               |     |     |               |      |            |          | * 3      | * * | * |      | * *      | * | *   | * * | *                      |
|  |                                  | WCP2             | *         | * | * * | *          | * :     | * *     | *         | *              | * *      |                          |          |              |                          |     |     |     |     |        |           |                    |     |   |     |     |               |     |     |               |      |            | *        | k 3      | * * | * | * *  | * *      | * | *   | * * | *                      |
|  |                                  |                  |           |   |     |            |         |         |           |                |          |                          |          |              |                          |     |     |     |     |        |           |                    |     |   |     |     |               |     |     |               |      |            |          |          |     |   |      |          |   |     |     |                        |

#### Annex A1 - Environmental Monitoring and Audit Sampling Schedule for East of Sha Chau (September 2012 - February 2017)

| Annex A1 - Environmental Monit | oring unu Auui | i sumpli | ng Sci<br>201 |     | or Ea | usi oj | snu Chi |                       | nber 201<br>2013 | 2 - Feb | ruury        | 2017) |     |   |     |   | 2014 |   |          |           |     |          |     |       | 20 | )15 |   |       |     |     |   |   |                    | 2016 |          |     |           |         | 2017      |
|--------------------------------|----------------|----------|---------------|-----|-------|--------|---------|-----------------------|------------------|---------|--------------|-------|-----|---|-----|---|------|---|----------|-----------|-----|----------|-----|-------|----|-----|---|-------|-----|-----|---|---|--------------------|------|----------|-----|-----------|---------|-----------|
| Benthic Recolonisation Studies |                | S        |               |     | T     | F      | MA      |                       |                  | A S     | 0            | N D   | ) I | F | M A | M |      | A | S        | 0         | N D | I        | F M | I A M |    | J A | S | 0 N   | D I | F   | Μ | Α | M                  |      | A        | S O | N         |         |           |
| Capped Contaminated Mud Pits   | IVa-c          |          | ~             |     | Ť,    | _      |         | , ,                   |                  |         |              |       |     | _ |     |   | , ,  |   | <b></b>  | -         |     | ,        |     |       | ,  | ,   | - |       | _ , |     |   |   |                    |      |          |     |           |         | _         |
| TT T                           | ESC-CPA        |          |               | *   |       |        |         |                       |                  | *       |              | *     |     |   |     |   |      | * | ++       |           | *   |          |     |       |    | *   |   |       | *   |     |   |   | , — †              |      |          |     | ++        |         |           |
|                                | ESC-CPB        |          |               | *   |       |        |         |                       |                  | *       |              | *     |     |   |     |   |      | * | +-+      |           | *   |          |     |       |    | *   |   |       | *   |     |   |   | , — - <del> </del> |      |          |     |           |         | -         |
|                                | ESC-CPC        |          |               | *   | 1     |        |         |                       |                  | *       |              | *     |     |   |     |   |      | * | ++       |           | *   |          |     |       |    | *   |   |       | *   |     |   |   | , — †              |      |          |     |           |         | -         |
| Reference Stations             |                |          |               |     |       |        |         |                       |                  |         |              |       |     |   |     |   |      |   | +-+      |           |     |          |     |       |    |     |   |       |     |     |   |   | , — - <del> </del> |      |          |     |           |         |           |
|                                | ESC-RBA        |          |               | *   |       |        |         |                       |                  | *       |              | *     |     |   |     |   |      | * | ++       |           | *   |          |     |       |    | *   |   |       | *   |     |   |   | , —†               |      |          |     | +         |         |           |
|                                | ESC-RBB        |          |               | *   |       |        |         |                       |                  | *       |              | *     |     |   |     |   |      | * | ++       |           | *   |          |     |       |    | *   |   |       | *   |     |   |   | , —†               |      |          |     | +         |         | -         |
|                                | ESC-RBC        |          |               | *   | 1     |        |         |                       |                  | *       |              | *     |     |   |     |   |      | * | ++       |           | *   |          |     |       |    | *   |   |       | *   |     |   |   | , — †              |      |          |     |           |         | -         |
|                                |                |          |               |     |       |        |         |                       |                  |         |              |       |     |   |     |   |      |   | 4        |           |     |          |     |       |    |     |   |       |     |     |   |   |                    |      |          |     |           |         |           |
| Impact Monitoring for Dredging | 5              | S        | 0             | N D | J     | F      | M A     | MJ                    | J                | A S     | 0            | N D   | ) J | F | M A | Μ | JJ   | Α | S        | 0         | N D | J        | F M | I A M | J  | J A | S | 0 N   | D ] | J F | Μ | Α | Μ                  | JJ   | Α        | S O | Ν         | DJ      | JF        |
| Upstream/Reference Stations    |                |          |               |     |       |        |         |                       |                  |         |              |       |     |   |     |   |      |   |          |           |     |          |     |       |    |     |   |       |     |     |   |   |                    |      |          |     |           |         |           |
|                                | US1            | *        | *             | * * | *     |        | * *     | *                     |                  |         |              |       |     |   |     |   |      |   |          |           |     |          |     |       |    |     |   |       |     |     |   |   |                    |      |          |     |           |         |           |
|                                | US2            | *        | *             | * * | *     | *      | * *     | *                     |                  |         |              |       |     |   |     |   |      |   |          |           |     |          |     |       |    |     |   |       |     |     |   |   | 1                  |      |          |     |           |         |           |
| Downstream/Impact Stations     |                |          |               |     |       |        |         |                       |                  |         |              |       |     |   |     |   |      |   |          |           |     |          |     |       |    |     |   |       |     |     |   |   | 1                  |      |          |     |           |         |           |
|                                | DS1            | *        | *             | * * | *     | *      | * *     | *                     |                  |         |              |       |     |   |     |   |      |   |          |           |     |          |     |       |    |     |   |       |     |     |   |   |                    |      |          |     |           |         |           |
| 1                              | DS2            | *        | *             | * * | *     |        | * *     | *                     |                  |         |              |       |     |   |     |   |      |   |          |           |     |          |     |       |    |     |   |       |     |     |   |   |                    |      |          |     |           |         |           |
|                                | DS3            | *        | *             | * * |       |        | * *     | *                     |                  |         |              |       | L   |   |     |   |      |   |          |           |     |          |     |       |    |     |   |       |     |     |   |   |                    |      |          |     |           |         |           |
|                                | DS4            | *        | *             | * * | *     | *      | * *     | *                     |                  |         |              |       | T   |   |     |   |      | Ι |          |           |     |          |     |       |    |     |   |       |     |     |   |   |                    |      |          |     |           |         |           |
|                                | DS5            | *        | *             | * * | *     | *      | * *     | *                     |                  |         |              |       |     |   |     |   |      |   |          |           |     |          |     |       |    |     |   |       |     |     |   |   |                    |      |          |     |           |         |           |
| Ma Wan Station                 |                |          |               |     | 1     |        |         |                       |                  |         |              |       |     |   |     |   |      |   |          |           |     |          |     |       |    |     |   |       |     |     |   |   |                    |      |          |     |           |         |           |
|                                | MW1            | *        | *             | * * | *     | *      | * *     | *                     |                  |         |              |       |     |   |     |   |      |   |          |           |     |          |     |       |    |     |   |       |     |     |   |   |                    |      |          |     |           |         |           |
|                                |                |          |               |     |       |        |         |                       |                  |         |              |       |     |   |     |   |      |   |          |           |     |          |     |       |    |     |   |       |     |     |   |   |                    |      |          |     |           |         |           |
| Capping                        |                | S        | 0             | N D | J     | F      | M A     | M J                   | J                | A S     | 0            | N E   | ) J | F | M A | Μ | JJ   | Α | S        | 0         | N D | J        | F M | I A M | J  | J A | S | 0 N 3 | D J | F   | Μ | Α | Μ                  | JJ   | Α        | S O | Ν         | D J     | J F       |
| Ebb Tide                       |                |          |               |     | 1     |        |         |                       |                  |         | $\downarrow$ |       | _   |   |     |   |      | _ | <b>↓</b> | $\square$ |     | $\vdash$ |     |       |    |     |   |       |     |     | 4 |   | $ \rightarrow $    |      | <b> </b> |     | +         | $\perp$ | $\square$ |
| Impact Station                 |                |          |               |     |       |        |         |                       |                  |         |              |       |     |   |     |   |      |   |          |           |     |          |     |       |    |     |   |       |     |     | _ |   | <u> </u>           |      |          |     |           |         | _         |
|                                | ESC-IPE1       |          |               |     |       |        |         |                       |                  |         |              | *     |     | * |     |   | *    | * |          |           | *   |          | *   |       | *  | *   |   |       | *   |     |   |   | <u> </u>           |      |          |     |           |         |           |
|                                | ESC-IPE2       |          |               |     |       |        |         |                       |                  |         |              | *     |     | * |     |   | *    | * |          |           | *   |          | *   |       | *  | *   |   |       | *   |     |   |   | <b></b>            |      |          |     |           |         | _         |
|                                | ESC-IPE3       |          |               |     |       |        |         |                       |                  |         |              | *     |     | * |     |   | *    | * |          |           | *   |          | *   |       | *  | *   |   |       | *   |     |   |   |                    |      |          |     | $\square$ |         |           |
|                                | ESC-IPE4       |          |               |     |       |        |         |                       |                  |         |              | *     |     | * |     |   | *    | * |          |           | *   |          | *   |       | *  | *   |   |       | *   |     |   |   |                    |      |          |     | $\square$ |         |           |
|                                | ESC-IPE5       |          |               |     |       |        |         |                       |                  |         |              | *     |     | * |     |   | *    | * |          |           | *   |          | *   |       | *  | *   |   |       | *   |     |   |   |                    |      |          |     |           |         |           |
| Intermediate Station           |                |          |               |     |       |        |         |                       |                  |         |              |       |     |   |     |   |      |   |          |           |     |          |     |       |    |     |   |       |     |     |   |   |                    |      |          |     | $\square$ |         |           |
|                                | ESC-INE1       |          |               |     |       |        |         |                       |                  |         |              | *     |     | * |     |   | *    | * |          |           | *   |          | *   |       | *  | *   |   |       | *   |     |   |   |                    |      |          |     |           |         |           |
|                                | ESC-INE2       |          |               |     |       |        |         |                       |                  |         |              | *     |     | * |     |   | *    | * |          |           | *   |          | *   |       | *  | *   |   |       | *   |     |   |   |                    |      |          |     |           |         |           |
|                                | ESC-INE3       |          |               |     |       |        |         |                       |                  |         |              | *     |     | * |     |   | *    | * |          |           | *   |          | *   |       | *  | *   |   |       | *   |     |   |   |                    |      |          |     |           |         |           |
|                                | ESC-INE4       |          |               |     |       |        |         |                       |                  |         |              | *     |     | * |     |   | *    | * |          |           | *   |          | *   |       | *  | *   |   |       | *   |     |   |   |                    |      |          |     |           |         |           |
|                                | ESC-INE5       |          |               |     |       |        |         |                       |                  |         |              | *     |     | * |     |   | *    | * |          |           | *   |          | *   |       | *  | *   |   |       | *   |     |   |   |                    |      |          |     |           |         |           |
| Reference Station              |                |          |               |     |       |        |         |                       |                  |         |              |       |     |   |     |   |      |   |          |           |     |          |     |       |    |     |   |       |     |     |   |   |                    |      |          |     |           |         |           |
|                                | ESC-RFE1       |          |               |     |       |        |         |                       |                  |         |              | *     |     | * |     |   | *    | * |          |           | *   |          | *   |       | *  | *   |   |       | *   |     |   |   | 1                  |      |          |     |           |         |           |
| 1                              | ESC-RFE2       |          |               |     |       |        |         |                       |                  |         |              | *     |     | * |     |   | *    | * |          |           | *   |          | *   |       | *  | *   |   |       | *   |     | Ι |   |                    |      |          |     |           |         |           |
| 1                              | ESC-RFE3       |          |               |     |       |        |         |                       |                  |         |              | *     |     | * |     |   | *    | * |          |           | *   |          | *   |       | *  | *   |   |       | *   |     |   |   |                    |      |          |     |           |         |           |
|                                | ESC-RFE4       |          |               |     | 1     |        |         |                       |                  |         |              | *     |     | * |     |   | *    | * |          |           | *   |          | *   |       | *  | *   |   |       | *   |     |   |   |                    |      |          |     |           |         |           |
|                                | ESC-RFE5       |          |               |     |       |        |         |                       |                  |         |              | *     |     | * |     |   | *    | * |          |           | *   |          | *   |       | *  | *   |   |       | *   |     |   |   |                    |      |          |     |           |         |           |
| Ma Wan Station                 |                |          |               |     |       |        |         |                       |                  |         |              |       |     |   |     |   |      |   | $\Box$   |           |     |          |     |       |    |     |   |       |     |     |   |   |                    |      |          |     |           |         |           |
|                                | MW1            |          |               |     |       |        |         |                       |                  |         |              | *     |     | * |     |   | *    | * |          |           | *   |          | *   |       | *  | *   |   |       | *   |     |   |   |                    |      |          |     |           |         |           |
| Flood Tide                     |                |          |               |     |       |        |         |                       |                  |         |              |       |     |   |     |   |      |   |          |           |     |          |     |       |    |     |   |       | Т   |     |   |   |                    |      |          |     |           |         |           |
| Impact Station                 |                |          |               |     |       |        |         |                       |                  |         |              |       |     |   |     |   |      |   |          |           |     |          |     |       |    |     |   |       |     |     |   |   |                    |      |          |     |           |         |           |
|                                | ESC-IPF1       |          |               |     |       |        |         |                       |                  |         |              | *     |     | * |     |   | *    | * |          |           | *   |          | *   |       | *  | *   |   |       | *   |     |   |   |                    |      |          |     |           |         |           |
|                                | ESC-IPF2       |          |               |     |       |        |         |                       |                  |         |              | *     |     | * |     |   | *    | * |          |           | *   |          | *   |       | *  | *   |   |       | *   |     |   |   |                    |      |          |     |           |         |           |
|                                | ESC-IPF3       |          |               |     |       |        |         |                       |                  |         |              | *     |     | * |     |   | *    | * | $\Box$   |           | *   |          | *   |       | *  | *   |   |       | *   |     |   |   |                    |      |          |     |           |         |           |
| Intermediate Station           |                |          |               |     |       |        |         |                       |                  |         |              |       |     |   |     |   |      |   | T        |           |     |          |     |       |    |     |   |       |     |     |   |   |                    |      |          |     |           |         |           |
|                                | ESC-INF1       |          |               |     | 1     |        |         |                       |                  |         |              | *     |     | * |     |   | *    | * |          |           | *   |          | *   |       | *  | *   |   |       | *   |     |   |   |                    |      |          |     |           |         |           |
|                                | ESC-INF2       |          |               |     | 1     |        |         |                       |                  |         |              | *     |     | * |     |   | *    | * |          |           | *   |          | *   |       | *  | *   |   |       | *   |     |   |   |                    |      |          |     |           |         |           |
|                                | ESC-INF3       |          | t             |     | Ĩ     |        | l       |                       |                  |         |              | *     |     | * |     |   | *    | * |          |           | *   |          | *   |       | *  | *   |   |       | *   | 1   | 1 |   | , <u> </u>         |      | 1        |     |           | 1       |           |
| Reference Station              |                |          |               |     | 1     |        |         |                       | 1 1              |         |              |       | 1   |   |     |   |      |   | +        |           |     |          | İ   | 1 1   |    |     |   |       |     |     | 1 |   | , —†               | +    | 1        |     |           | -+      |           |
|                                | ESC-RFF1       |          |               |     | 1     |        |         |                       | 1 1              |         |              | *     |     | * |     |   | *    | * | +        |           | *   |          | *   | 1 1   | *  | *   |   |       | *   |     | 1 |   |                    | +    | 1        |     |           | -+      | 1         |
|                                | ESC-RFF2       |          |               |     | 1     |        |         |                       | + +              |         |              | *     |     | * |     |   | *    | * | ++       |           | *   |          | *   |       | *  | *   |   |       | *   |     | 1 |   | , —†               | +    | 1        |     | +         | -+      | 1         |
|                                | ESC-RFF3       |          |               |     | 1     |        |         |                       | + +              |         |              | *     |     | * |     |   | *    | * | + +      |           | *   |          | *   |       | *  | *   |   |       | *   |     |   |   | , —†               |      |          |     |           |         |           |
| Ma Wan Station                 |                |          |               |     | 1     |        |         | $\uparrow$ $\uparrow$ | +                |         |              |       | 1   |   |     |   |      |   | ++       |           |     |          |     |       |    |     |   |       |     |     |   |   | , — †              | -+   | 1        |     | +         |         |           |
|                                | MW1            |          |               |     | 1     |        |         |                       | + +              |         |              | *     |     | * |     |   | *    | * | + +      |           | *   |          | *   |       | *  | *   |   |       | *   |     |   |   | , —†               |      |          |     |           |         |           |
|                                |                |          |               |     |       | 1      |         |                       |                  |         | 1            | 1     |     | 1 |     | 1 |      |   |          | 1         |     |          |     | 1 1   | 1  |     |   |       |     |     | 1 | 1 |                    |      | 1        |     |           |         |           |

#### Annex A1 - Environmental Monitoring and Audit Sampling Schedule for East of Sha Chau (September 2012 - February 2017)

| Annex AI - Environmental N | 0        |     | 012 | ,<br>, | , |    |     |    | 13 |     | 0   |     |   |   |     |   | 2014 |   |   |   |     |   |   |    |     | 2  | 015 |     |     |     |   |     |          |   |   | 2016     |     |     |     |     | 2 | 017 |
|----------------------------|----------|-----|-----|--------|---|----|-----|----|----|-----|-----|-----|---|---|-----|---|------|---|---|---|-----|---|---|----|-----|----|-----|-----|-----|-----|---|-----|----------|---|---|----------|-----|-----|-----|-----|---|-----|
| Routine Water Quality Mor  | nitoring | S O | Ν   | D J    | F | Μ  | A M | IJ | J  | A S | 5 0 | N D | J | F | M A | Μ | JJ   | Α | S | 0 | N D | J | F | Μ  | A M | IJ | J   | A S | 5 O | Ν   | D | J F | Μ        | A | Μ | J        | A   | S ( | ) N | I D | J | F   |
| Ebb Tide                   | 0        |     |     |        |   |    |     |    | -  |     |     |     |   |   |     |   | 5    |   |   |   |     |   |   |    |     |    |     |     |     |     |   | -   | <b>—</b> | - | - | <u> </u> |     |     |     |     | Ť |     |
| Impact Station             |          |     |     |        |   |    |     |    |    |     |     |     |   |   |     |   |      |   |   |   |     |   | 1 |    |     |    |     |     |     |     |   |     |          | 1 |   |          |     |     |     |     | - |     |
| 1                          | ESC-IPE1 | *   | *   | *      | * |    | * * |    | *  | *   |     |     |   |   |     |   |      |   |   |   |     |   |   |    |     |    |     |     |     |     |   | * * |          | * | * | 4        | : * | ,   | * * |     | * | *   |
|                            | ESC-IPE2 | *   | *   | *      | * |    | * * |    | *  | *   |     |     |   |   |     |   |      |   |   |   |     |   |   |    |     |    |     |     |     |     |   | * * |          | * | * | 4        | : * | -   | * * |     | * | *   |
|                            | ESC-IPE3 | *   | *   | *      | * |    | * * |    | *  | *   |     |     |   |   |     |   |      |   |   |   |     |   |   |    |     |    |     |     |     |     |   | * * |          | * | * | ŕ        | : * | ,   | * * |     | * | *   |
|                            | ESC-IPE4 | *   | *   | *      | * |    | * * |    | *  | *   |     |     |   |   |     |   |      |   |   |   |     |   |   |    |     |    |     |     |     |     |   | * * |          | * | * | ł        | : * |     | * * |     | * | *   |
|                            | ESC-IPE5 | *   | *   | *      | * |    | * * |    | *  | *   |     |     |   |   |     |   |      |   |   |   |     |   |   |    |     |    |     |     |     |     |   | * * |          | * | * | Ą        | * * | ,   | * * |     | * | *   |
| Intermediate Station       |          |     |     |        |   |    |     |    |    |     |     |     |   |   |     |   |      |   |   |   |     |   |   |    |     |    |     |     |     |     |   |     |          |   |   |          |     |     |     |     |   |     |
|                            | ESC-INE1 | *   | *   | *      | * |    | * * |    | *  | *   |     |     |   |   |     |   |      |   |   |   |     |   |   |    |     |    |     |     |     |     |   | * * |          | * | * | ŕ        | : * | ,   | * * |     | * | *   |
|                            | ESC-INE2 | *   | *   | *      | * |    | * * |    | *  | *   |     |     |   |   |     |   |      |   |   |   |     |   |   |    |     |    |     |     |     |     |   | * * |          | * | * | ŕ        | : * | ,   | * * |     | * | *   |
|                            | ESC-INE3 | *   | *   | *      | * | 11 | * * | 1  | *  | *   |     |     |   | 1 |     | 1 |      | 1 |   |   |     |   | 1 |    |     |    |     |     |     |     |   | * * |          | * | * | ł.       | : * | ,   | * * |     | * | *   |
|                            | ESC-INE4 | *   | *   | *      | * |    | * * |    | *  | *   |     |     |   |   |     |   |      |   |   |   |     |   |   |    |     |    |     |     |     |     |   | * * |          | * | * | Ą        | * * | ,   | * * |     | * | *   |
|                            | ESC-INE5 | *   | *   | *      | * |    | * * |    | *  | *   |     |     |   |   |     |   |      |   |   |   |     |   |   |    |     |    |     |     |     |     |   | * * |          | * | * | ŕ        | : * | ,   | * * |     | * | *   |
| Reference Station          |          |     |     |        |   |    |     |    |    |     |     |     |   |   |     |   |      |   |   |   |     |   | 1 |    |     |    |     |     |     |     |   |     |          |   |   |          |     |     |     |     |   |     |
|                            | ESC-RFE1 | *   | *   | *      | * |    | * * |    | *  | *   |     |     |   |   |     |   |      |   |   |   |     |   | 1 |    |     |    |     |     |     |     |   | * * |          | * | * | ł        | : * | 1   | * * |     | * | *   |
|                            | ESC-RFE2 | *   | *   | *      | * |    | * * |    | *  | *   |     |     |   |   |     |   |      |   |   |   |     |   | 1 |    |     |    |     |     |     |     |   | * * |          | * | * | ł        | : * | 1   | * * |     | * | *   |
|                            | ESC-RFE3 | *   | *   | *      | * |    | * * |    | *  | *   |     |     |   |   |     |   |      |   |   |   |     |   | 1 |    |     |    |     |     |     |     |   | * * |          | * | * | ł        | : * | 1   | * * |     | * | *   |
|                            | ESC-RFE4 | *   | *   | *      | * |    | * * |    | *  | *   |     |     |   |   |     |   |      |   |   |   |     |   |   |    |     |    |     |     |     |     |   | * * |          | * | * | 4        | *   | ,   | * * |     | * | *   |
|                            | ESC-RFE5 | *   | *   | *      | * |    | * * |    | *  | *   |     |     |   |   |     |   |      |   |   |   |     |   |   |    |     |    |     |     |     |     |   | * * |          | * | * | ÷        | *   | 1   | * * |     | * | *   |
| Ma Wan Station             |          |     |     |        |   |    |     |    |    |     |     |     |   |   |     |   |      |   |   |   |     |   |   |    |     |    |     |     |     |     |   |     |          |   |   |          |     |     |     |     |   |     |
|                            | MW1      | *   | *   | *      | * |    | * * |    | *  | *   |     |     |   |   |     |   |      |   |   |   |     |   |   |    |     |    |     |     |     |     |   | * * |          | * | * | ÷        | *   | 1   | * * |     | * | *   |
| Flood Tide                 |          |     |     |        |   |    |     |    |    |     |     |     |   |   |     |   |      |   |   |   |     |   |   |    |     |    |     |     |     |     |   |     |          |   |   |          |     |     |     |     |   |     |
| Impact Station             |          |     |     |        |   |    |     |    |    |     |     |     |   |   |     |   |      |   |   |   |     |   |   |    |     |    |     |     |     |     |   |     |          |   |   |          |     |     |     |     |   |     |
|                            | ESC-IPF1 | *   | *   | *      | * |    | * * |    | *  | *   |     |     |   |   |     |   |      |   |   |   |     |   |   |    |     |    |     |     |     |     |   | * * | Τ        | * | * | ł        | : * | ,   | * * |     | * | *   |
|                            | ESC-IPF2 | *   | *   | *      | * |    | * * |    | *  | *   |     |     |   |   |     |   |      |   |   |   |     |   |   |    |     |    |     |     |     |     |   | * * |          | * | * | ł        | : * | -   | * * |     | * | *   |
|                            | ESC-IPF3 | *   | *   | *      | * |    | * * |    | *  | *   |     |     |   |   |     |   |      |   |   |   |     |   |   |    |     |    |     |     |     |     |   | * * |          | * | * | *        | *   | 1   | * * |     | * | *   |
| Intermediate Station       |          |     |     |        |   |    |     |    |    |     |     |     |   |   |     |   |      |   |   |   |     |   |   |    |     |    |     |     |     |     |   |     |          |   |   |          |     |     |     |     |   |     |
|                            | ESC-INF1 | *   | *   | *      | * |    | * * |    | *  | *   |     |     |   |   |     |   |      |   |   |   |     |   |   |    |     |    |     |     |     |     |   | * * |          | * | * | *        | *   | 1   | * * |     | * | *   |
|                            | ESC-INF2 | *   | *   | *      | * |    | * * |    | *  | *   |     |     |   |   |     |   |      |   |   |   |     |   |   |    |     |    |     |     |     |     |   | * * |          | * | * | ÷        | *   | 1   | * * |     | * | *   |
|                            | ESC-INF3 | *   | *   | *      | * |    | * * |    | *  | *   |     |     |   |   |     |   |      |   |   |   |     |   |   |    |     |    |     |     |     |     |   | * * |          | * | * | ŕ        | * * | -   | * * |     | * | *   |
| Reference Station          |          |     |     |        |   |    |     |    |    |     |     |     |   |   |     |   |      |   |   |   |     |   |   |    |     |    |     |     |     |     |   |     |          |   |   |          |     |     |     |     |   |     |
|                            | ESC-RFF1 | *   | *   | *      | * |    | * * |    | *  | *   |     |     |   |   |     |   |      |   |   |   |     |   |   |    |     |    |     |     |     |     |   | * * |          | * | * | ŕ        | : * | 3   | * * |     | * | *   |
|                            | ESC-RFF2 | *   | *   | *      | * |    | * * |    | *  | *   |     |     |   |   |     |   |      |   |   |   |     |   |   |    |     |    |     |     |     |     |   | * * |          | * | * | *        | * * | ,   | * * |     | * |     |
|                            | ESC-RFF3 | *   | *   | *      | * |    | * * |    | *  | *   |     |     |   |   |     |   |      |   |   |   |     |   |   |    |     |    |     |     |     |     |   | * * |          | * | * | ¥        | * * |     | * * |     | * | *   |
| Ma Wan Station             |          |     |     |        |   |    |     |    |    |     |     |     |   |   |     |   |      |   |   |   |     |   |   |    |     |    |     |     |     |     |   |     |          |   |   |          |     |     |     |     |   |     |
|                            | MW1      | *   | *   | *      | * | ΙT | * * |    | *  | *   |     |     |   |   |     |   |      |   |   |   |     |   |   | ΙT |     |    | Ι Τ |     |     | I T |   | * * |          | * | * | ŕ        | : * | ,   | * * |     | * | *   |

#### Annex A2 - Environmental Monitoring and Audit Sampling Schedule for South of The Brothers (July 2012 - February 2017)

|   |                    |  |          | 2012  |     |     |       |           | 2013 |       |    |          |      |          |                    | 201 | 14    |      |                                       |       |                  |       |     | 2015  |    |   |    |    |     |            | 2     | 2016  |          |           |               |        | 2017       |
|---|--------------------|--|----------|-------|-----|-----|-------|-----------|------|-------|----|----------|------|----------|--------------------|-----|-------|------|---------------------------------------|-------|------------------|-------|-----|-------|----|---|----|----|-----|------------|-------|-------|----------|-----------|---------------|--------|------------|
| Baseline Monitoring Prior to Dredging           | Code               | Frequency  | J A      |       |     | D J | FM    | I A M     |      | A S   | 0  | NI       | D J  | F M      | A M                |     |       | S    | O N I                                 | D J   | F                | M A   | Μ   |       | Α  | S O N   | D  | JF | M   | Α          |       |       | A S      | 0]        | ΝΓ            |        |            |
| Far Field Stations                              |                    |  |          |       |     |     |       |           |      |       |    |          |      |          |                    |     |       |      |                                       |       |                  |       |     |       |    |   |    |    |     |            |       |       |          |           |               |        | T          |
|   | SB-WFA             | 3 days per week for 4 weeks                                | * *      |       |     |     |       |           |      |       |    |          |      |          |                    |     |       |      |                                       |       |                  |       |     |       |    |   |    |    |     |            |       |       |          |           |               |        |            |
|   | SB-WFB             | 3 days per week for 4 weeks                                | * *      |       |     |     |       |           |      |       |    |          |      |          |                    |     |       |      |                                       |       |                  |       |     |       |    |   |    |    |     |            |       |       |          |           |               |        |            |
| Mid Field Stations                              |                    |  |          |       |     |     |       |           |      |       |    |          |      |          |                    |     |       |      |                                       |       |                  |       |     |       |    |   |    |    |     |            |       |       |          |           |               |        |            |
|   | SB-WMA             | 3 days per week for 4 weeks                                | * *      |       |     |     |       |           |      |       |    |          |      |          |                    |     |       | _    |                                       |       |                  |       |     |       | _  |   |    |    |     |            |       |       |          |           | $\square$     | _      | $\square$  |
|   | SB-WMB             | 3 days per week for 4 weeks                                | * *      |       |     |     |       |           |      |       |    |          |      |          |                    | +   |       | _    |                                       | _     |                  |       |     |       | _  |   |    |    | _   |            |       |       | '        | $\vdash$  |               |        | _          |
| Near Field Stations                             | op 119 1 1 1       |  |          |       |     |     |       |           |      |       |    |          |      |          |                    | + + |       | _    |                                       | _     |                  |       |     |       | _  |   |    |    | _   |            |       |       | <u> </u> | $\vdash$  | $\rightarrow$ | _      | _          |
|   |                    |  | * *      | + $+$ |     |     |       | + $+$ $+$ |      |       |    |          | _    | + + -    |                    |     |       | _    |                                       | _     |                  |       |     |       | _  |   |    |    | _   |            |       |       | <u> </u> | $\vdash$  |               |        | +          |
|   |                    | 3 days per week for 4 weeks<br>3 days per week for 4 weeks | * *      |       |     |     |       |           |      |       |    |          |      |          |                    | + + |       | -    |                                       |       |                  |       |     |       | -  |   |    |    | _   |            |       |       | <u> </u> | $\vdash$  | —             |        | +          |
|   | SB-WNBA<br>SB-WNBB | 3 days per week for 4 weeks                                | * *      |       |     |     |       |           |      |       |    |          |      |          |                    |     |       | _    |                                       |       |                  |       |     |       | _  |   |    |    |     |            |       |       | <u> </u> | $\vdash$  | +             | —      | +-         |
| Reference Stations                              | 3D-WINDD           | 5 days per week for 4 weeks                                |          |       |     |     |       | + $+$ $+$ |      |       |    |          |      |          |                    | +   |       | -    |                                       | _     |                  |       |     |       | +  |   |    | _  | -   |            |       |       | '        | $\vdash$  | +             | —      | +          |
| Reference Stations                              | NM1                | 3 days per week for 4 weeks                                | * *      |       |     |     |       |           |      |       |    |          |      |          |                    |     |       | -    |                                       |       |                  |       |     |       | -  |   |    |    |     |            |       |       | <u> </u> | $\vdash$  | +             | —      | +          |
|   | NM2                | 3 days per week for 4 weeks                                | * *      |       |     |     |       |           |      |       |    |          |      |          |                    |     |       | _    |                                       |       |                  |       |     | _     |    |   | _  |    |     |            |       |       | <u> </u> | $\vdash$  | —             | —      | +          |
|   | NM3                | 3 days per week for 4 weeks                                | * *      |       |     |     |       |           |      |       |    |          |      |          |                    | + + |       |      |                                       |       |                  |       |     |       | 1  |   |    |    |     |            |       |       | <u> </u> |           | +             | +-     | +          |
|   | NM5                | 3 days per week for 4 weeks                                | * *      |       |     |     |       |           |      |       |    |          | -    |          |                    |     |       |      |                                       | -     |                  |       |     |       |    |   |    |    |     |            |       |       |          |           | +             | +-     | +          |
|   | NM6                | 3 days per week for 4 weeks                                | * *      |       |     |     |       | + + +     | + +  |       |    |          |      |          |                    | +   |       |      |                                       |       | +                |       |     |       |    |   |    |    |     |            |       |       | <u> </u> | $\vdash$  | +             | +      | +          |
| Sensitive Receiver Stations                     |                    | ,  |          | +     |     |     |       |           |      |       |    |          |      |          |                    | +   |       |      |                                       |       | +                |       |     |       |    |   | +  |    |     |            |       | +     |          | $\vdash$  | +             | +      | +          |
|   | MW1                | 3 days per week for 4 weeks                                | * *      | +     |     |     |       |           |      |       |    |          |      |          |                    | +   |       | +    |                                       |       | +                |       |     |       | +  |   |    | +  |     |            |       |       |          | $\vdash$  | +             | +      | +          |
|   | THB1               | 3 days per week for 4 weeks                                | * *      |       |     |     |       |           |      |       |    |          |      |          |                    |     |       |      |                                       |       |                  |       |     |       |    |   |    |    |     |            |       |       |          | $\square$ | $\top$        | 1      | +          |
|   | THB2               | 3 days per week for 4 weeks                                | * *      |       |     |     |       | 1 1 1     |      |       |    |          |      |          |                    |     |       |      |                                       |       |                  |       |     |       | 1  |   |    |    |     |            |       |       |          | $\square$ | $\top$        | $\top$ | +          |
|   | WSR45C             | 3 days per week for 4 weeks                                | * *      | 11    |     |     |       |           |      |       |    |          |      |          |                    |     |       |      |                                       | 1     |                  |       |     |       | 1  |   |    |    |     |            |       |       |          | $\square$ | $\top$        | 1      | 1          |
|   | WSR46              | 3 days per week for 4 weeks                                | * *      |       |     |     |       |           |      |       |    |          |      |          |                    |     |       |      |                                       |       |                  |       |     |       |    |   |    |    |     |            |       |       |          |           |               |        |            |
|   |                    |  | · ·      |       |     |     |       |           |      |       |    |          |      |          |                    |     |       |      |                                       |       | ·                |       |     |       |    |   |    |    |     |            |       |       |          |           |               |        |            |
| Impact Monitoring for Dredging                  |                    |  | J A      | S     | D N | D J | F M   | I A M     | JJ   | A S   | 0  | NI       | D J  | F M      | A M                | J   | J A   | S    | O N I                                 | DJ    | F                | M A   | Μ   | JJ    | Α  | S O N   | D  | J  | Μ   | Α          | M J   | J     | A S      | 0         | ΝΓ            | J      | F          |
| Upstream Stations                               |                    |  |          |       |     |     |       |           |      |       |    |          |      |          |                    |     |       |      |                                       |       |                  |       |     |       |    |   |    |    |     |            |       |       |          |           |               | T      | L          |
|   | US1                | 3 days per week  |          |       | *   | * * | * * * | * *       | * *  | * *   | *  | * *      | * *  | * *      |                    | *   | * *   | *    | * *                                   |       |                  |       |     |       |    |   |    |    |     |            |       |       | '        |           |               |        |            |
|   | US2                | 3 days per week  |          |       | *   | * * | * * * | * *       | * *  | * *   | *  | * *      | * *  | * *      | * *                | *   | * *   | *    | * *                                   |       |                  |       |     |       |    |   |    |    |     |            |       |       |          |           |               |        |            |
| Downstream Stations                             |                    |  |          |       |     |     |       |           |      |       |    |          |      |          |                    |     |       |      |                                       | _     |                  |       |     |       | _  |   |    |    | _   |            |       |       | <u> </u> | $\vdash$  | $\rightarrow$ | _      | —          |
|   | DS1                | 3 days per week  |          | +     | *   | * * |       | * *       | * *  | * *   | *  | * *      | * *  | * *      | * *                | *   | * *   | *    | * *                                   | _     |                  |       | -   |       | _  |   |    |    | _   |            |       | -     | <u> </u> | $\vdash$  |               |        | —          |
|   | DS2<br>DS3         | 3 days per week<br>3 days per week                         |          |       | *   | * * | * * * | * *       | * *  | * *   | *  | * *      |      |          | * *                | *   | * *   | *    | * *                                   |       |                  |       |     |       |    |   |    |    |     |            |       |       |          | $\vdash$  | _             | _      | —          |
|   | DS3<br>DS4         | 3 days per week  |          |       | *   | * * | * * * |           |      | * *   | *  | * *      |      |          | * *                |     | * *   |      |                                       |       |                  |       |     |       |    |   | _  |    |     |            |       |       | <u> </u> | $\vdash$  | —             | —      | +          |
|   | DS1<br>DS5         | 3 days per week  |          |       | *   | * * | * * * | * *       | * *  | * *   | *  | * *      | * *  |          | * *                | *   | * *   | *    | * *                                   |       |                  |       |     |       |    |   |    |    |     |            |       |       |          |           | -             | +-     | +          |
| Sensitive Receiver Stations                     |                    | ·  |          |       |     |     |       |           |      |       |    |          |      |          |                    | 1 1 |       |      |                                       |       |                  |       |     |       |    |   |    |    |     |            |       |       |          |           | +             | +      | +          |
|   | MW1                | 3 days per week  |          |       | *   | * * | * * * | * *       | * *  | * *   | *  | * *      | * *  | * *      | * *                | *   | * *   | *    | * *                                   |       |                  |       |     |       |    |   |    |    |     |            |       |       |          |           | _             | -      | -          |
|   | THB1               | 3 days per week  |          |       | *   | * * | * * * | * *       | * *  | * *   | *  | * *      | * *  | * *      | * *                | *   | * *   | *    | * *                                   |       |                  |       |     |       |    |   |    |    |     |            |       |       |          |           |               |        |            |
|   | THB2               | 3 days per week  |          |       | *   | * * | * * * | * *       | * *  | * *   | *  | * *      | * *  | * *      | * *                | *   | * *   | *    | * *                                   |       |                  |       |     |       |    |   |    |    |     |            |       |       |          |           |               |        |            |
|   | WSR45C             | 3 days per week  |          |       | *   | * * | * * * | * *       | * *  | * *   | *  | * *      | * *  | * *      | * *                | *   | * *   | *    | * *                                   |       |                  |       |     |       |    |   |    |    |     |            |       |       |          |           |               |        |            |
|   | WSR46              | 3 days per week  |          |       | *   | * * | * *   | * *       | * *  | * *   | *  | * *      | * *  | * *      | * *                | *   | * *   | *    | * *                                   |       |                  |       |     |       |    |   |    |    |     |            |       |       |          |           |               | ⊥      |            |
| Dit Engelig Sodiment Chamister                  |                    |  |          | C .   |     |     |       |           | TT   | A C   |    | N        | T    | EM       |                    | т   | T     | 6    | O N I                                 | пт    | F                | M     | M   | T     | •  | S O N   | пI | TT | м   |            | M     | T     | A 6      | 0         | N             |        | TT         |
| Pit Specific Sediment Chemistry SB CMP 1 Active |                    |  | JA       | 5     |     | J   | r M   | AM        | 1 1  | A S   | 0  | IN I     | , j  | F M      | A M                | J   | J A   | . 5  |                                       | J     | ľ                | IVI A | IVI | JJ    | A  | 3 0 N   | 0  | JI | IVI | A          | ivi j | J     | A S      |           |               | +      | -r         |
| Near-Pit  |                    |  |          | + +   |     |     |       | + $+$ $+$ | + +  |       | +  |          |      | + +      |                    | +   |       | +    |                                       |       | $\left  \right $ | -+    | +   |       | +  | + $+$ $+$   | -  |    |     |            |       | +     | '        | $\vdash$  | +             | +      | +          |
|   | SB-NNAA            | Monthly  | $\vdash$ | + +   | +   |     |       | + $+$ $+$ |      | 12 17 | 12 | 12 1     | 2 12 | 12 12    | 12 13              | 12  | 12 12 | 2 12 | 12 12                                 |       | +                | -+    | +   | +     | +  | + $+$ $+$   | +  | +  |     | $\vdash$   |       | +     | <u> </u> | $\vdash$  | +             | +      | +          |
|   | SB-NNAB            |  |          | +     |     |     |       |           |      |       |    |          |      |          |                    |     |       |      | 12 12                                 |       | +                |       |     | +     | +  |   |    | +  |     |            |       |       |          | $\vdash$  | +             | +      | +          |
| Pit-Edge  |                    |  |          |       |     |     |       |           |      |       |    |          |      |          |                    |     |       |      |                                       |       |                  |       |     |       | 1  |   |    |    |     |            |       |       |          | $\square$ | $\top$        | $\top$ | $\uparrow$ |
|   | SB-NEAA            | Monthly  |          |       |     |     |       |           |      | 12 12 | 12 | 12 1     | 2 12 | 12 12    | 12 12              | 12  | 12 12 | 2 12 | 12 12                                 |       |                  |       |     |       |    |   |    |    |     |            |       |       |          |           |               |        |            |
|   | SB-NEAB            |  |          |       |     |     |       |           |      | 12 12 | 12 | 12 1     | 2 12 | 12 12    | 12 12              | 12  | 12 12 | 2 12 | 12 12                                 |       |                  |       |     |       |    |   |    |    |     |            |       |       |          |           |               |        |            |
| Active-Pit                                      |                    |  |          |       |     |     |       |           |      |       |    |          |      |          |                    |     |       |      |                                       |       |                  |       |     |       |    |   | T  |    |     |            |       |       |          | LТ        |               |        |            |
|   | SB-NPAA            |  | $\vdash$ |       |     |     | + $+$ | + $+$ $+$ |      |       |    |          | 2 12 | 12 12    | 12 12              | 12  | 12 12 | 2 12 | 12 12                                 |       |                  |       |     |       | _  |   |    |    |     |            |       |       | '        | $\vdash$  | $\perp$       | +      | $\perp$    |
|   | SB-NPAB            | Monthly  | $\vdash$ | +     |     |     |       | + $+$ $+$ |      | 12 12 | 12 | 12 1     | 2 12 | 12 12    | 12 12              | 12  | 12 12 | 2 12 | 12 12                                 |       |                  |       |     |       | _  | + + + +   | _  |    |     |            |       |       | <u> </u> | $\vdash$  | +             | ╇      | 4          |
| SB CMP 2 Active                                 |                    |  |          | + +   | +   |     |       | + $+$ $+$ | ++   | -     |    |          |      | $\vdash$ | $\vdash$           | +   |       | _    |                                       |       | $\vdash$         | -+    | +   |       | +  | + $+$ $+$ $+$   |    | +  | _   | $ \vdash $ |       | +     | <u> </u> | $\vdash$  | +             | +      | ╞          |
| Near-Pit  | CR NINTD A         | Marshla  | $\vdash$ | +     |     |     | + +   | + $+$ $+$ | + +  |       |    |          |      | $\vdash$ | + $+$              | +   |       | _    | + $+$ $+$ $+$ $+$ $+$ $+$ $+$ $+$ $+$ | 12 12 | 10               | 10 10 | 10  | 10 11 | 10 |   | 12 |    |     | $\vdash$   |       | +     | <u> </u> | $\vdash$  | +             | —      | +          |
|   | SB-NNBA<br>SB-NNBB |  |          | + +   | +   |     |       | + $+$ $+$ | + +  | _     | +  |          |      | + +      | $\left  - \right $ | +   |       | +    |                                       |       |                  |       |     |       |    | 12     12     12     12       12     12     12     12 |    | +  |     | $\vdash$   |       | + +   | <u> </u> | $\vdash$  | +             | +-     | +          |
| Pit-Edge  | 50-ININDD          | Monthly  | $\vdash$ | +     |     |     | +     | + $+$ $+$ | ++   | -     |    |          |      | $\vdash$ | + + -              | +   |       |      |                                       | 12 12 | 12               | 12 12 | 12  | 12 12 | 12 | 12 12 12  | 12 |    | _   | $\vdash$   |       | +     | <u> </u> | $\vdash$  | +             | +      | +          |
| a Luge  | SB-NEBA            | Monthly  |          | + +   | +   | -+  | + +   | + $+$ $+$ |      | -+    | +  | $\vdash$ |      | + + -    | + $+$              | +   | -+    | +    |                                       | 2 12  | 12               | 12 12 | 12  | 12 11 | 12 | 12 12 12 1  | 12 | +  |     | $\vdash$   | _     | + $+$ | -+'      | $\vdash$  | +             | +      | +          |
|   |                    | Monthly  |          | + +   | +   |     |       | + $+$ $+$ | ++   |       | +  | $\vdash$ |      | $\vdash$ | $\vdash$           | +   |       | +    |                                       | 2 12  | 12               | 12 12 | 12  | 12 13 | 12 | 12     12     12     12       12     12     12     12 | 12 | +  | -   | $\vdash$   |       | +     | '        | $\vdash$  | +             | +      | +          |
| Active-Pit                                      |                    | ·······,   |          | +     |     |     |       |           |      |       |    |          |      |          |                    | +   |       | 1    |                                       |       | <u> </u>         | - 12  |     | 14    |    |   |    | +  |     |            |       |       |          | $\vdash$  | +             | +      | +          |
|   | SB-NPBA            | Monthly  |          |       |     |     |       |           |      |       |    |          |      |          |                    |     |       |      | 1                                     | 12 12 | 12               | 12 12 | 12  | 12 12 | 12 | 12 12 12 1  | 12 |    |     |            |       |       |          | $\square$ | $\top$        | 1      | $\uparrow$ |
|   |                    | Monthly  |          |       |     |     |       |           |      |       |    |          |      |          | 11                 | 1 1 |       |      |                                       | 12 12 | 12               | 12 12 | 12  | 12 12 | 12 | 12 12 12 1  | 12 |    |     |            |       |       |          |           |               | 1      | $\top$     |
|   |                    | ·  |          |       |     |     |       |           |      |       |    |          |      |          |                    |     |       | -    |                                       |       |                  | 1     | -   |       |    |   |    |    | _   | -          |       |       |          |           |               | _      |            |

#### Annex A2 - Environmental Monitoring and Audit Sampling Schedule for South of The Brothers (July 2012 - February 2017)

|                                     |                    |                                       |     | 201 | r   |     |     | 20                | 12  |            |       |           |       | 2   | 014       |       |     |     |     |     | 2015  |     |       |     |                   | 2016     |       |         | 2017  |
|-------------------------------------|--------------------|---------------------------------------|-----|-----|-----|-----|-----|-------------------|-----|------------|-------|-----------|-------|-----|-----------|-------|-----|-----|-----|-----|-------|-----|-------|-----|-------------------|----------|-------|---------|-------|
| Cumulative Impact Sediment Chemistr | 7                  |                                       | J A |     |     | I D | J F | M A M J           |     | S O        | N D   | JFN       | I A N |     |           | S O I | N D | J F | M   | A M |       | 5 0 | NI    | D   | F M A M J         |          | Α     | S O N D |       |
| Near-field Stations                 |                    |                                       | -   |     |     |     |     |                   | -   |            |       |           |       | -   | -         |       |     |     |     |     |       |     |       |     |                   | <u> </u> |       |         |       |
|                                     | SB-RNA             | 4 times per year                      |     |     |     |     |     |                   | 12  |            | 12    |           |       | 12  |           |       | 12  | 12  |     |     | 12 12 |     | 1     | 12  |                   |          |       |         |       |
|                                     | SB-RNB             | 4 times per year                      |     |     |     |     |     |                   | 12  |            | 12    | 12        |       | 12  | 12        |       | 12  | 12  |     |     | 12 12 | _   | 1     | 12  |                   |          |       |         |       |
| Mid-field Stations                  | SB-RMA             | 4 times per year                      |     |     |     |     |     |                   | 12  |            | 12    | 12        |       | 12  | 12        |       | 12  | 12  |     |     | 12 12 |     | 1     | 12  |                   | +        |       |         |       |
|                                     | SB-RMB             | 4 times per year                      |     |     |     |     |     |                   | 12  |            | 12    |           |       | 12  |           |       | 12  | 12  |     |     | 12 12 |     | 1     | 12  |                   |          |       |         |       |
| Far-Field Stations                  |                    | 1 7                                   |     |     |     |     |     |                   |     |            |       |           |       |     |           |       |     |     |     |     |       |     |       |     |                   |          |       |         |       |
|                                     | SB-RFA             | 4 times per year                      |     |     |     |     |     |                   | 12  |            | 12    |           |       | 12  |           |       | 12  | 12  |     |     | 12 12 |     | 1     | 12  |                   |          |       |         |       |
|                                     | SB-RFB             | 4 times per year                      |     |     |     |     |     |                   | 12  |            | 12    | 12        |       | 12  | 12        |       | 12  | 12  |     |     | 12 12 | _   | 1     | 12  |                   |          |       |         |       |
| Capped Pit Stations                 | SB-RCA             | 4 times per year                      |     |     |     |     |     |                   | 12  |            | 12    | 12        |       | 12  | 12        |       | 12  | 12  |     |     | 12 12 |     | 1     | 12  |                   | —        |       |         |       |
|                                     | SB-RCB             | 4 times per year                      |     |     |     |     |     |                   | 12  |            | 12    |           |       | 12  |           |       | 12  | 12  |     |     | 12 12 |     | 1     | 12  |                   | +        |       |         |       |
| Sensitive Receiver Stations         |                    | 1 7                                   |     |     |     |     |     |                   |     |            |       |           |       |     |           |       |     |     |     |     |       |     |       |     |                   |          |       |         |       |
|                                     | MW1                | 4 times per year                      |     |     |     |     |     |                   | 12  |            | 12    |           |       | 12  |           |       | 12  | 12  |     |     | 12 12 |     | 1     | 12  |                   |          |       |         |       |
|                                     | THB1               | 4 times per year                      |     |     |     |     |     |                   | 12  |            | 12    |           |       | 12  |           |       | 12  | 12  |     |     | 12 12 |     | 1     | 12  |                   | _        |       |         |       |
|                                     | THB2               | 4 times per year                      |     |     |     |     |     |                   | 12  |            | 12    | 12        |       | 12  | 12        |       | 12  | 12  |     |     | 12 12 |     | 1     | 12  |                   |          |       |         |       |
| Sediment Toxicity Tests             |                    |                                       | IA  | S   | 0 1 | D   | JF  | MAMI              | J A | <b>S</b> 0 | N D   | JFN       | I A N | I I | JA        | S O I | N D | JF  | M   | A M | JJAS  | 5 0 | NI    | D 1 | F M A M I         | I        | Α     | S O N D | D J F |
| SB CMP 1 Active                     |                    |                                       |     |     |     |     |     |                   |     |            |       |           |       | ,   |           |       |     | -   |     |     |       |     |       |     |                   |          |       |         |       |
| Reference                           |                    |                                       |     |     |     |     |     |                   |     |            |       |           |       |     |           |       |     |     |     |     |       |     |       |     |                   | 1        |       |         |       |
|                                     | SB-TRA             | 2 times per year                      |     |     |     |     |     |                   | 5   |            |       | 5         | ;     |     | 5         |       |     |     |     |     |       |     |       |     |                   |          |       |         |       |
| Neer Field                          | SB-TRB             | 2 times per year                      |     | + + | -+  | +   |     | + $+$ $+$ $+$ $+$ | 5   | $\vdash$   |       | 5         | ;     | _   | 5         |       |     |     | + + |     |       |     | + $+$ |     | + $+$ $+$ $+$ $+$ | —        | + +   |         |       |
| Near-Field                          | SB-TAA             | 2 times per year                      |     | +   | _   |     | _   |                   | 5   |            |       |           |       | _   | 5         |       |     |     |     |     |       |     |       |     |                   | —        | + +   |         |       |
|                                     | SB-TAB             | 2 times per year<br>2 times per year  |     |     | _   |     |     |                   | 5   |            |       |           | ·     |     | 5         |       |     |     |     |     |       |     |       |     |                   | +        |       |         |       |
| Sensitive Receiver Stations         |                    | 2 unics per year                      |     |     |     |     |     |                   | 0   |            |       |           |       |     |           |       |     |     |     |     |       |     |       |     |                   | +        |       |         |       |
|                                     | MW1                | 2 times per year                      |     |     |     |     |     |                   | 5   |            |       | 5         | ;     |     | 5         |       |     |     |     |     |       |     |       |     |                   |          |       |         |       |
|                                     | THB1               | 2 times per year                      |     |     |     |     |     |                   | 5   |            |       | 5         | ;     |     | 5         |       |     |     |     |     |       |     |       |     |                   |          |       |         |       |
|                                     | THB2               | 2 times per year                      |     |     |     |     |     |                   | 5   |            |       | 5         | ;     |     | 5         |       |     |     |     |     |       |     |       |     |                   | _        |       |         |       |
| SB CMP 2 Active                     |                    |                                       |     |     |     |     |     |                   |     |            | + $+$ | + $+$ $+$ |       |     | + $+$ $+$ |       |     |     |     |     |       |     |       |     |                   | _        |       |         |       |
| Reference                           | SB-TRA             | 2 times per year                      |     |     |     |     |     |                   |     |            |       |           |       |     |           |       |     | 5   |     |     | 5     |     |       |     |                   |          | + +   |         |       |
|                                     | SB-TRB             | 2 times per year                      |     |     |     |     |     |                   |     |            |       |           |       |     |           |       |     | 5   |     |     | 5     |     |       |     |                   | +        |       |         |       |
| Near-Field                          |                    | 1 2                                   |     |     |     |     |     |                   |     |            |       |           |       |     |           |       |     |     |     |     |       |     |       |     |                   |          |       |         |       |
|                                     | SB-TBA             | 2 times per year                      |     |     |     |     |     |                   |     |            |       |           |       |     |           |       |     | 5   |     |     | 5     |     |       |     |                   |          |       |         |       |
|                                     | SB-TBB             | 2 times per year                      |     |     |     |     |     |                   |     |            |       |           |       |     |           |       |     | 5   |     |     | 5     | _   |       |     |                   |          |       |         |       |
| Sensitive Receiver Stations         | MW1                | 2 times not year                      |     |     |     |     |     |                   |     |            |       |           |       | _   |           |       |     | 5   |     |     | 5     |     |       |     |                   | —        | + +   |         |       |
|                                     | THB1               | 2 times per year<br>2 times per year  |     |     |     |     |     |                   |     |            |       |           |       |     |           |       |     | 5   |     |     | 5     | _   |       |     |                   | +        | + $+$ |         |       |
|                                     | THB2               | 2 times per year                      |     |     |     |     |     |                   |     |            |       |           |       |     |           |       |     | 5   |     |     | 5     |     |       |     |                   | +        |       |         |       |
|                                     |                    |                                       |     |     |     |     |     |                   |     |            |       |           |       |     |           |       |     |     |     |     |       |     |       |     |                   |          |       |         |       |
| Tissue/Whole Body Sampling          |                    |                                       | J A | A S | O N | I D | J F | M A M J           | J A | <b>S</b> O | N D   | J F N     | 1 A N | ИJ  | J A       | S O I | N D | J F | M   | A M | JJA   | 5 0 | N I   | D ] | J F M A M J       | J        | Α     | S O N D | D J F |
| Near-Pit Stations                   | CD DIA             | 2 times per year                      |     |     |     |     |     |                   |     |            |       | *         |       |     | *         |       |     | *   |     |     | *     |     |       |     |                   | _        |       |         |       |
|                                     | SB-INA<br>SB-INB   | 2 times per year<br>2 times per year  |     |     |     |     |     |                   |     |            |       | *         |       |     | *         |       |     | *   |     |     | *     |     |       |     |                   |          | + +   |         |       |
| Reference North                     | 00 110             | 2 tilles per year                     |     |     |     |     |     |                   |     |            |       |           |       |     |           |       |     |     |     |     |       |     |       |     |                   | +        |       |         |       |
|                                     | TNA                | 2 times per year                      |     |     |     |     |     |                   |     |            |       | *         |       |     | *         |       |     | *   |     |     | *     |     |       |     |                   |          |       |         |       |
|                                     | TNB                | 2 times per year                      |     |     |     |     |     |                   |     |            |       | *         |       |     | *         |       |     | *   |     |     | *     |     |       |     |                   |          |       |         |       |
| Reference South                     | TC 4               | 2.4                                   |     |     |     |     |     |                   |     |            |       |           |       | _   | *         |       |     | -   |     |     | *     |     |       |     |                   |          | + +   |         |       |
|                                     | TSA<br>TSB         | 2 times per year<br>2 times per year  |     | +   |     |     | _   |                   |     |            | + +   | *         |       |     | *         |       |     | *   |     |     | *     |     |       | _   |                   | —        | + $+$ |         |       |
|                                     | 100                | 2 tilles per year                     |     |     |     |     |     |                   |     |            |       |           |       |     |           |       |     |     |     |     |       |     |       |     |                   |          |       |         |       |
| Demersal Trawling                   |                    |                                       | J A | A S | O N | I D | J F | M A M J           | J A | S O        | N D   | J F N     | I A N | M J | JA        | S O I | N D | J F | M   | A M | JJAS  | 6 0 | N I   | D ] | J F M A M J       | J        | Α     | S O N D | D J F |
| Impact                              |                    |                                       |     |     |     |     |     |                   |     |            |       |           |       |     |           |       |     |     |     |     |       |     |       |     |                   |          |       |         |       |
|                                     |                    | 4 times per year                      |     | +   |     |     |     |                   | 5   |            | +     | 5 5       | +     |     | 5 5       |       |     | 5 5 |     |     | 5 5   |     |       |     |                   | —        | +     |         |       |
| Reference Negl                      | SB-INB 1-5         | 4 times per year                      |     | +   | _   | ++  |     | + $+$ $+$ $+$ $+$ | 5   |            | + +   | 5 5       | +     | _   | 5 5       |       |     | 5 5 | ++  |     | 5 5   |     | +     |     | + $+$ $+$ $+$ $+$ | +        | +     |         |       |
| Reference North                     | TNA 1-5            | 4 times per year                      |     | +   | _   | +   |     | + $+$ $+$ $+$     | 5   | $\vdash$   | + +   | 5 5       | +     |     | 5 5       |       |     | 5 5 | + + |     | 5 5   |     | +     | _   | + $+$ $+$ $+$ $+$ | +        | + +   |         |       |
|                                     | TNA 1-5<br>TNB 1-5 | 4 times per year<br>4 times per year  |     | +   | +   | +   |     |                   | 5   |            | + +   | 5 5       | +     |     | 5 5       |       |     | 5 5 |     |     | 5 5   |     | + $+$ |     |                   | +-       | + $+$ |         |       |
| Reference South                     |                    | · · · · · · · · · · · · · · · · · · · |     | + + |     | +   |     |                   |     | $\vdash$   |       |           |       |     |           |       |     |     | +   |     |       |     | +     |     |                   | +        | + $+$ |         |       |
|                                     | TSA 1-5            | 4 times per year                      |     |     |     |     |     |                   | 5   |            |       | 5 5       |       |     | 5 5       |       |     | 5 5 |     |     | 5 5   | l   |       |     |                   |          |       |         |       |
|                                     | TSB 1-5            | 4 times per year                      |     |     |     |     |     |                   | 5   |            |       | 5 5       |       |     | 5 5       |       |     | 5 5 |     |     | 5 5   |     |       |     |                   |          |       |         |       |

#### 2013 2014 2015 2012 J A S O N D J F M A M J J A S O N D J A S O N D J J F M A S O N D J F M A M J J A S O N Routine Water Quality Monitoring Ebb Tide Impact Stations Downcurrent SB-IPE1 8 times per year 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 SB-IPE2 8 times per year 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 SB-IPE3 8 times per year SB-IPE4 8 8 8 8 times per year 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 SB-IPE5 8 times per year 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 Intermediate Stations Downcurrent SB-INE1 8 8 times per year 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 SB-INE2 8 times per year 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 SB-INE3 8 8 8 8 8 8 8 8 8 8 8 times per year 8 8 8 8 8 8 8 SB-INE4 8 8 times per year 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 SB-INE5 8 times per year 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 Reference Stations Upcurrent SB-RFE1 8 8 8 8 times per year 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 SB-RFE2 8 times per year 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 SB-RFE3 8 times per year 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 SB-RFE4 8 times per year 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 SB-RFE5 8 8 8 8 8 8 8 8 times per year 8 8 8 8 8 8 8 8 8 8 8 8 Sensitive Receiver Stations MW1 8 times per year 8 8 8 8 8 8 8 8 8 8 8 8 8 8 THB1 8 8 8 8 8 8 8 8 8 8 8 8 times per year 8 8 8 8 8 8 8 8 THB2 8 times per year 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 WSR45C 8 times per year 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 WSR46 8 8 8 8 8 8 8 8 times per year 8 8 8 8 8 8 8 8 8 8 Flood Tide Impact Stations Downcurrent SB-IPF1 8 8 8 8 8 8 8 8 8 times per year 8 8 8 8 8 8 8 8 8 8 SB-IPF2 8 times per year 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 SB-IPF3 8 8 8 8 8 8 8 8 times per year 8 8 8 8 8 8 8 8 8 Intermediate Stations Downcurrent TT SB-INF1 8 times per year 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 SB-INF2 8 times per year 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 SB-INF3 8 8 8 times per year 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 Reference Stations Upcurrent SB-RFF1 8 8 8 times per year 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 SB-RFF2 8 8 8 8 8 8 8 times per year 8 8 8 8 8 8 8 8 8 8 8 SB-RFF3 8 8 times per year 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 Sensitive Receiver Stations MW1 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 times per year 8 8 THB1 8 8 8 8 times per year 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 THB2 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 times per year 8 8 WSR45C 8 times per year 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 WSR46 8 times per year 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 Water Column Profiling J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J J A S O N Plume Stations WCP1 Monthly 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 WCP2 Monthly

#### Annex A2 - Environmental Monitoring and Audit Sampling Schedule for South of The Brothers (July 2012 - February 2017)

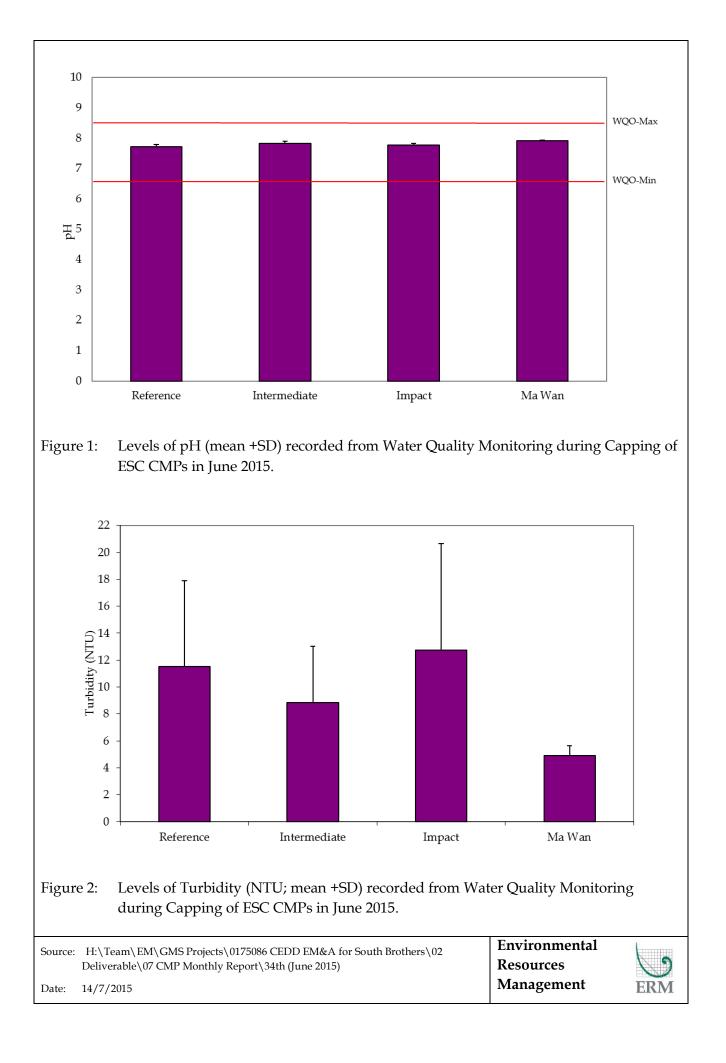
|   |   |   |   |   |   | 20 | 16 |   |   |   |   |   | 20 | 17 |
|---|---|---|---|---|---|----|----|---|---|---|---|---|----|----|
| D | J | F | Μ | Α | Μ |    | J  | Α | s | 0 | Ν | D | J  | F  |
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|   |   |   |   |   |   |    |    |   |   |   |   |   |    |    |
|   |   |   |   |   |   |    |    |   |   |   |   |   |    |    |
|   |   |   |   |   |   |    |    |   |   |   |   |   |    |    |
| D | J | F | Μ | Α | Μ | J  | J  | Α | S | 0 | Ν | D | J  | F  |
| 4 |   |   |   |   |   |    |    |   |   |   |   |   |    |    |
| 4 |   |   |   |   |   |    |    |   |   |   |   |   |    |    |
| - | L | L | L | L | L | L  |    | L | L | L | L |   |    |    |

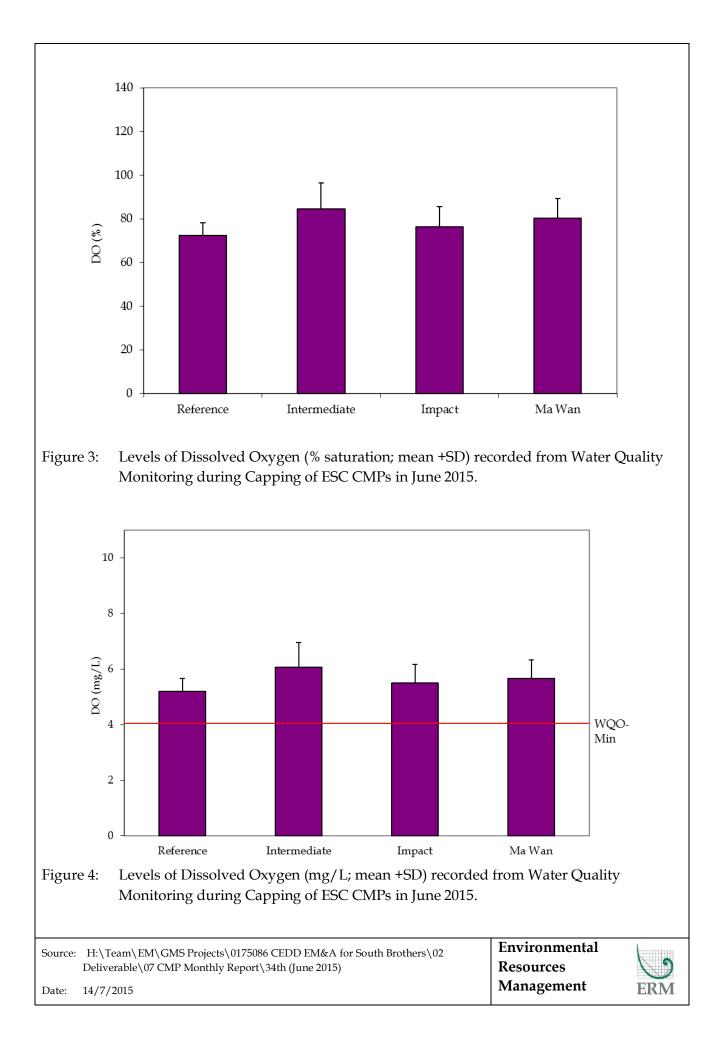
#### Annex A2 - Environmental Monitoring and Audit Sampling Schedule for South of The Brothers (July 2012 - February 2017)

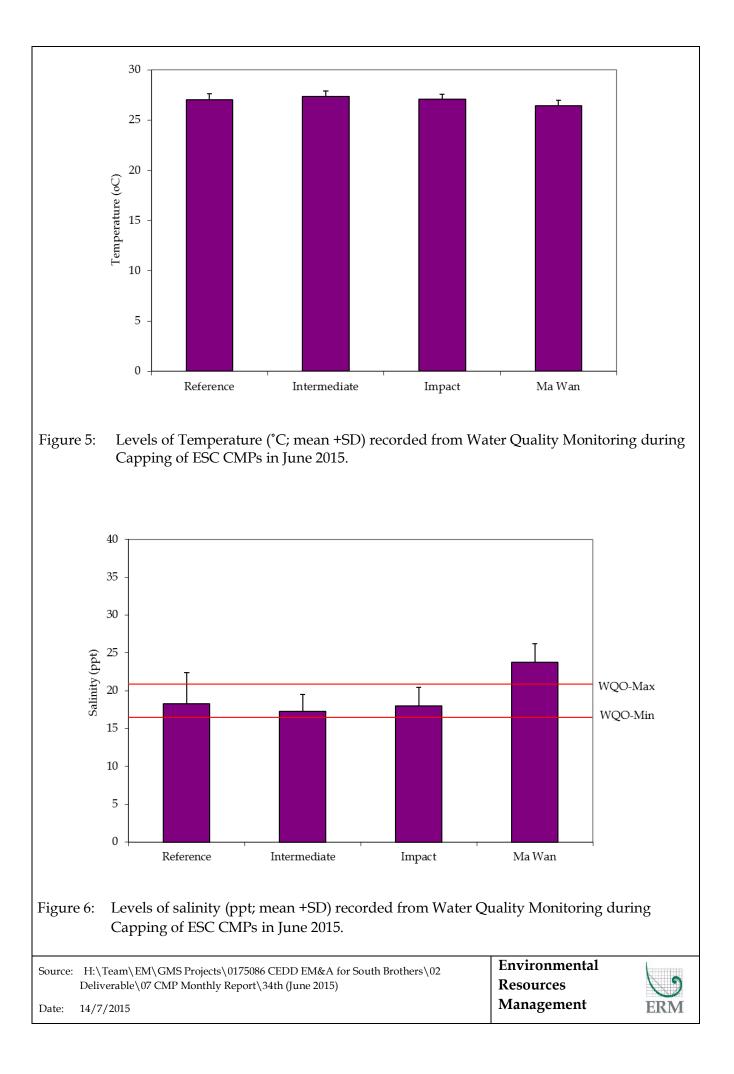
|                                       |          |                  |     | 2012 |     |     |       |       | 2013 |     |     |     |   |     |     | 2014    |   |     |        |   | 20       | 15 |     |       |   |     |     |     | 2016 |      |     |    | 2017   |
|---------------------------------------|----------|------------------|-----|------|-----|-----|-------|-------|------|-----|-----|-----|---|-----|-----|---------|---|-----|--------|---|----------|----|-----|-------|---|-----|-----|-----|------|------|-----|----|--------|
| Capping Water Quality Monitoring      |          |                  | IA  | S (  | D N | DI  | F M   | A M I | T    | AS  | O N | DI  | F | M A | Μ   |         | 0 | N D |        | F | M A M J  | J  | A S | O N D | I | FN  | A A | MI  | T    | AS ( | ) N | D  | JF     |
| Ebb Tide                              |          |                  | ,   |      |     | _ , |       | , ,   | , ,  |     |     | - , |   |     |     | , ,     | - |     | ,      | _ | ,        | ,  |     |       | , |     |     | ,   | ,    |      |     |    | , -    |
| Impact Stations Downcurrent           |          |                  |     |      |     |     |       |       |      |     |     |     |   |     |     |         |   |     |        |   |          |    |     |       |   |     | +   |     |      |      |     |    |        |
|                                       | SB-IPE1  | 4 times per year |     |      |     |     |       |       |      |     |     |     |   |     |     |         |   | 3   | 3      | 3 | 3        |    | 3   | 3     |   | 3   | +   | 3   | 3    | 3    |     | 3  | _      |
|                                       | SB-IPE2  | 4 times per year |     |      |     |     |       |       |      |     |     |     |   |     |     |         |   | 3   | 3      | 3 | 3        |    | 3   | 3     |   | 3   | +   | 3   | _    | 3    |     | 3  |        |
|                                       | SB-IPE3  | 4 times per year |     |      |     |     |       |       |      |     |     |     |   |     |     |         |   | 3   | 3      | 3 | 3        |    | 3   | 3     |   | 3   |     | 3   | 3    | 3    |     | 3  |        |
|                                       | SB-IPE4  | 4 times per year |     |      |     |     |       |       |      |     |     |     |   |     |     |         |   | 3   | 3      | 3 | 3        |    | 3   | 3     |   | 3   | +   | 3   |      | 3    |     | 3  |        |
|                                       | SB-IPE5  | 4 times per year |     |      |     |     |       |       |      |     |     |     |   |     |     |         |   | 3   | 3      | 3 | 3        |    | 3   | 3     |   | 3   | +   | 3   | 3    | 3    |     | 3  |        |
| Intermediate Stations Downcurrent     |          | I J J            |     |      |     |     |       |       |      |     |     |     |   |     |     |         |   |     |        | _ |          |    | -   |       |   | -   | +   |     |      |      |     |    |        |
|                                       | SB-INE1  | 4 times per year |     |      |     |     |       |       |      |     |     |     |   |     |     |         |   | 3   | 3      | 3 | 3        |    | 3   | 3     |   | 3   |     | 3   | 3    | 3    |     | 3  |        |
|                                       | SB-INE2  | 4 times per year |     |      |     |     |       |       |      |     |     |     |   |     |     |         |   | 3   | 3      | 3 | 3        |    | 3   | 3     |   | 3   |     | 3   | 3    | 3    |     | 3  |        |
|                                       | SB-INE3  | 4 times per year |     |      |     |     |       |       |      |     |     |     |   |     |     |         |   | 3   | 3      | 3 | 3        |    | 3   | 3     |   | 3   |     | 3   | 3    | 3    |     | 3  | _      |
|                                       | SB-INE4  | 4 times per year |     |      |     |     |       |       |      |     |     |     |   |     |     |         |   | 3   | 3      | 3 | 3        |    | 3   | 3     |   | 3   |     | 3   | 3    | 3    |     | 3  |        |
|                                       | SB-INE5  | 4 times per year |     |      |     |     |       |       |      |     |     |     |   |     |     |         |   | 3   | 3      | 3 | 3        |    | 3   | 3     |   | 3   | +   | 3   | 3    | 3    |     | 3  |        |
| Reference Stations Upcurrent          |          | I J J            |     |      |     |     |       |       |      |     |     |     |   |     |     |         |   |     |        | _ |          |    | -   |       |   | -   | +   |     |      |      |     |    |        |
| · · · · · · · · · · · · · · · · · · · | SB-RFE1  | 4 times per year |     |      |     |     |       |       |      |     |     |     |   |     |     |         |   | 3   | 3      | 3 | 3        |    | 3   | 3     |   | 3   | -   | 3   | 3    | 3    |     | 3  |        |
|                                       | SB-RFE2  | 4 times per year |     |      |     |     |       |       |      |     |     |     | + |     | 1 1 |         |   | 3   | 3      | 3 | 3        |    | 3   | 3     |   | 3   | +   | 3   | 3    | 3    |     | 3  | $\neg$ |
|                                       | SB-RFE3  | 4 times per year |     |      |     |     |       |       |      |     |     |     | + |     |     |         |   | 3   | 3      | 3 | 3        |    | 3   | 3     |   | 3   | +   | 3   | 3    | 3    |     | 3  | +      |
|                                       | SB-RFE4  | 4 times per year |     |      |     |     |       |       |      |     |     |     |   |     |     |         |   | 3   | 3      | 3 | 3        |    | 3   | 3     |   | 3   | +   | 3   | 3    | 3    |     | 3  |        |
|                                       | SB-RFE5  | 4 times per year |     |      |     |     |       |       |      |     |     |     |   |     |     |         |   | 3   | 3      | 3 | 3        |    | 3   | 3     |   | 3   | +   | 3   | 3    | 3    |     | 3  |        |
| Sensitive Receiver Stations           |          | F J              |     |      |     |     |       |       |      |     |     |     |   |     |     |         |   | -   |        | - |          |    | -   |       |   |     | +   |     |      | -    |     |    | _      |
|                                       | MW1      | 4 times per year |     |      |     |     |       |       |      |     |     |     |   |     |     |         |   | 3   | 3      | 3 | 3        |    | 3   | 3     |   | 3   |     | 2   | 3    | 3    |     | 3  |        |
|                                       | THB1     | 4 times per year |     |      |     |     |       |       |      |     |     |     |   |     |     |         |   | 3   | \$     | 3 | 3        |    | 3   | 3     |   | 3   | -   | 3   | 3    | 3    |     | 3  |        |
|                                       | THB2     | 4 times per year |     |      |     |     |       |       |      |     |     |     |   |     |     |         |   | 3   | ŝ      | 3 | 3        |    | 3   | 3     |   | 3   | +   | 3   |      |      |     | 3  | _      |
|                                       | WSR45C   | 4 times per year |     |      |     |     |       |       |      |     |     |     |   |     |     |         |   | 3   | ŝ      | 3 | 3        |    | 3   | 3     |   | 3   | -   |     | _    |      |     | 3  |        |
|                                       | WSR46    | 4 times per year |     |      |     |     |       |       |      |     |     |     |   |     |     |         |   | 3   | ŝ      | 3 | 3        |    | 3   | 3     |   | 3   | +   |     |      | -    |     | 3  |        |
| Flood Tide                            | () Sitio | Tunico per year  |     |      |     |     |       |       |      |     |     |     |   |     |     |         |   | 0   |        | 0 | Ű        |    | 0   | Ű.    | _ | 0   | _   |     |      | -    |     | Ű  |        |
| Impact Stations Downcurrent           |          |                  |     |      |     |     |       |       |      |     |     |     |   |     |     |         |   |     |        |   |          |    |     |       |   |     | +   |     |      |      |     |    |        |
| impuet Sutions Downeartent            | SB-IPF1  | 4 times per year |     |      |     |     |       |       |      |     |     |     |   |     |     |         |   | 3   | 1      | 3 | 3        |    | 3   | 3     |   | 3   | —   |     |      | 3    |     | 3  | —      |
|                                       | SB-IPF2  | 4 times per year |     |      |     |     |       |       |      |     |     |     |   |     |     |         |   | 3   | ,<br>l | 3 | 3        |    | 3   | 3     |   | 3   | —   | 2   | 3    | 3    |     | 3  | —      |
|                                       | SB-IPF3  | 4 times per year |     |      |     |     |       |       |      |     |     |     |   |     |     |         |   | 3   | ý<br>1 | 3 | 3        |    | 3   | 3     |   | 3   | +   |     |      |      |     | 3  |        |
| Intermediate Stations Downcurrent     |          | r unico per yeu  |     |      |     |     |       |       |      |     |     |     |   |     |     |         |   | 0   | ,<br>  |   | <u>_</u> |    |     |       |   | 0   | -   |     |      | -    |     |    |        |
|                                       | SB-INF1  | 4 times per year |     |      |     |     |       |       |      |     |     |     |   |     |     |         |   | 3   | \$     | 3 | 3        |    | 3   | 3     |   | 3   | -   | 3   | 3    | 3    |     | 3  |        |
|                                       | SB-INF2  | 4 times per year |     |      |     |     |       |       |      |     |     |     |   |     |     |         |   | 3   | ŝ      | 3 | 3        |    | 3   | 3     |   | 3   | +   | 3   |      |      |     | 3  | _      |
|                                       | SB-INF3  | 4 times per year |     |      |     |     |       |       |      |     |     |     |   |     |     |         |   | 3   | \$     | 3 | 3        |    | 3   | 3     |   | 3   | +   |     |      |      |     | 3  | _      |
| Reference Stations Upcurrent          |          |                  |     |      |     |     |       |       |      |     |     |     |   |     |     |         |   | -   |        | - |          |    | -   |       |   |     | +   |     |      | -    |     |    | _      |
|                                       | SB-RFF1  | 4 times per year |     |      |     |     |       |       |      |     |     |     |   |     |     |         |   | 3   | \$     | 3 | 3        |    | 3   | 3     |   | 3   |     | 3   |      | 3    |     | 3  |        |
|                                       | SB-RFF2  | 4 times per year |     |      |     |     |       |       |      |     |     |     |   |     |     |         |   | 3   | ŝ      | 3 | 3        |    | 3   | 3     |   | 3   | -   | 3   |      | 3    |     | 3  |        |
|                                       | SB-RFF3  | 4 times per year |     |      |     |     |       |       |      |     |     |     |   |     |     |         |   | 3   | ŝ      | 3 | 3        |    | 3   | 3     |   | 3   | +   | 3   |      | 3    |     | 3  |        |
| Sensitive Receiver Stations           |          | i unico per yeu  |     |      |     |     |       |       |      |     |     |     |   |     |     |         |   |     | ,<br>  |   |          |    |     |       |   |     | +   |     |      | -    |     | Ŭ  | _      |
|                                       | MW1      | 4 times per year |     |      |     |     |       |       |      |     |     |     |   |     |     |         |   | 3   | 3      | 3 | 3        |    | 3   | 3     |   | 3   | +   | 3   | 3    | 3    |     | 3  | _      |
|                                       | THB1     | 4 times per year |     |      |     |     |       |       |      |     |     |     |   |     |     |         |   | 3   | \$     | 3 | 3        |    | 3   | 3     |   | 3   | -   | 3   | 3    | 3    |     | 3  |        |
|                                       | THB2     | 4 times per year |     |      |     |     |       |       |      |     |     |     |   |     |     |         |   | 3   | \$     | 3 | 3        |    | 3   | 3     |   | 3   | +   |     | 3    |      |     | 3  | _      |
|                                       | WSR45C   | 4 times per year |     |      |     |     |       |       |      |     |     |     |   |     |     |         |   | 3   | ŝ      | 3 | 3        |    | 3   | 3     |   | 3   | +   | 3   |      |      |     | 3  |        |
|                                       | WSR46    | 4 times per year |     |      |     |     |       |       |      |     |     |     |   |     |     |         |   | 3   | \$     | 3 | 3        |    | 3   | 3     |   | 3   | +   |     | 3    |      |     | 3  |        |
|                                       | () Sitio | r unico per yeur |     |      |     |     |       |       | _    |     |     |     |   |     | 1 1 |         |   | U   |        | U | Ũ        |    | 0   | Ű     |   | 0   |     |     |      | -    |     | U  |        |
| Benthic Recolonisation Studies        |          |                  | J A | S    | ) N | D J | F M . | A M J | IJ   | A S | O N | D J | F | M A | Μ   | J J A S | 0 | N D | ) J    | F | M A M J  | J  | A S | O N D | J | F N | A A | M J | J    | AS ( | ) N | D  | J F    |
| Capped Contaminated Mud Pits          |          |                  |     |      |     |     |       |       |      |     |     |     |   |     |     |         |   |     |        |   |          |    |     |       |   |     |     |     |      |      |     |    |        |
|                                       | SB-CPA   | 2 times per year |     | 1 1  |     |     |       |       |      |     |     | 1   |   | 1   |     |         | + |     |        |   |          |    |     | 12    |   |     | 1   | 1   | 1    | 2    |     | 12 |        |
|                                       | SB-CPB   | 2 times per year |     |      |     |     |       |       |      |     |     |     |   |     | 1   |         |   |     |        |   |          |    |     | 12    |   |     |     |     |      | 2    |     | 12 |        |
|                                       |          |                  |     | 1 1  |     |     |       |       |      |     |     | 1   |   | 1   |     |         | + |     |        |   |          |    |     | 12    |   |     | 1   | 1   | 1    |      |     | 12 |        |
| Reference Stations                    |          |                  |     | 1 1  |     |     |       |       |      | 1   |     | 1   |   |     |     |         |   |     |        |   |          |    |     |       |   |     |     | 1   | 1    |      |     |    | $\neg$ |
|                                       | RBA      | 2 times per year |     |      |     |     |       |       |      |     |     |     |   |     | 1   |         |   |     |        |   |          |    |     | 12    |   |     |     |     | 1    | 2    |     | 12 |        |
|                                       | RBB      | 2 times per year |     |      |     |     |       |       |      | 1   |     |     |   |     |     |         |   |     |        |   |          |    |     | 12    |   |     |     |     | 1    |      |     | 12 |        |
|                                       | RBC      | 2 times per year |     |      |     |     |       |       | -    |     |     |     |   |     |     |         |   |     |        |   |          |    |     |       |   |     |     |     |      |      |     |    |        |

Notes: "\*" = Number of replicates depends on parameters Naming of stations are tentative only and will be subjected to changes Annex B

**Graphical Presentations** 







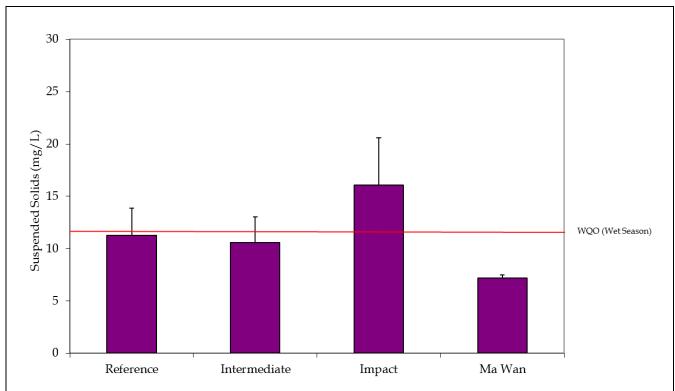
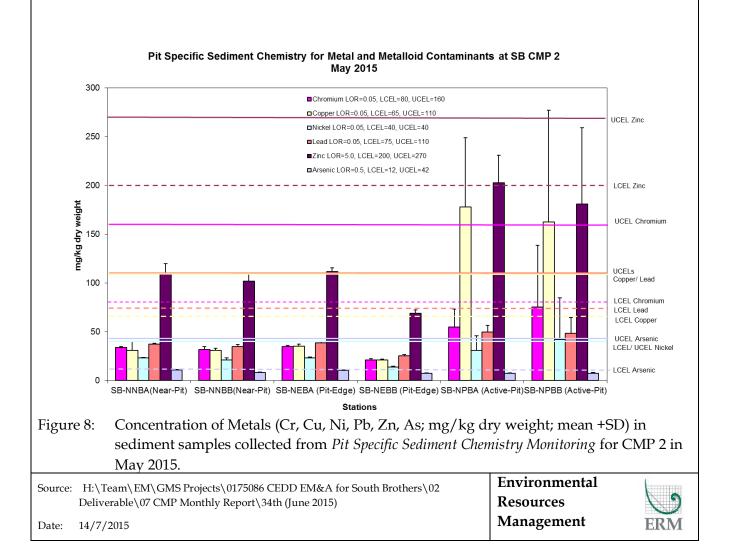
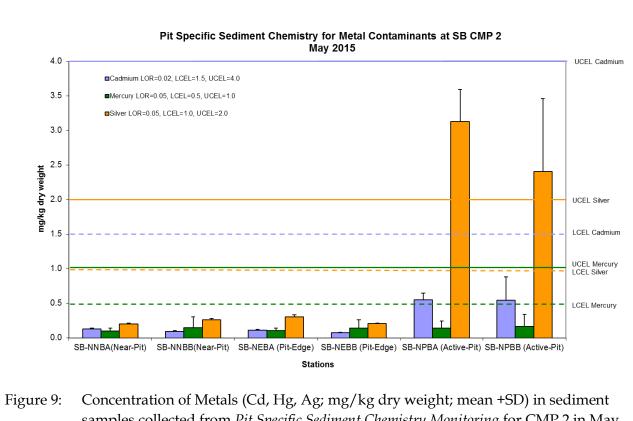
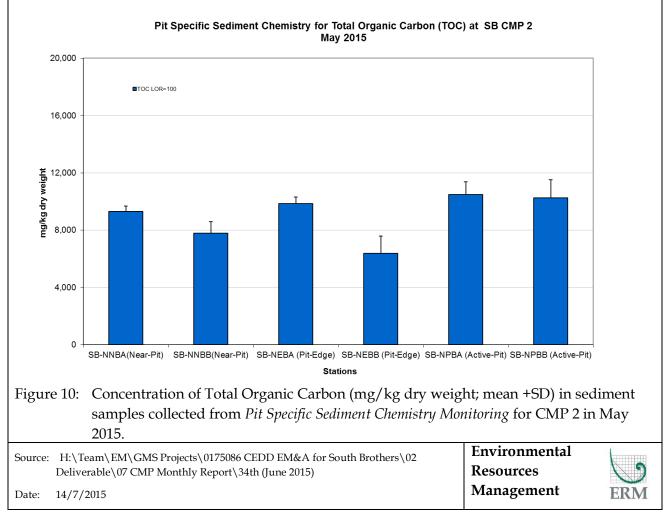


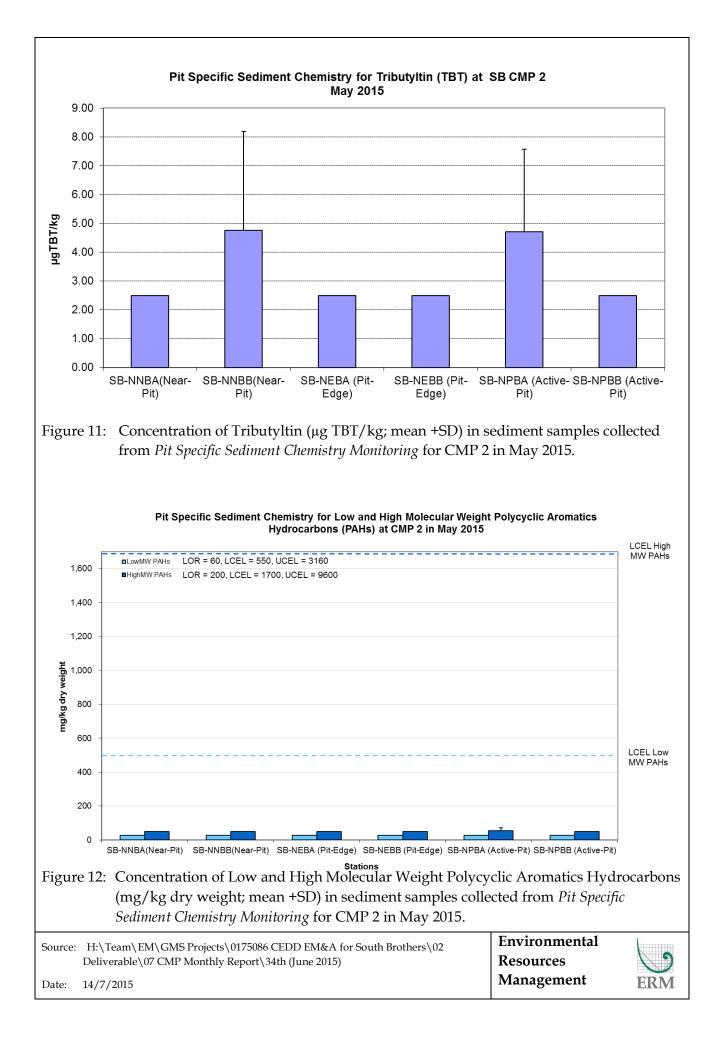
Figure 7: Levels of Suspended Solids (mg/L; mean +SD) recorded from Water Quality Monitoring during Capping of ESC CMPs in June 2015.

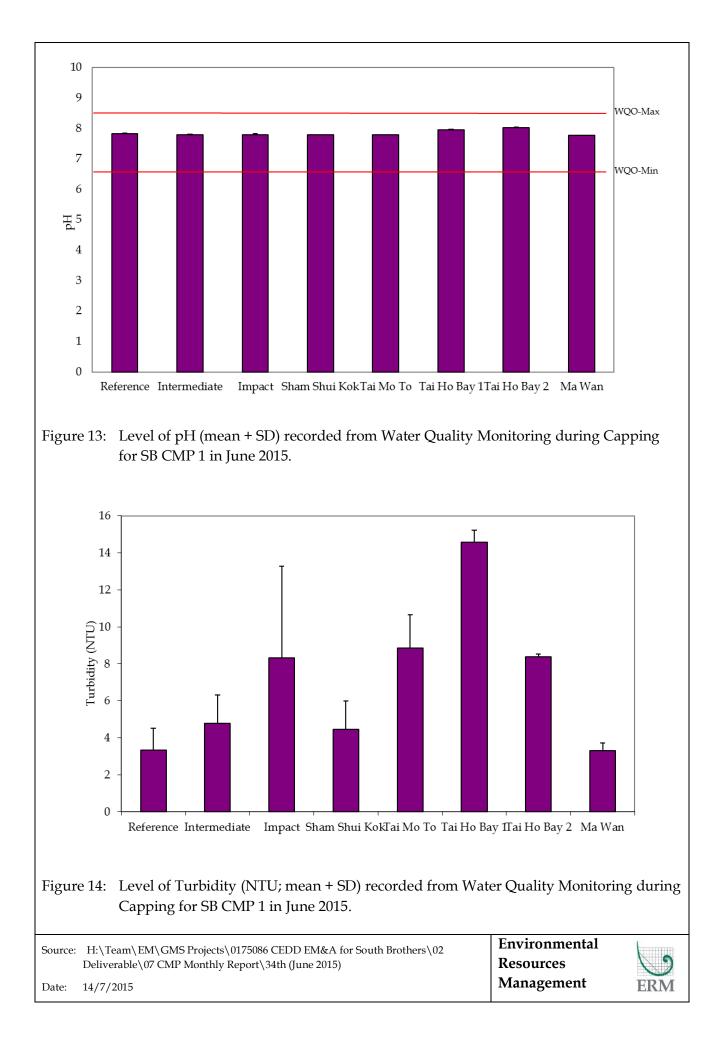


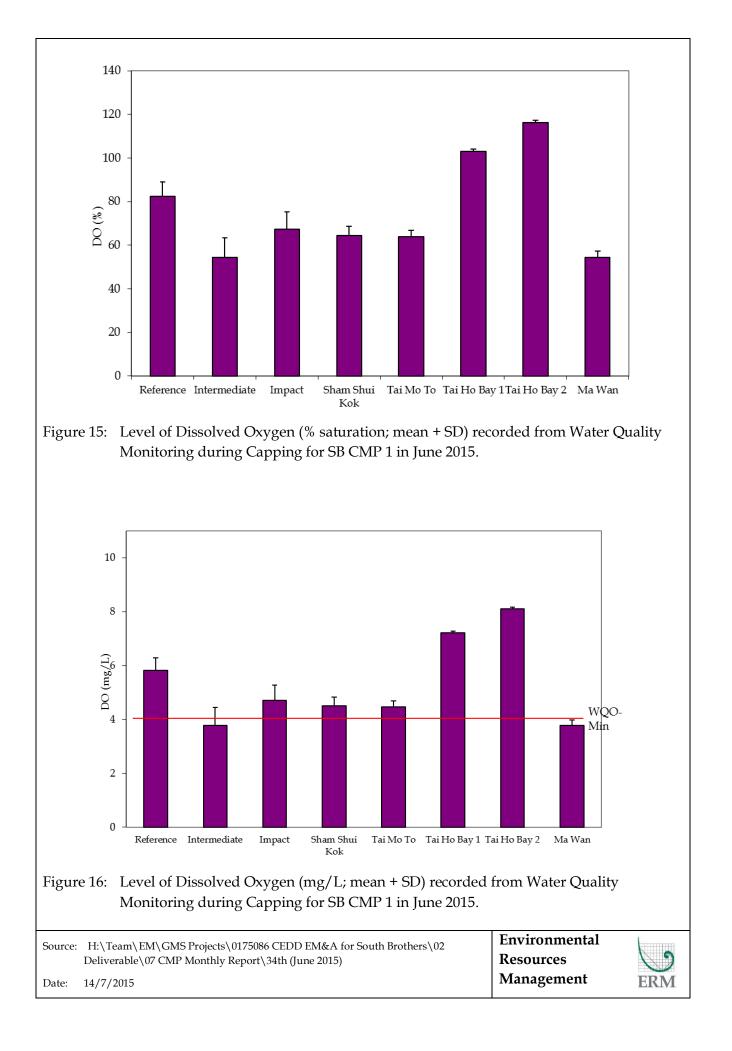


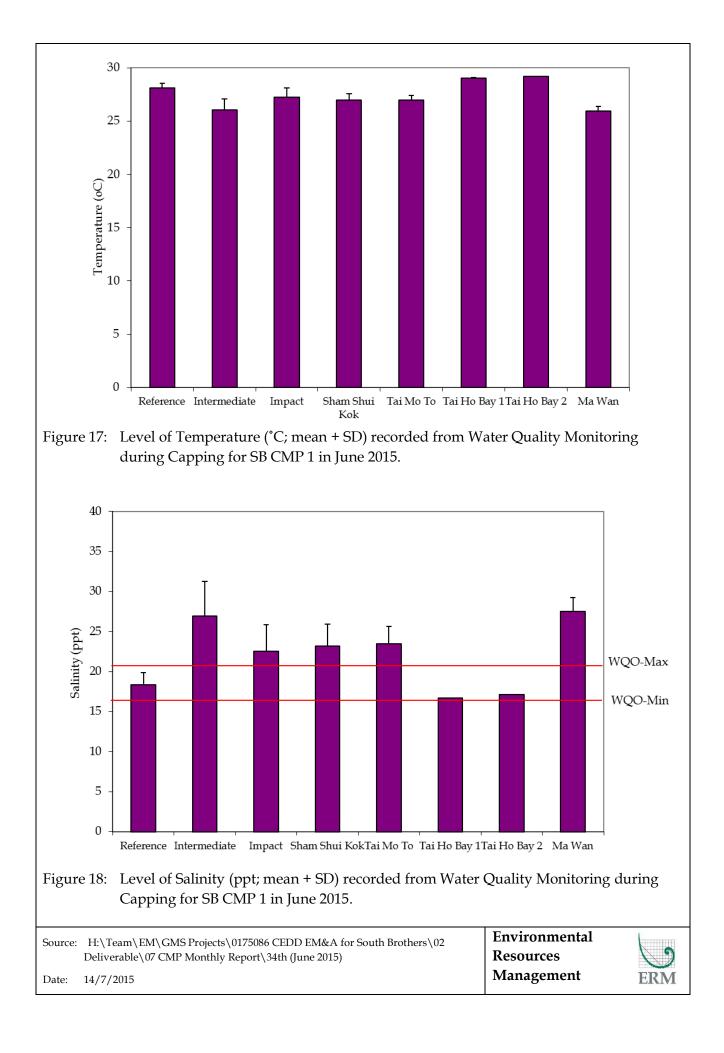
samples collected from *Pit Specific Sediment Chemistry Monitoring* for CMP 2 in May 2015.

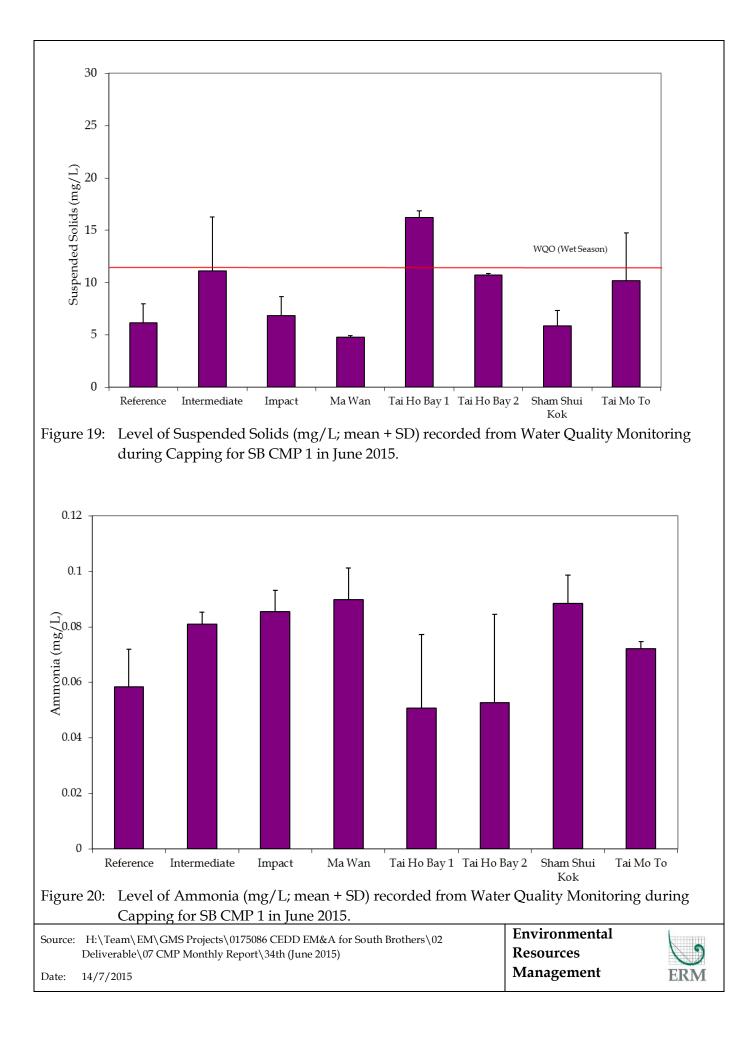












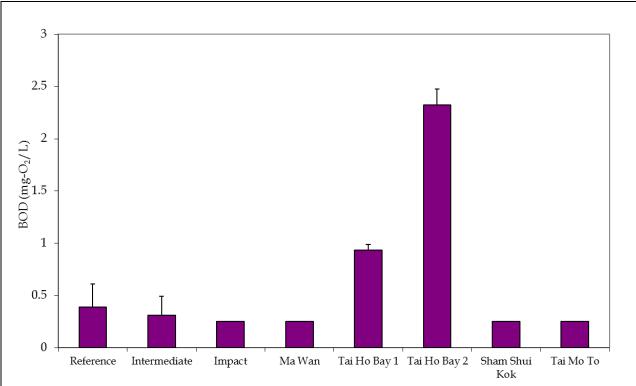
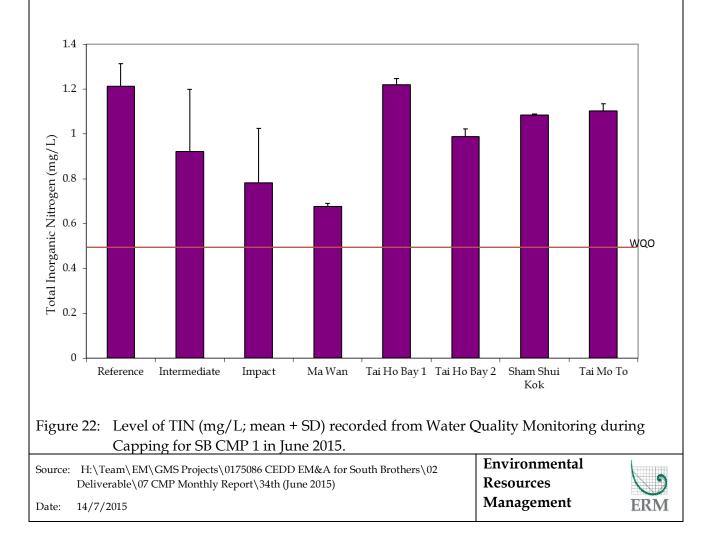


Figure 21: Level of BOD<sub>5</sub> (mg-O<sub>2</sub>/L; mean + SD) recorded from Water Quality Monitoring during Capping for SB CMP 1 in June 2015.



Annex C

Water Quality Monitoring Results

| Parameter   | Action Level  | Limit Level   |
|---|---|---|
| Dissolved Oxygen (DO) <sup>(1)</sup><br>Surface and Middle<br>Depth Averaged <sup>(2)</sup> | 5%-ile of baseline data for surface<br>and middle layer = 3.76 mg L <sup>-1</sup>               | 1%-ile of baseline data for surface and middle layer = 3.11 mg $L^{-1}$ <sup>(3)</sup>          |
|   | and   | and   |
|   | Significantly less than the reference<br>stations mean DO (at the same tide<br>of the same day) | Significantly less than the reference<br>stations mean DO (at the same tide<br>of the same day) |
| Bottom  | 5%-ile of baseline data for bottom<br>layers = 2.96 mg L <sup>-1</sup>                          | The average of the impact station readings are <2 mg/L  |
|   | and   | and   |
|   | Significantly less than the reference<br>stations mean DO (at the same tide<br>of the same day) | Significantly less than the reference stations mean DO (at the same tide of the same day)       |
| Depth-averaged<br>Suspended Solids (SS) <sup>(4) (5)</sup>                                  | 95%-ile of baseline data for depth<br>average = 37.88 mg L <sup>-1</sup>                        | 99%-ile of baseline data for depth<br>average = 61.92mg L <sup>-1</sup>                         |
|   | and   | and   |
|   | 120% of control station's SS at the same tide of the same day                                   | 130% of control station's SS at the same tide of the same day                                   |
| Depth-averaged Turbidity<br>(Tby) <sup>(4) (5)</sup>  | 95%-ile of baseline data = 28.14<br>NTU   | 99%-ile of baseline data = 38.32<br>NTU   |
|   | and   | and   |
|   | 120% of control station's turbidity at the same tide of the same day                            | 130% of control station's turbidity at the same tide of the same day                            |

# Table C1Action and Limit Levels of Water Quality for Dredging, Backfilling and<br/>Capping Activities for ESC CMPV

#### Notes:

(1) For DO, non-compliance of the water quality limits occurs when monitoring result is lower than the limits.

(2) The Action and Limit Levels for DO for Surface & Middle layers were calculated from the combined pool of baseline surface layer data and baseline middle layer data.

(3) Given the Action Level for DO for Surface & Middle layers has already been lower than 4 mg L<sup>-1</sup>, it is proposed to set the Limit Level at 3.11 mg L<sup>-1</sup> which is the first percentile of the baseline data.

(4) "Depth-averaged" is calculated by taking the arithmetic means of reading of all three depths.

(5) For turbidity and SS, non-compliance of the water quality limits occurs when monitoring result is higher than the limits.

# Table C2Monitoring Results for Water Quality Monitoring during Capping of ESC on<br/>2 June 2015

| Sampling | Stations           | Stations Temp Salinity Turbidity Dissolved Oxy |              |       |       |          |          | SS       |
|----------|--------------------|--|--------------|-------|-------|----------|----------|----------|
| Period   | Stations           | (°C)   | (ppt)        | (NTU) | (%)   | (mg L-1) | (mg L-1) | (mg L-1) |
| June     | RFF (Reference)    | 27.03  | 18.28        | 11.54 | 72.31 | 5.20     | 7.73     | 11.27    |
| 2015     | IPF (Impact)       | 27.07  | 17.97        | 12.75 | 76.46 | 5.50     | 7.78     | 16.10    |
|          | INF (Intermediate) | 27.36  | 17.25        | 8.83  | 84.50 | 6.08     | 7.83     | 10.59    |
|          | Ma Wan             | 26.43  | 23.73        | 4.89  | 80.35 | 5.66     | 7.91     | 7.17     |
|          | WQO                | N/A  | 16.46-20.11* | N/A   | N/A   | >4       | 6.5-8.5  | 11.6     |

Notes:

# Not exceeding 2°C of change of the results from the Reference Station.

\*Not exceeding 10% of natural ambient level which is the result obtained from the Reference Station.

Cell shaded yellow / red indicate value exceeding the Action/Limit levels.

Cell shaded grey indicate value exceeding the WQO.

| Parameter  | Action Level  | Limit Level  |
|--|---|--|
| Dissolved Oxygen (DO) <sup>(1)</sup>                       | Surface and Mid-depth <sup>(2)</sup><br>The average of the impact, WSR 45C<br>and WSR 46 station readings are < 5%-<br>ile of baseline data for surface and<br>middle layer = <b>4.32 mg L</b> -1 | Surface and Mid-depth <sup>(2)</sup><br>The average of the impact, WSR 45C<br>and WSR 46 station readings are < 4<br>mg L <sup>-1</sup><br>and             |
|  | and<br>Significantly less than the reference<br>stations mean DO (at the same tide of<br>the same day)  | Significantly less than the reference<br>stations mean DO (at the same tide of<br>the same day)  |
|  | <u>Bottom</u><br>The average of the impact, WSR 45C<br>and WSR 46 station readings are $< 5\%$ -<br>ile of baseline data for bottom layers =<br><b>3.12 mg L</b> <sup>-1</sup>                    | Bottom<br>The average of the impact station,<br>WSR 45C and WSR 46 readings are < 2<br>mg L-1  |
|  | and<br>Significantly less than the reference<br>stations mean DO (at the same tide of<br>the same day)  | and<br>Significantly less than the reference<br>stations mean DO (at the same tide of<br>the same day)   |
| Depth-averaged Suspended<br>Solids (SS) <sup>(3) (4)</sup> | The average of the impact, WSR 45C<br>and WSR 46 station readings are ><br>95%-ile of baseline data for depth<br>average = <b>21.60 mg L</b> <sup>-1</sup>  | The average of the impact, WSR 45C<br>and WSR 46 station readings are ><br>99%-ile of baseline data for depth<br>average = <b>40.10 mg L</b> <sup>-1</sup> |
|  | and   | and  |
|  | 120% of control station's SS at the same tide of the same day   | 130% of control station's SS at the same tide of the same day  |
| Depth-averaged Turbidity<br>(Tby) <sup>(3) (4)</sup>       | The average of the impact, WSR 45C<br>and WSR 46 station readings are ><br>95%-ile of baseline data = <b>25.04 NTU</b>  | The average of the impact, WSR 45C<br>and WSR 46 station readings are ><br>99%-ile of baseline data = <b>32.68 NTU</b>                                     |
|  | and   | and  |
|  | 120% of control station's Tby at the same tide of the same day  | 130% of control station's Tby at the same tide of the same day   |

# Table C3Action and Limit Levels of Water Quality for Dredging, Backfilling and<br/>Capping Activities for SB CMPs

(1) For DO, non-compliance of the water quality limits occurs when monitoring result is lower than the limits.

(2) The Action and Limit Levels for DO for Surface & Middle layers were calculated from the combined pool of baseline surface layer data and baseline middle layer data.

(3) "Depth-averaged" is calculated by taking the arithmetic means of reading of all three depths.

(4) For turbidity and SS, non-compliance of the water quality limits occurs when monitoring result is higher than the limits.

# Table C4Monitoring Results for Water Quality Monitoring during Capping of SB CMP1 on 10 June 2015

| Sampling | Stations              | Temp  | Salinity         | Turbidity | Dissolve | ed Oxygen | pН       | SS       | NH3      | TIN      | BOD5     |
|----------|-----------------------|-------|------------------|-----------|----------|-----------|----------|----------|----------|----------|----------|
| Period   | Stations              | (°C)  | (ppt)            | (NTU)     | (%)      | (mg L-1)  | (mg L-1) | (mg L-1) | (mg L-1) | (mg L-1) | (mg L-1) |
| June     | RFF (Reference)       | 28.11 | 18.36            | 3.34      | 82.53    | 5.82      | 7.82     | 6.14     | 0.06     | 1.21     | 0.39     |
| 2015     | IPF (Impact)          | 27.22 | 22.53            | 8.33      | 67.42    | 4.72      | 7.80     | 6.84     | 0.09     | 0.78     | 0.25     |
|          | INF<br>(Intermediate) | 26.02 | 26.96            | 4.78      | 54.35    | 3.79      | 7.79     | 11.12    | 0.08     | 0.92     | 0.31     |
|          | Ma Wan                | 25.94 | 27.50            | 3.32      | 54.42    | 3.79      | 7.77     | 4.77     | 0.09     | 0.68     | 0.25     |
|          | Shum Shui Kok         | 26.99 | 23.22            | 4.46      | 64.46    | 4.51      | 7.79     | 5.88     | 0.09     | 1.09     | 0.25     |
|          | Tai Mo To             | 26.96 | 23.50            | 8.86      | 63.86    | 4.46      | 7.79     | 10.20    | 0.07     | 1.10     | 0.25     |
|          | Tai Ho Bay 1          | 29.01 | 16.68            | 14.57     | 102.92   | 7.22      | 7.96     | 16.23    | 0.05     | 1.22     | 0.93     |
|          | Tai Ho Bay 2          | 29.17 | 17.11            | 8.38      | 116.30   | 8.11      | 8.02     | 10.70    | 0.05     | 0.99     | 2.33     |
|          | WQO                   | N/A   | 16.52-<br>20.20* | N/A       | N/A      | >4        | 6.5-8.5  | 11.6     | N/A      | 0.50     | N/A      |

Notes:

# Not exceeding 2°C of change of the results from the Reference Station.

\*Not exceeding 10% of natural ambient level which is the result obtained from the Reference Station.

Cell shaded yellow / red indicate value exceeding the Action/Limit levels.

Cell shaded grey indicate value exceeding the WQO.

#### Table C5

# Water Column Profiling Results for SB CMP 2 on 11 June 2015

| Stations              | Temp  | Salinity         | Turbidity |       | solved<br>ygen | pН       | Suspended<br>Solids |
|-----------------------|-------|------------------|-----------|-------|----------------|----------|---------------------|
|                       | (°C)  | (ppt)            | (NTU)     | (%)   | (mg L-1)       | (mg L-1) | (mg L-1)            |
| WCP 1<br>(Downstream) | 28.09 | 18.70            | 19.39     | 75.96 | 5.35           | 7.79     | 9.20                |
| WCP 2<br>(Upstream)   | 28.17 | 18.67            | 4.64      | 80.20 | 5.64           | 7.83     | 7.15                |
| WQO (wet season)      | N/A   | 16.82-<br>20.54# | N/A       | N/A   | >4             | 6.5-8.5  | 11.6                |

**Note:** \*Not exceeding 10% of natural ambient level which is the result obtained from the Reference Station.

Cell shaded grey indicate value exceeding the WQO.

Annex D

# Study Programme

| Task Name  | 20 | )12<br>JASC  |              |            |                     | 1 1                      | 20<br>M                      | 13                  |  |                            |                             |            |                     | <u>20</u>  | )14 | 0          |                    |            |       |                     | 2                   | 2015  |      |
|--|----|--------------|--------------|------------|---------------------|--------------------------|------------------------------|---------------------|--|----------------------------|-----------------------------|------------|---------------------|------------|-----|------------|--------------------|------------|-------|---------------------|---------------------|---|------|
| Project Commencement   |    | JASC<br>•••• |              |            |                     |                          | IVI J                        | JA                  |  |                            | DJ                          |            |                     | /  J       | JA  | 51         |                    |            |       |                     |                     | <u>, , , , , , , , , , , , , , , , , , , </u> | -    |
|  |    |              |              |            |                     |                          |                              |                     |  |                            |                             |            |                     |            |     |            |                    |            |       |                     |                     |   | +    |
| For South Brothers CMPs and East of Sha Chau CMPs                                |    |              |              |            |                     |                          | _                            |                     |  |                            |                             |            |                     |            |     |            |                    |            |       |                     |                     |   | +    |
| Submission of Draft Inception Report & Draft Programme                           |    |              | 9/18         |            |                     |                          |                              |                     |  |                            |                             |            |                     |            |     |            |                    |            |       |                     |                     |   | +    |
| Submission of Final Inception Report & Final Programme                           |    |              | 10/2         |            |                     |                          |                              |                     |  |                            |                             | -          |                     | +          |     |            |                    |            |       |                     |                     |   | +    |
| Submission of Draft EM&A Manual (First Review)                                   |    |              |              |            |                     |                          |                              |                     |  |                            |                             |            |                     |            |     |            |                    |            |       |                     |                     |   |      |
| Submission of Final EM&A Manual (First Review)                                   |    | <b>*</b>     | 9/18<br>10/2 |            |                     |                          |                              |                     |  |                            |                             |            |                     |            |     |            |                    |            |       |                     |                     |   |      |
| Submission of Draft EM&A Manual (Second Review)                                  |    |              | <b>*</b> -1( | 0/30       |                     |                          |                              |                     |  |                            |                             |            |                     |            |     |            |                    |            |       |                     |                     |   | -    |
| Submission of Final EM&A Manual (Second Review)                                  |    |              |              | 11/        |                     |                          |                              |                     |  |                            |                             |            |                     |            |     |            |                    |            |       |                     |                     |   |      |
| Submission of Subsequent EM&A Manual Updates                                     |    |              |              |            | •                   |                          |                              |                     |  |                            |                             | ۲          |                     |            |     | >          |                    |            | (     | )                   |                     |   | ۲    |
| Submission of Draft Operations Manual  |    |              |              |            | 12/31               |                          |                              |                     |  |                            |                             |            |                     |            |     |            |                    |            |       |                     |                     |   |      |
| Submission of Final Operations Manual  |    |              |              | - Å        | 1/14                | 1                        |                              |                     |  |                            |                             |            |                     |            |     |            |                    |            |       |                     |                     |   |      |
| Submission of Operations Manual Updates  |    |              |              |            | <b>(</b>            |                          |                              |                     | Image: A start of the start |                            |                             | ۲          |                     |            |     | >          |                    |            | (     | >                   |                     |   | 0    |
| Monitoring Contracts   |    |              |              | +          |                     |                          |                              |                     |  |                            |                             | -          |                     | -          |     |            |                    |            | -     |                     |                     |   | ÷    |
| Regular Site Inspections of CMP Contractors                                      |    |              |              |            |                     |                          |                              |                     |  |                            |                             |            |                     |            |     |            |                    |            |       |                     |                     |   |      |
| Participate in Liaison Group Meetings/ Consultations as required by CEDD         |    |              |              |            |                     |                          |                              |                     |  |                            |                             |            |                     |            |     |            |                    |            |       |                     |                     |   | -    |
| Submission of Report on Dredging & Capping Operations                            |    |              |              |            |                     |                          |                              |                     |  |                            |                             | ۲          |                     |            |     | $\bigcirc$ |                    |            |       | $\bigcirc$          |                     |   |      |
| Submission of Monthly Progress Report  |    | $\diamond$   | $\diamond$   |            | $\diamond \diamond$ | $\cdot \diamond \langle$ | $\Rightarrow \diamond \cdot$ | $\diamond \diamond$ | $\diamond \diamond$  | $\rightarrow \diamond <$   | $\diamond \diamond \langle$ | $\rangle$  | $\diamond \diamond$ | •          |     | $\diamond$ | $\rangle \diamond$ | $\diamond$ |       | $\diamond \diamond$ | $\diamond \diamond$ | > <> <  | > (c |
| Submission of Quarterly EM&A Report  |    |              |              | $\diamond$ | <                   | $\rightarrow$            | $\diamond$                   |                     | $\diamond$   |                            | $\diamond$                  | $\diamond$ | >                   | $\diamond$ | ,   | $\diamond$ |                    | $\diamond$ |       | $\diamond$          | <                   | $\diamond$                                    | <    |
| Submission of Annual Review Report   |    |              |              |            |                     |                          |                              |                     |  | $\odot$                    |                             |            |                     | -          |     | (          | $\odot$            |            |       |                     |                     |   | -    |
| Submission of Annual Risk Assessment Report                                      |    |              |              |            |                     |                          |                              |                     |  | $\odot$                    |                             |            |                     |            |     | (          | 0                  |            |       |                     |                     |   |      |
| Submission of Draft Final Report   |    |              |              |            |                     |                          |                              |                     |  |                            |                             |            |                     |            |     |            |                    |            |       |                     |                     |   |      |
| Submission of the Final Report   |    |              |              |            |                     |                          |                              |                     |  |                            |                             |            |                     |            |     |            |                    |            |       |                     |                     |   | +    |
| Submission of Draft Executive Summary Report                                     |    |              |              |            |                     |                          |                              |                     |  |                            |                             |            |                     |            |     |            |                    |            |       |                     |                     |   |      |
| Submission of Final Executive Summary Report                                     |    |              |              |            |                     |                          |                              |                     |  |                            |                             |            |                     |            |     |            |                    |            |       |                     |                     |   |      |
|  |    |              |              |            |                     |                          |                              |                     |  |                            |                             |            |                     |            |     |            |                    |            |       |                     |                     |   |      |
| For East Tung Lung Chau Disposal Facility  |    |              |              |            |                     |                          |                              |                     |  |                            |                             |            |                     |            |     |            |                    |            |       |                     |                     |   |      |
| Submission of Monitoring Results & Monthly EM&A Progress Report                  |    | $\diamond$   | $\diamond$   |            | $\diamond \diamond$ | • 🔷 <                    | $\diamond \diamond \langle$  | $\diamond \diamond$ | $\diamond \diamond$  | $\rightarrow \diamondsuit$ | $\diamond \diamond \langle$ | $\rangle$  | $\diamond \diamond$ | • 🔷 •      |     | $\diamond$ | $\rangle$          | $\diamond$ | > 🔷 · | $\diamond \diamond$ | $\diamond \diamond$ | > 🔷 🔇   | > (¢ |
| Submission of Initial Review Report (assume disposal commences in November 2012) |    |              |              |            | ♦ 2                 | 2/15                     |                              |                     |  |                            |                             |            |                     |            |     |            |                    |            |       |                     |                     |   |      |
| Submission of Quarterly EM&A Report  |    |              |              | $\diamond$ | <                   | $\diamond$               | $\diamond$                   |                     | $\diamond$   |                            | $\diamond$                  | $\diamond$ | ×                   | $\diamond$ |     | $\diamond$ |                    | $\diamond$ |       | $\diamond$          | <                   | $\diamond$                                    | <    |
| Submission of Annual Report  |    |              |              |            |                     |                          |                              |                     |  | $\odot$                    |                             |            |                     |            |     | (          | $\bigcirc$         |            |       |                     |                     |   |      |
|  |    |              |              |            |                     |                          |                              |                     |  |                            |                             |            |                     |            |     |            |                    |            |       |                     |                     |   |      |
| Alternative / Modified Capping Design  |    |              |              |            |                     |                          |                              |                     |  |                            |                             |            |                     |            |     |            |                    |            |       |                     |                     |   |      |
| Submission of Investigation Report   |    |              |              |            | 2/                  | /5                       |                              |                     |  |                            |                             |            |                     |            |     |            |                    |            |       |                     |                     |   |      |
| Submission of Quarterly Report   |    |              |              |            |                     |                          |                              |                     |  |                            | $\diamond$                  | $\diamond$ |                     | $\diamond$ |     | $\diamond$ |                    | $\diamond$ |       | $\diamond$          | <                   | $\diamond$                                    | <    |
| Submission of Annual Report  |    |              |              |            |                     |                          |                              |                     |  |                            |                             | ۲          |                     |            |     |            |                    |            |       | ۲                   |                     |   |      |
| Submission of Draft Final Report   |    |              |              |            |                     |                          |                              |                     |  |                            |                             |            |                     |            |     |            |                    |            |       |                     |                     |   |      |
| Submission of the Final Report   |    |              |              |            |                     |                          |                              |                     |  |                            |                             |            |                     |            |     |            |                    |            |       |                     |                     |   |      |
|  |    |              |              |            |                     |                          |                              |                     |  |                            |                             |            |                     |            |     |            |                    |            |       |                     |                     |   |      |
| Baseline Pelagic and Demersal Fisheries Survey                                   |    |              |              |            |                     |                          |                              |                     |  |                            |                             |            |                     |            |     |            |                    |            |       |                     |                     |   |      |
| Baseline Shrimp Trawl & Hang Trawl Surveys, twice before SB CMPs dredging        |    |              |              |            |                     |                          |                              |                     |  |                            |                             |            |                     |            |     |            |                    |            |       |                     |                     |   |      |
| Submission of Baseline Pelagic and Demersal Fisheries Survey Report              |    |              |              | 11/2       | 20                  |                          |                              |                     |  |                            |                             |            |                     |            |     |            |                    |            |       |                     |                     |   |      |

| Study Programme | Task | Milestone | <b>♦</b> | Summary | Rolled Up Task | 0 |
|-----------------|------|-----------|----------|---------|----------------|---|
|                 |      |           |          |         |                |   |

