



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)

42nd Monthly Progress Report for Contaminated Mud Pits to the South of The Brothers and at East Sha Chau – February 2016

Draft (Revision 0)

14 March 2016

Environmental Resources Management 16/F Berkshire House 25 Westlands Road





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Client: Project No: Civil Engineering and Development Department (CEDD) 0175086 Summary: Date: 14 March 2016 Approved by: This document presents the 42nd monthly progress report for Contaminated Mud Pits at the South of The Brothers and at East Sha Chau. Craig A. Reid Partner 42nd Monthly Progress Report for ESC CMPs and SB CMPs RC CAR 14/3/16 v0 JT 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

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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/ Plan to be Certified / Verified:	42 nd Monthly Progress Report for Contaminated Mud Pits to the South of The Brothers and at East Sha Chau – February 2016
Date of Report:	14 March 2016
Date prepared by ET:	14 March 2016
Date received by IA:	14 March 2016

Reference EP Condition

Environmental Permit Condition:

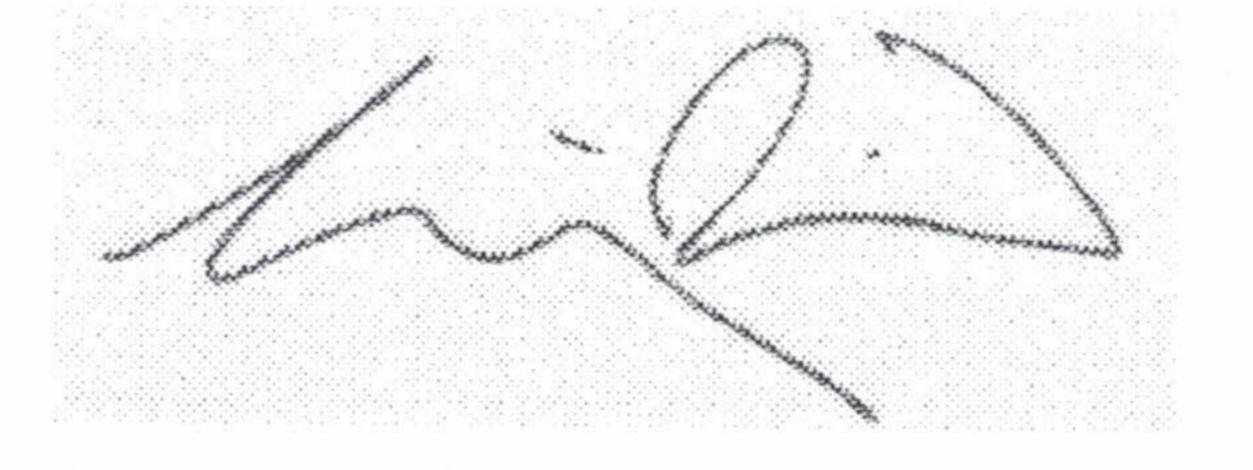
Condition No.: 4.4

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/plan complies with the above referenced condition of EP-427/2011/A

Craig A. Reid, Environmental Team Leader:



14/3/2016Date:

Date:

14/3/2016

IA Verification

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

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Dr Wang Wen Xiong, Independent Auditor:

CONTENTS

1.1	BACKGROUND	1
1.2	Reporting Period	2
1.3	DETAILS OF SAMPLING AND LABORATORY TESTING ACTIVITIES	2
1.4	DETAILS OF OUTSTANDING SAMPLING AND/OR ANALYSIS	3
1.5	BRIEF DISCUSSION OF THE MONITORING RESULTS FOR ESC CMPS	3
1.6	BRIEF DISCUSSION OF THE MONITORING RESULTS FOR SB CMPS	5
1.7	ACTIVITIES SCHEDULED FOR THE NEXT MONTH	11
1.8	STUDY PROGRAMME	11

ANNEXES

ANNEX A	SAMPLING SCHEDULE
ANNEX B	WATER QUALITY MONITORING RESULTS
ANNEX C	DREDGING RECORD FOR ESC CMP VD
ANNEX D	GRAPHICAL PRESENTATIONS
ANNEX E	STUDY PROGRAMME

<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>

42ND MONTHLY PROGRESS REPORT FOR FEBRUARY 2016

1.1 BACKGROUND

- 1.1.1 Since early 1990s, contaminated sediment ⁽¹⁾ 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) ⁽²⁾ 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
Project had been confirmed by findings of the associated Environmental
Impact Assessment (EIA) study completed in 2005 under Agreement No.

 CE 12/2002(EP) ⁽³⁾. The Director of Environmental Protection (DEP) approved

 this EIA report under the Environmental Impact Assessment Ordinance (Cap. 499)

 (EIAO) in September 2005 (EIA Register No.: AEIAR-089/2005).
- 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 ⁽⁴⁾. 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).

⁽²⁾ 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

⁽³⁾ 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))

⁽⁴⁾ 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 ^{(1) (2)} is required to be implemented for the CMPs.
- 1.1.5The 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
February 2016, the following works were being undertaken at the CMPs:
 - Dredging operation at ESC CMP Vd;
 - Capping operation at ESC CMP Va; and
 - Disposal of contaminated mud at SB CMP 2.

Figure 1.1 Works Schedule for ESC CMPs and SB CMPs

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	Capping																																																									
	Dredging																																																									
SB CMP 1	Backfilling																																																									
	Capping																																																									_
	Dredging																																						Γ																			
SB CMP 2	Backfilling																																																									
	Capping																																																									

1.2 **REPORTING PERIOD**

- 1.2.1 This 42nd Monthly Progress Report covers the EM&A activities for the reporting month of February 2016.
- 1.3 DETAILS OF SAMPLING AND LABORATORY TESTING ACTIVITIES
- 1.3.1 The following monitoring activities have been undertaken for ESC CMPs in February 2016:
 - Impact Water Quality Monitoring during Capping Operations of ESC CMP Va was undertaken on 17 February 2016;and

(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⁾ 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.

- *Impact Water Quality Monitoring during Dredging Operations of ESC CMP Vd* was undertaken on 22 February 2016.
- 1.3.2 The following monitoring activities have been undertaken for SB CMPs in February 2016:
 - *Water Column Profiling of CMP* 2 was undertaken on 1 February 2016;
 - *Cumulative Impact Sediment Chemistry* of *SB CMPs* was undertaken on 2 and 3 February 2016;
 - Sediment Toxicity Test of CMP 2 was undertaken on 2 and 3 February 2016;
 - *Pit Specific Sediment Chemistry of CMP 2* was undertaken on 4 February 2016;
 - *Impact Water Quality Monitoring during Capping Operations of SB CMP 2* was undertaken on 11 February 2016;
 - *Routine Water Quality Monitoring of CMP 2* was undertaken on 19 February 2016; and
 - *Demersal Trawling for SB CMPs* was undertaken on 23 and 24 February 2016.

1.4 DETAILS OF OUTSTANDING SAMPLING AND/OR ANALYSIS

- 1.4.1 No outstanding sampling remained for February 2016.
- 1.4.2 The following laboratory analyses are in progress and will be presented in the corresponding quarterly report:
 - Taxonomic identification of fishery resources collected during *Demersal Trawling* for SB CMPs and subsequent chemical analysis for the biota samples collected in January and February 2016.
 - Laboratory analyses of sediment samples collected for *Sediment Toxicity Tests of CMP 2* in February 2016.
- 1.5 BRIEF DISCUSSION OF THE MONITORING RESULTS FOR ESC CMPs
- 1.5.1Brief discussion of the monitoring results of the following activities for ESC
CMPs is presented in this 42nd Monthly Progress Report:
 - *Impact Water Quality Monitoring during Dredging Operations of ESC CMP Vd* in February 2016; and
 - *Water Quality Monitoring During Capping of CMP Va* in February 2016.

- 1.5.2Impact Water Quality Monitoring during Dredging Operations of ESC CMP
Vd February 2016
- 1.5.3 Dredging activities were carried out on 19 23 February 2016 during this reporting period and monitoring was conducted on 22 February 2016. During the survey day, monitoring was conducted during both mid-ebb and mid-flood tides at two Reference (Upstream) stations and five Impact (Downstream) stations around the dredging operations at ESC CMP Vd. Monitoring was also conducted at one Sensitive Receiver station situated in Ma Wan. A total of eight (8) stations were monitored and locations of the sampling stations are shown in *Figure 1.2*.
- 1.5.4 Monitoring results are presented in *Table B1* of *Annex B*. Daily dredging volume in February 2016 is reported in *Annex C*. Levels of Dissolved Oxygen (DO), Turbidity and Suspended Solid (SS) complied with the Action and Limit Levels (see *Table B2* of *Annex B* for details) set in the *Baseline Monitoring Report* ⁽¹⁾.
- 1.5.5 The results indicated that the dredging operations at ESC CMP Vd did not appear to cause any unacceptable deterioration in water quality during this reporting period. Therefore, no further action, except for those recommended in the Environmental Permit (*EP-312/2008/A*), are considered necessary for the dredging operations.

1.5.6 Water Quality Monitoring during Capping of ESC CMPs – February 2016

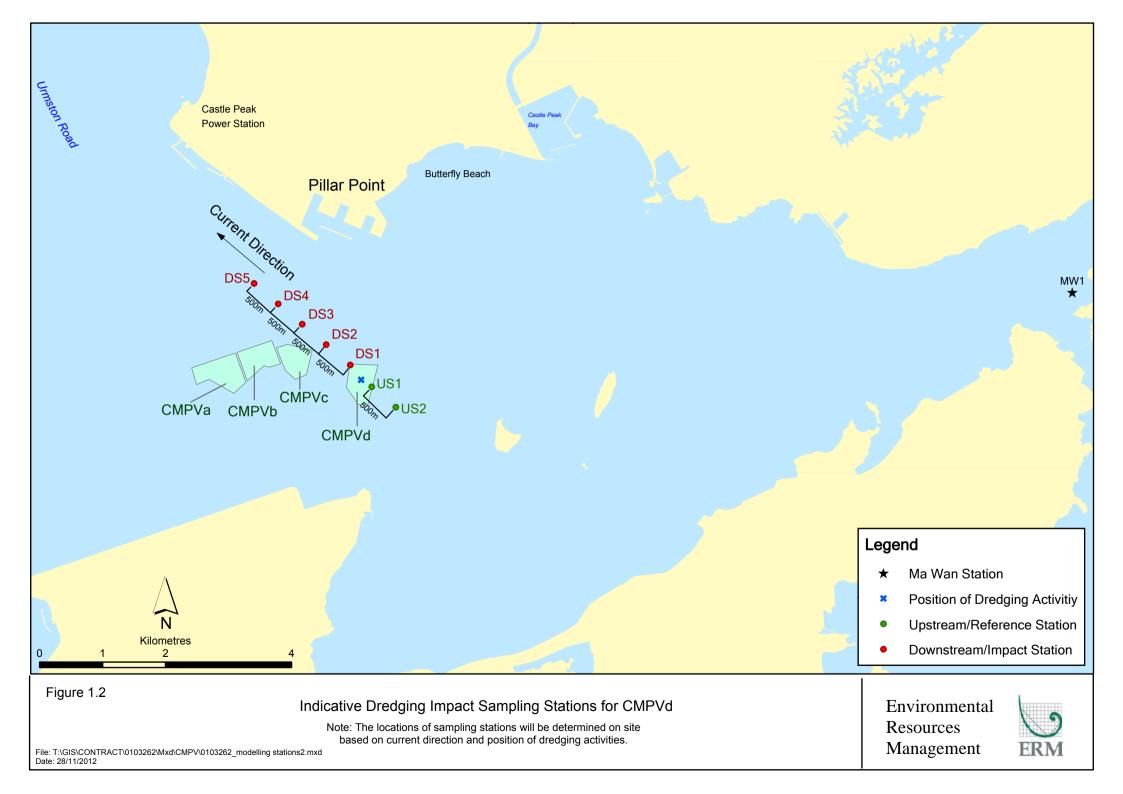
1.5.7 The monitoring results obtained during February 2016 sampling in the dry season have been assessed for compliance with the Water Quality Objectives (WQOs) set by Environmental Protection Department (EPD). This consists of a review of the EPD routine water quality monitoring data for the dry season period (November to March) of 2005 - 2014 from stations in the Northwestern Water Control Zone (WCZ), where the ESC CMPs are located ⁽²⁾. For Salinity, the averaged value obtained from the Reference stations was used for the basis as the WQO. Levels of DO and Turbidity were also assessed for compliance with the Action and Limit Levels (see *Table B2* of *Annex B* for details). A total of ten (10) monitoring stations were sampled in February 2016 as shown in *Figure 1.3*.

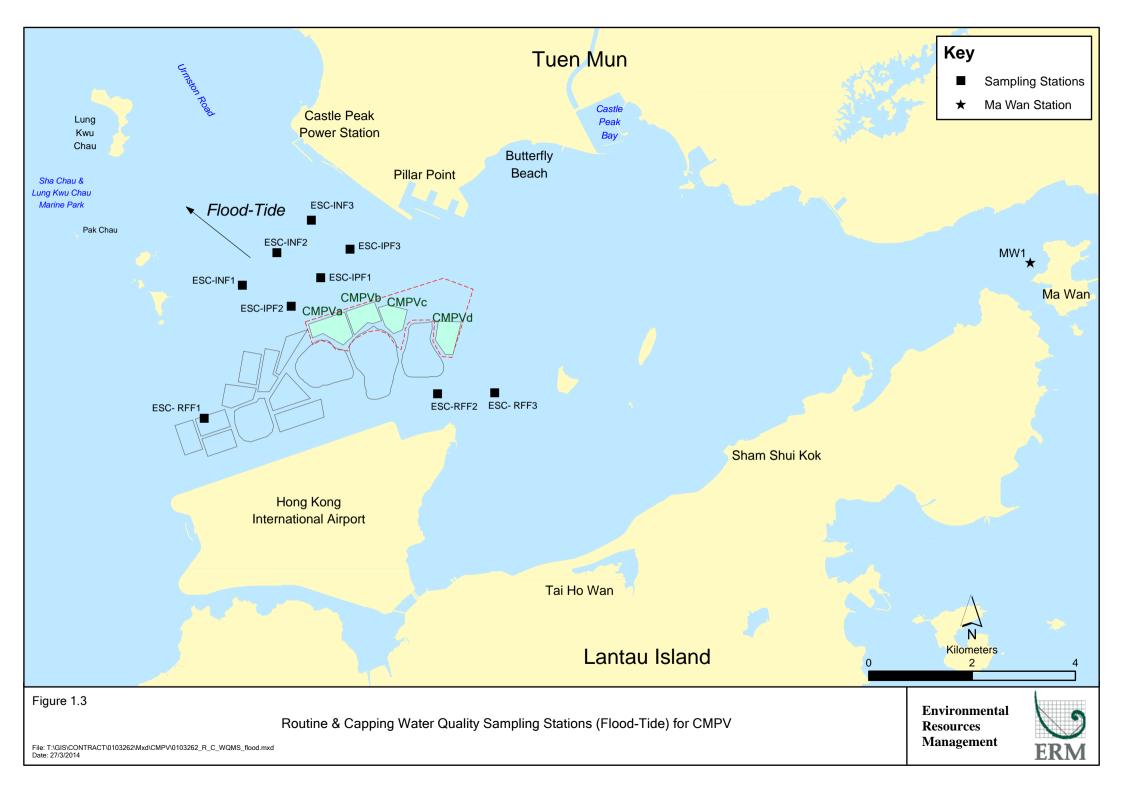
In-situ Measurements

1.5.8 Graphical presentation of the monitoring results (Temperature, DO, pH, Salinity and Turbidity) is shown in *Figures 1-6* of *Annex D*. Levels of Salinity, DO and pH at all stations in February 2016 complied with the WQO (*Table B3* of *Annex B*). Level of DO and Turbidity also complied the Action and Limit levels (*Table B3* of *Annex B*).

(2) http://epic.epd.gov.hk/EPICRIVER/marine/?lang=en

ERM (2009). Draft Second Review of the EM&A Manual. Under Agreement No. CE 4/2009 (EP) EM&A for Contaminated Mud Pit at Sha Chau (2009-2013) – Investigation





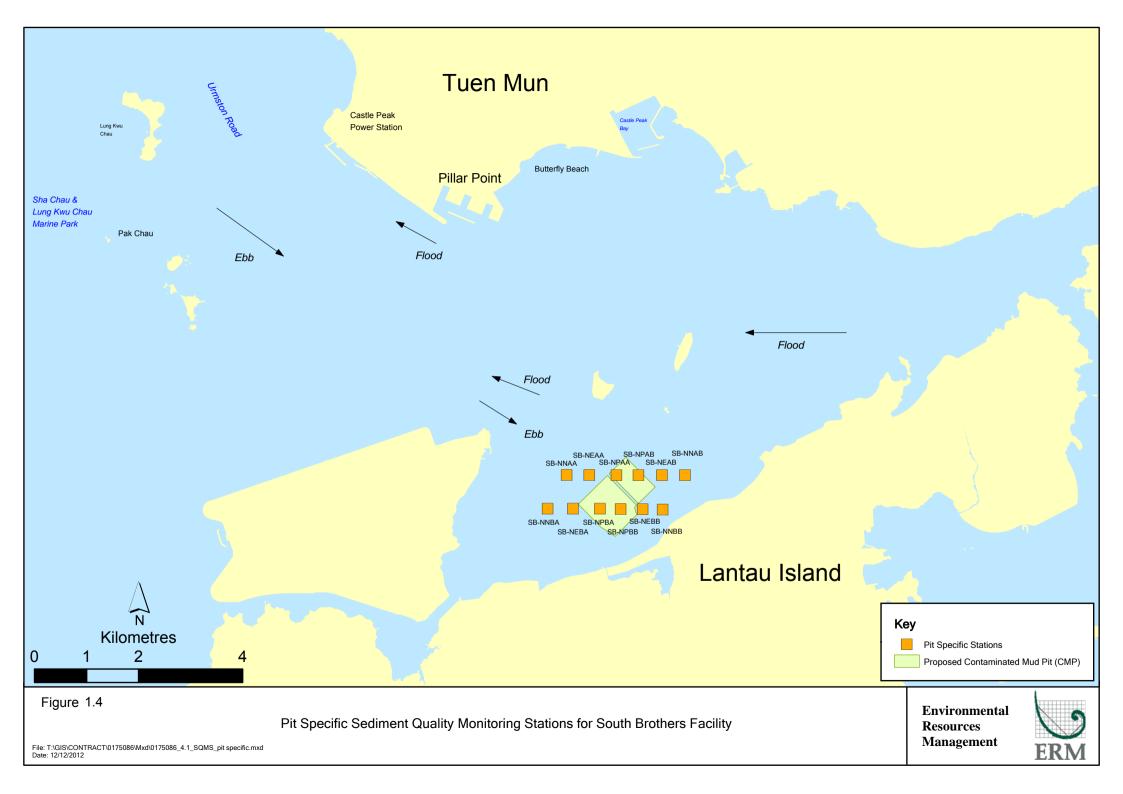
Laboratory Measurements for Suspended Solids (SS)

Concentrations of SS complied with the WQO and the Action and Limit Levels at all stations in February 2016 (*Table B3 of Annex B; Figure 7* of *Annex D*). 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
CMPs is presented in this 42nd Monthly Progress Report:
 - *Pit Specific Sediment Chemistry of CMP 2* in January and February 2016;
 - *Cumulative Impact Sediment Chemistry of CMP 2* in February 2016;
 - *Routine Water Quality Monitoring of CMP 2* in February 2016;
 - Water Column Profiling of CMP 2 in February 2016; and
 - *Impact Water Quality Monitoring during Capping Operations of SB CMP 2* in February 2016.

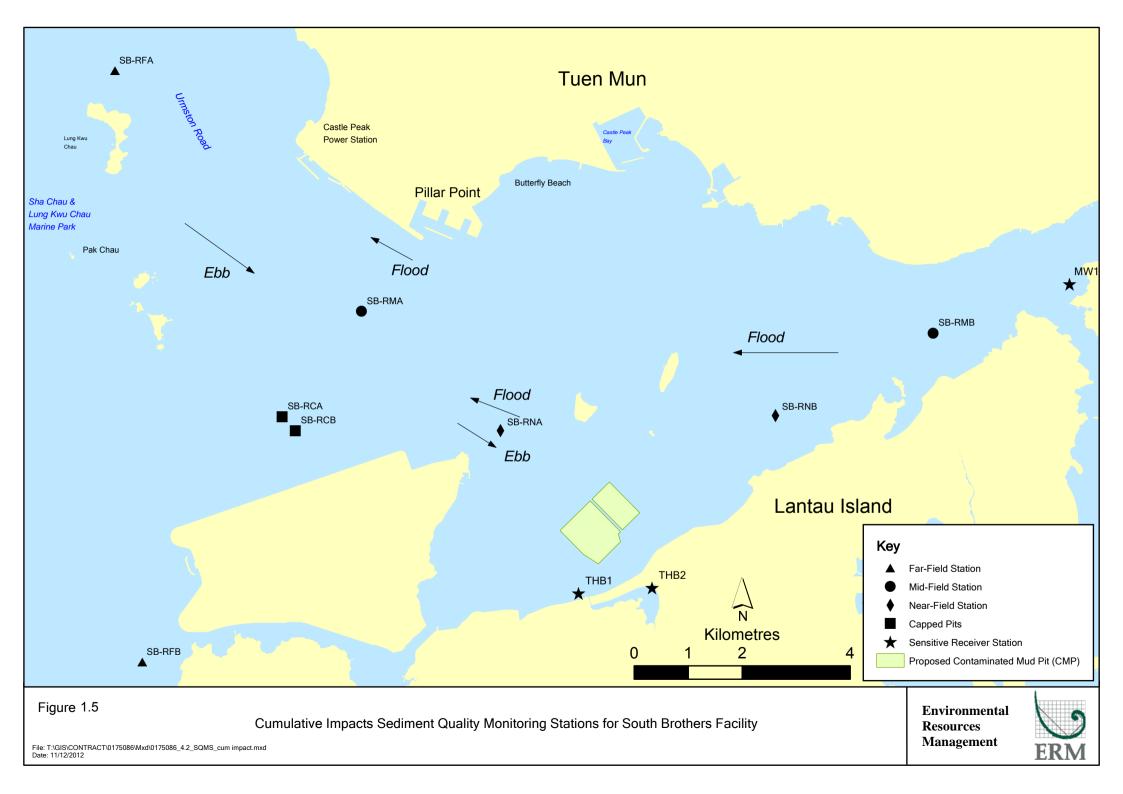
- 1.6.2 *Pit Specific Sediment Chemistry of CMP 2 January and February 2016*
- 1.6.3 Monitoring locations for *Pit Specific Sediment Chemistry for CMP 2* are shown in *Figure 1.4.* A total of six (6) monitoring stations were sampled in January and February 2016.
- 1.6.4 The concentrations of most inorganic contaminants (Arsenic, Cadmium, Chromium, Lead, Mercury, Nickel and Zinc) were lower than the Lower Chemical Exceedance Level (LCEL) at all stations, except Silver and Copper (*Figures 8, 9, 13 and 14* of *Annex D*). In January 2016, Silver and Copper exceeded the LCEL at both Active Pit stations SB-NPBA and SB-NPBB (*Figure 9* of *Annex D*). In February 2016, Silver and Copper exceeded the LCEL at Active Pit station SB-NPBB (*Figure 14* of *Annex D*).
- 1.6.5 For organic contaminants, the concentrations of Total Organic Carbon (TOC) were similar amongst most stations and it was observed to be lower at Pit Edge station SB-NPBB in January and February 2016 (Figures 10 and 15 of Annex D). Tributyltin (TBT) concentrations were observed to be higher at Active Pit stations SB-NPBA (Figures 11 and 16 of Annex D). 4,4'dichlorodiphenyldichloroethylene (DDE) concentrations were observed to be higher at Active Pit SB-NPBB in January and February 2016 (Figures 12 and 17 of Annex D). Total dichlorodiphenyltrichloroethane (DDT) concentrations were observed to be higher at Pit Edge station SB-NEBA and Active Pit station SB-NPBB in February 2016 whilst concentrations of DDT were below limit of reporting at all stations in January 2016 (Figure 12 of Annex D). Low and High Molecular Weight Polycyclic Aromatic Hydrocarbons (PAHs), Total Polychlorinated Biphenyls (PCBs) and concentrations were below the limit of reporting at all stations.
- 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 January and February 2016. 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.

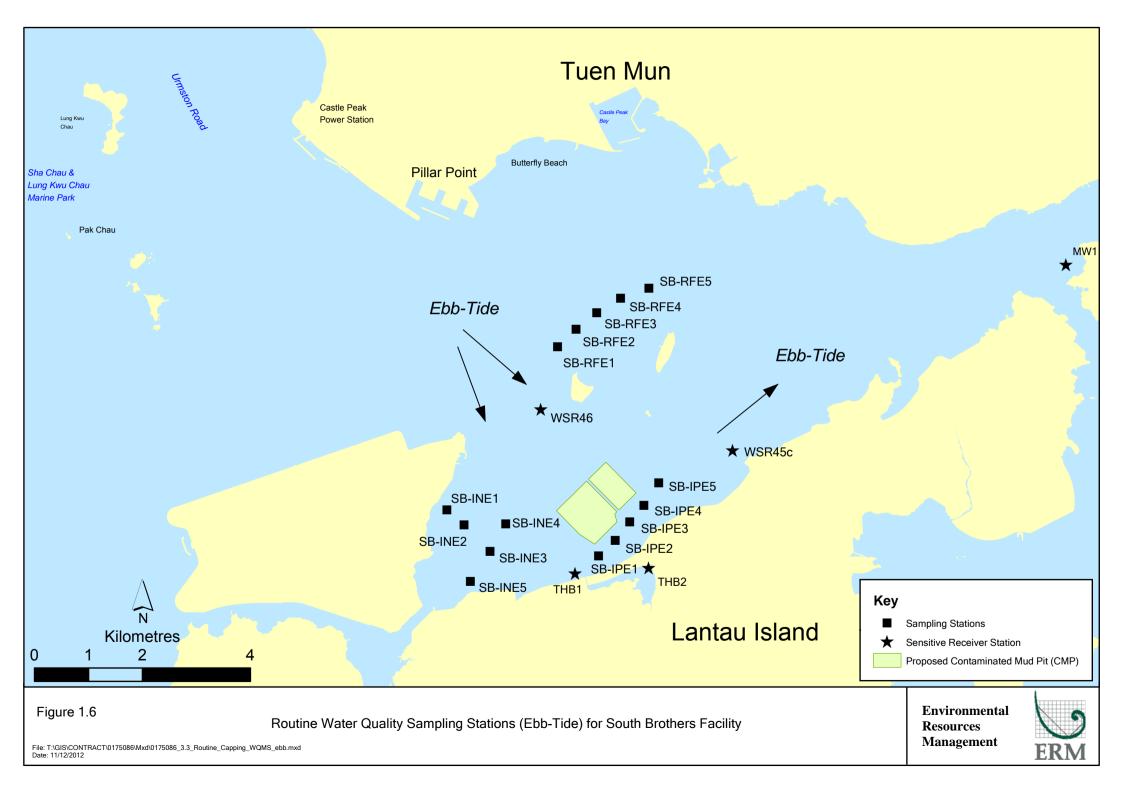


- 1.6.7 *Cumulative Impact Sediment Chemistry of SB CMPs February 2016*
- 1.6.8 Monitoring locations for *Cumulative Impact Sediment Chemistry for SB CMPs* are shown in *Figure 1.5.* A total of eleven (11) monitoring stations were sampled in February 2016.
- 1.6.9 Analyses of results for the *Cumulative Impact Sediment Chemistry Monitoring* indicated that the concentrations of all inorganic contaminants, except Arsenic concentrations in Far-field station SB-RFB, were below the LCEL in February 2016 (*Figures 18* and 19 of *Annex D*).
- 1.6.10 Whilst the average concentration of Arsenic in the Earth's crust is generally ~2mg/kg, significantly higher Arsenic concentrations (median = 14 mg/kg) have been recorded in Hong Kong's onshore sediments ⁽¹⁾. It is presumed that the natural concentrations of Arsenic are similar in onshore and offshore sediments ⁽²⁾, and relatively high Arsenic levels may thus occur throughout Hong Kong. Therefore, the LECL exceedances of Arsenic are unlikely to be caused by the disposal operations at CMP 2 but rather as a result of naturally occurring deposits.
- 1.6.11 For organic contaminants, concentrations of TOC at Near-field station SB-RNA was recorded to be lower than other stations (*Figure 20 of Annex D*). Concentrations of TBTs were recorded to be higher at Ma Wan station (*Figure 21 of Annex D*). Total DDT, 4,4'-DDE, Total PCBs as well as Low and High Molecular Weight PAHs were recorded below the limit of reporting at all stations.
- 1.6.12 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 February 2016. 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.
- 1.6.13 Routine Water Quality Monitoring of SB CMP 2 February 2016
- 1.6.14 Routine Water Quality Monitoring was undertaken at a total of two sampling stations (Upstream and Downstream stations) on 19 February 2016. The monitoring results have been assessed for compliance with the WQOs (see Section 1.5.7 for details). Levels of DO and Turbidity were also assessed for compliance with the Action and Limit Levels (see Table B4 of Annex B for details). The monitoring results are shown in Tables B5 and B6 of Annex B and Figures 22 31 of Annex D. A total of twenty (20) monitoring stations were sampled in February 2016 as shown in Figure 1.6.

(2) Whiteside PGD (2000) Natural geochemistry and contamination of marine sediments in Hong Kong. In: The Urban Geology of Hong Kong (ed Page A & Reels SJ). Geological Society of Hong Kong Bulletin No. 6, p109-121

⁽¹⁾ Sewell RJ (1999) Geochemical Atlas of Hong Kong. Geotechnical Engineering Office, Government of the Hong Kong Special Administrative Region





In-situ Measurements

1.6.15	Graphical presentation of the monitoring results (Temperature, DO, pH, Salinity and Turbidity) is shown in <i>Figures 22 - 27</i> of <i>Annex D</i> . Analyses of results for February 2016 indicated that the levels of pH, DO and Salinity complied with the WQOs at all stations (Impact, Intermediate, Reference and Water Sensitive Receiver stations) in February 2016 (<i>Table B5</i> of <i>Annex B; Figures 22 - 24, 26</i> of <i>Annex D</i>).
1.6.16	The levels of DO and Turbidity complied with the Action and Limit Levels at all stations (<i>Table B5</i> of <i>Annex B</i> ; <i>Figures 24</i> and 27 of <i>Annex D</i>).
1.6.17	Overall, <i>in-situ</i> measurement results of the <i>Routine Water Quality Monitoring</i> indicated that the disposal operation at CMP 2 did not appear to cause any unacceptable impacts in water quality in February 2016.
	Laboratory Measurements
1.6.18	Laboratory analysis of February 2016 results indicated that concentrations of Cadmium, Chromium, Nickel, Lead, Silver and Mercury were below their limit of reporting at all stations. Arsenic, Copper and Zinc were detected in February 2016 samples and the concentrations were similar amongst stations (<i>Table B6</i> of <i>Annex B; Figure 28</i> of <i>Annex D</i>).
1.6.19	For nutrients, concentrations of Total Inorganic Nitrogen (TIN) at Tai Ho Bay 2 station in February 2016 exceeded the WQO (0.5 mg/L) (<i>Table B6</i> of <i>Annex B</i> ; <i>Figure 29</i> of <i>Annex D</i>). It should be noted that due to effect of Pearl River, the North Western WCZ has historically experienced higher levels of TIN ⁽¹⁾ . Since TIN concentrations were recorded to be similar amongst all stations, the exceedances of TIN WQO at all stations are unlikely to be caused by the disposal operation at CMP 2. Ammonia Nitrogen (NH3-N) concentration was relatively similar amongst all stations (<i>Table B6</i> of <i>Annex B</i> ; <i>Figure 29</i> of <i>Annex D</i>). Levels of 5-day Biochemical Oxygen Demand (BOD ₅) appear to be higher at Tai Ho Bay 1 and Shum Shui Kok stations in February 2016 (<i>Table B6</i> of <i>Annex B</i> ; <i>Figure 30</i> of <i>Annex D</i>).
1.6.20	Concentrations of SS complied with the WQO (13.5 mg/L for dry season) and the Action and Limit Levels at all stations in February 2016 (<i>Table B6</i> of <i>Annex B</i> ; <i>Figure 32</i> of <i>Annex D</i>).
1.6.21	Overall, results of the <i>Routine Water Quality Monitoring</i> indicated that the disposal operation at CMP 2 did not appear to cause any unacceptable deterioration in water quality in February 2016. Detailed statistical analysis will be presented in the Quarterly Report to investigate any spatial and temporal trends of potential concern.

(1) http://www.epd.gov.hk/epd/misc/marine_quality/1986-2005/textonly/eng/index.htm

1.6.22 Water Column Profiling of CMP 2 – February 2016

1.6.23 Water Column Profiling was undertaken at a total of two sampling stations (Upstream and Downstream stations) on 1 February 2016. The monitoring results have been assessed for compliance with the WQOs (see Section 1.5.7 for details). Levels of DO and Turbidity were also assessed for compliance with the Action and Limit Levels (see Table B4 of Annex B for details).

In-situ Measurements

1.6.24Analyses of results for February 2016 indicated that levels of Salinity, DO and
pH complied with the WQOs at both Downstream and Upstream stations
(*Table B7* of *Annex B*). In addition, DO and Turbidity at all stations complied
with the Action and Limit Levels (*Table B7* of *Annex B*).

Laboratory Measurements for SS

- 1.6.25 Analyses of results for February 2016 indicated that the SS levels exceeded the WQO at both Upstream and Downstream stations. However, both Upstream and Downstream stations complied with the Action and Limit Levels (*Table B7* of *Annex B*).
- 1.6.26 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.

1.6.27 Water Quality Monitoring during Capping of SB CMP 1 – February 2016

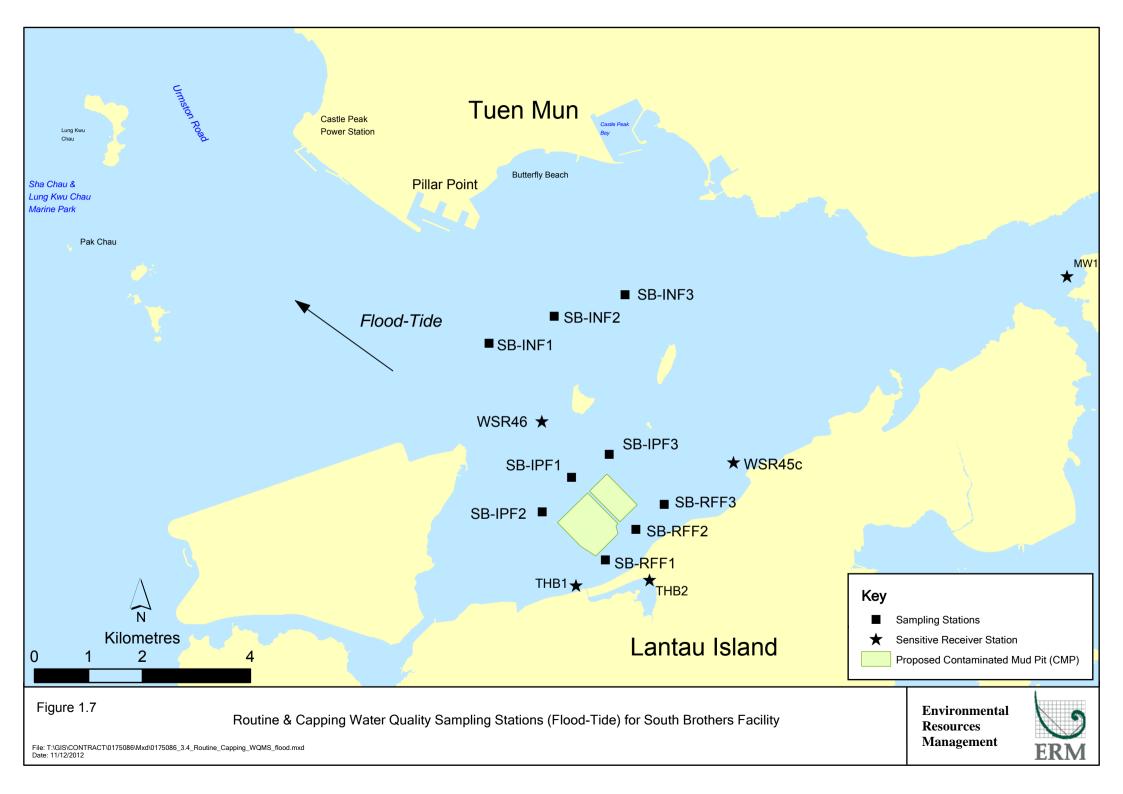
1.6.28 The monitoring results obtained during February 2016 sampling in the dry season have been assessed for compliance with the WQOs (see *Section 1.5.7* for details). Levels of DO and Turbidity were also assessed for compliance with the Action and Limit Levels (see *Table B4* of *Annex B* for details). A total of fourteen (14) monitoring stations were sampled in February 2016 as shown in *Figure 1.7.* Graphical presentation of the monitoring results is provided in *Annex D*.

In-situ Measurements

1.6.29 Graphical presentation of the monitoring results (Temperature, DO, pH, Salinity and Turbidity) is shown in *Figures 32-37* of *Annex D*. Levels of pH and Salinity at all stations in February 2016 complied with the WQO (*Table B8* of *Annex B*; *Figures 32* and *37* of *Annex D*). The levels of Turbidity at all stations complied with the Action and Limit levels in February 2016. (*Table B8* of *Annex B*; *Figure 33* of *Annex D*). DO at all stations also complied with the WQO and the Action and Limit levels in February 2016 (*Table B8* of *Annex B*; *Figure 35* of *Annex D*).

Laboratory Measurement

- 1.6.30 Concentrations of SS were recorded higher than the WQO (13.5 mg/L for dry season) at Reference, Intermediate, Ma Wan, Sham Shui Kok and Tai Mo To stations in February 2016 (*Table B8* of *Annex B*; *Figure 39* of *Annex B*). However, SS at all stations complied with the Action and Limit Levels in February 2016 (*Table B8* of *Annex B*).
- 1.6.31 For nutrients, concentrations of NH₃ were relatively similar amongst all stations (*Table B8* of *Annex B*; *Figure 39* of *Annex D*). TIN at Reference, Impact, Sham Shui Kok, Tai Mo To and Tai Ho Bay 1 stations exceeded the WQO of 0.5 mg/L in February 2016 (*Table B8* of *Annex B*; *Figure 41* of *Annex D*). As discussed in *Section 1.6.19*, the North Western WCZ has historically experienced higher levels of TIN and the exceedances of TIN WQO at these stations are unlikely to be caused by the capping operation at CMP 1.
- 1.6.32 Concentrations of BOD₅ were similar at all stations in February 2016 (*Table B8* of *Annex B*; *Figure 41* of *Annex D*).
- 1.6.33 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.



1.7 ACTIVITIES SCHEDULED FOR THE NEXT MONTH

- 1.7.1 The following monitoring activities will be conducted in the next monthly period of March 2016 for SB CMPs:
 - Pit Specific Sediment Chemistry of CMP 2; and
 - Water Column Profiling of CMP 2.
- 1.7.2 The following monitoring activities will be conducted in the next monthly period of March 2016 for ESC CMPs:
 - Pit Specific Sediment Chemistry of ESC CMP Vd; and
 - Water Column Profiling of ESC CMP Vd.
- 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 E*.

Annex A

Sampling Schedule

Annex A1 - Environmental Monitoring and Audit Samp	vling Schedule for	East of Sha Chau (Septembe	r 2012 - February 2017)

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	ESC-NPDB	*	* *	*	* *	*	* *	*	* *																						* *	*	*	*	* *	*	*	* *
Pit-Edge								<u> </u>															_					_					<u> </u>	<u> </u>	<u> </u>	<u> </u>		
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Near-Pit	ESC-NNDA	*	* *	*	* *	*	* *	*	* *																						* *	*	*	*	* *	*	*	* *
	ESC-NNDA ESC-NNDB		* *						* *														_						_		* *			*	* *			* *
																			1																			
Cumulative Impact Sediment Chen	nistry	S	O N	D	II	M	A M		I A	S C) N	D	JF	M	A N	1 I	I A	S	O N	D	J	F M A	M	II	I A	S	O N	D	I	F	M A	M	TT		AS	0	N	DI
Near-field Stations													5								5															+		
	ESC-RNA			*	*			*	*																								*		*			*
	ESC-RNB			*	*			*	*																								*		*			*
Mid-field Stations																																	′					
	ESC-RMA			*	*			*	*																								*		*			*
	ESC-RMB			*	*			*	*							_	+ $+$	_						+						└───┤			*	·	*	+		*
Capped Pit Stations		┣──┤		*	*	.		*	*		+					_	+ $+$	-	+ $+$ $+$				_	+				_	_			_	*	<u> </u>	*	____	-+	*
	ESC-RCA ESC-RCB	┣──┼		*	*			*	*		+						+ $+$		+ $+$ $+$					+ +				+		└──┤		—	*		*	++		*
Far-Field Stations	EJC-ICD										+						+ $+$		+ $+$ $+$					+		+		+					'	 	<u> </u>	++	\rightarrow	
	ESC-RFA	├ ──┼		*	*			*	*		+								+ $+$ $+$					+				-	-				*	_	*	++	-+	*
	ESC-RFB	┢──┼		*	*			*	*		+							+						+ +				+	1				*		*	++	-+	*
Ma Wan Station								+										1						+				+	1	\vdash			+/	_	+-	++	+	
	MW1			*	*	•		*	*																								*	i — — — — —	*	+		*
			•										•	•		-	•	•	• • •	-		•	•			•					•	ł					i	
Sediment Toxicity Tests		S	O N	D	JF	M	A M	IJ	JA	S C) N	D	JF	M	A N	I J	J A	S	0 N	D	J	F M A	M	J	J A	S	O N	D	J	F	M A	M	J	J	A S	0	N	D J
Near-Field Stations																																	'					
	ESC-TDA				*				*							_																	<u> </u>		*			
	ESC-TDB				*				*									_										_	_				- -'	·	*		-+	
Reference Stations					*				*										+ $+$ $+$				_					_					<u> </u>	<u> </u>	*	_		
	ESC-TRA ESC-TRB				*				*							_												_					<u>+'</u>		^ *		<u> </u>	
Ma Wan Station	ESC-IND																						_					_					- '	_	<u> </u>		<u> </u>	
	MW1				*				*																								+'	-+	*	++	-+	
Tissue/ Whole Body Sampling		S	O N	D	JF	M	A M	IJ	JA	S C) N	D	JF	M	A M	I J	J A	S	0 N	D	J	F M A	M	J	JA	S	O N	D	J	F	M A	M	J	J	A S	0	N	D J
Impact Stations																																	'					
	ESC-INA				*				*							_																	<u> </u>		*			
	ESC-INB				*				*							_												_					<u> </u>	·	*			
Reference	ECC TNIA				*				*		_					_		_					_					_	_				<u>+</u> '	·	*		-+	
	ESC-TNA ESC-TNB				*				*																								<u> </u>		*		<u> </u>	
	ESC-IND																											_					+'					
	ESC-TSA				*				*																								+'		*			
	ESC-TSB				*	•			*																								+	i — †	*	++		
																															•							
Demersal Trawling		S	0 N	D	J	F M	A M	J	JA	S C) N	D	JF	M	A N	I J	JA	S	O N	D	J	F M A	M	J	JA	S	O N	D	J	F	M A	M	J	J	A S	0	N	D J
Impact Stations																																						
	ESC-INA				* *				* *																										*	\bot		*
	ESC-INB				* *			+	* *		\square															_		-	_				 ′	*	*	+		*
Reference Stations		┢──┼		+	* *			+	* *		+						+ $+$							+ +						└───┤			 ′	*	*	+	-+	*
	ESC-TNA	┠──┼			* *			+	* *		+					_	+ $+$		+ $+$ $+$					+				+		└──┤		_	+ '	*		++	-+	*
	ESC-TNB	┣──┼	<u> </u>	+	^		├──	+			+					_	+ $+$		+ $+$ $+$					+									+'			++	-+	*
	ESC-TSA				* *	•		+	* *		+					_	+ $+$		+ $+$ $+$				_	+				+	-				+'	*	*	++	-+	*
					* *			╉╌┨	* *		+							+						+ $+$		+		+	1	┝──╂			+'	*	*	+	\rightarrow	*
	ESC-TSB										1 1				1	1	1 1				1	I I	1	1 I	1	1		1						. 1		. 1		
	ESC-TSB									•				•	•																-			•••••••				
Water Column Profiling	ESC-TSB	S	O N	D	JF	M	A M	J	JA	S C) N	D	JF	M	A N	I J	JA	S	O N	D	J	F M A	M	J	JA	S	0 N	D	J	F	M A	M	J	J	A S	0	N	D J
Water Column Profiling Plume Stations	ESC-TSB WCP1 WCP2	S * *	* *	*	* *	*	* *	*	J A * *	S C	D N	D	J F	M	A N	I J	J A	S	O N	D	J	F M A	M	J	J A	S	O N	D	J	F	M A * *	*	*	*	A S * *	*	*	DJ * *

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

Annex A1 - Environmental Monito	oring and Audit S			for Ea	ast of	^r Sha Chai	u (Sep			<i>iary 2017)</i>					•								0 04 5								010				0 04 F
			2012					2013							202								2015				2				016				2017
Benthic Recolonisation Studies		S C) N	D J	JF	F M A	A N	M J J	A S	5 0 N	I D	JF	M	A M	J	JA	S	0 N 3	D J	F	M A	Μ	JJ	Α	S O	Ν	D	J F N	1 A	A M J	J	A S	0	N D	JF
Capped Contaminated Mud Pits I																																			
	ESC-CPA			*					*		*					*			*					*			*								
	ESC-CPB			*					*		*					*			*					*			*								
	ESC-CPC			*					*		*					*			*					*			*								
Reference Stations																																			
	ESC-RBA			*					*		*					*			*					*			*								
	ESC-RBB			*					*		*					*			*					*			*								
	ESC-RBC			*					*		*					*			*					*			*								
L																					I											I I I			
Impact Monitoring for Dredging		S () N	DI	IIF	F M A	AN			5 O N	I D	IF	Μ	A M	T	J A	S	O N I	DI	F	MA	Μ	III	A	S O	Ν	D	I F N	1	A M J	ΙI	A S	0	N D	JF
Upstream/Reference Stations					,			··-							,	J	-											,	_		,				
opstreamy reference stations	US1	* *	* *	* *	* *	: * *	* *	*																	* *	*	*	* *			-				
	US2	* *	* *		* *		* *	*			_								_		+ $+$ $+$				* *			* *	_						
Doursetuceur / Increast Stations	032																																		
Downstream/Impact Stations	DC1	* *	* *	* *	* *	: * *	* *	*												-					* *	*	*	* *	_						
	DS1				* *		* *													_	+ $+$ $+$														
	DS2					: × л : × л							\vdash					+ + + + + + + + + + + + + + + + + + +			+ $+$ $+$							* *					└──┤		
	DS3		* *						+		_		\vdash								+				* *						<u> </u>				
	DS4				* *		* *	*												<u> </u>					* *			* *			<u> </u>				
	DS5	* *	* *	* *	* *	* * *	* *	*																	* *	*	*	* *			1				
Ma Wan Station																																			
	MW1	* *	* *	* *	* *	* * *	* *	*																	* *	*	*	* *							
Capping		S (D N	D J	JF	F M A	A N	M J J	A	6 0 N	I D	JF	Μ	A M	J	JA	S	O N I	DJ	F	M A	Μ	JJ	Α	S O	Ν	D	J F N	1	A M J	J	A S	0	N D	JF
Ebb Tide																																			
Impact Station																																			
-	ESC-IPE1										*	*			*	*			*	*			*	*			*	*							
	ESC-IPE2										*	*			*	*			*	*			*	*			*	*							
	ESC-IPE3										*	*			*	*			*	*			*	*			*	*							
	ESC-IPE4										*	*			*	*			*	*			*	*			*	*							
	ESC-IPE5										*	*			*	*			*	*			*	*			*	*							
Intermediate Station																																			
internetiate Station	ESC-INE1										*	*			*	*			*	*			*	*			*	*							
	ESC-INE2										*	*			*	*			*	*			*	*			*	*			-				
	ESC-INE3						_				*	*			*	*			*	*				*			*	*	_						
	ESC-INE3 ESC-INE4										*	*			*	*			*	*				*			*	*							
											*	*			*	*			*	*				*			*	*							
	ESC-INE5																				+ $+$ $+$														
Reference Station																																			
	ESC-RFE1										*	*			*	*			*	*				*			*	*							
	ESC-RFE2										*	*			*	*			*	*				*			*	*							
	ESC-RFE3					+					*	*	\vdash		*	*			*	*	+			*			*	*							
	ESC-RFE4										*	*			*	*			*	*	+			*			*	*							
	ESC-RFE5										*	*			*	*			*	*			*	*			*	*							
Ma Wan Station																																			
	MW1										*	*			*	*			*	*			*	*			*	*							
Flood Tide																																			
Impact Station																																			
	ESC-IPF1										*	*			*	*			*	*			*	*			*	*							
	ESC-IPF2				l						*	*			*	*			*	*			*	*			*	*	1	1	1				
	ESC-IPF3										*	*			*	*			*	*			*	*			*	*							
Intermediate Station	-																			1															
	ESC-INF1										*	*			*	*			*	*			*	*			*	*							
	ESC-INF2		+ +								*	*	<u>├ </u>		*	*			*	*	+ + +		*	*			*	*					\vdash		
	ESC-INF3					+	-+				*	*	+		*	*			*	*	+ $+$ $+$		*	*		-+	*	*	+				\vdash		
Reference Station	LJC-IINFJ		++			+ +					+		+							+	+ $+$ $+$								_			-	\vdash		
	ESC-RFF1					+ +					*	*			*	*		+ + + + + + + + + + + + + + + + + + +	*	*	+ $+$ $+$		*	*			*	*							
			+			+ +			+		*	*	+		*	*			*	*	+ $+$ $+$			*			*	*					┝──┦		
	ESC-RFF2					+ +		-+	+		*	*	+		*	*			*	*	+ $+$ $+$			*			*	*				- -			
	ESC-RFF3		+			+					*	*			^	*			*	*	+ $+$ $+$		^	Ŷ			<u>^</u>						└──┤		
			1 1			1 1	1	1 1	1 1		1		1 I							1	1 1 1							1 1		1 1	1	1 1			• •
Ma Wan Station	MW1										*	*	<u> </u>		*	*			*				4	*			*	*							

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

Annex AI - Environmental I	Ŭ		2012	-		×		í l		013		0	-							2014									20	015									201	16					2017
Routine Water Quality Mor	nitoring	S	0 N	J D	J	F	M	A N			A	S C) N	D	J	F	Μ	A	Μ	J	J A	S	0	N D	J	F	M A	Μ			Α	S	O N	D	J	F	M A	A M			A	S O	Ν	DJ	F
Ebb Tide					1										1																														
Impact Station																																											,		
_	ESC-IPE1		* *		*	*		* *	*	*	*																										Ą	* *		*	*	*	*	*	: *
	ESC-IPE2		* *		*	*		* *	*	*	*																										ķ	* *		*	*	*	*	*	: *
	ESC-IPE3		* *		*	*		* *	*	*	*																										۴	* *		*	*	*	*	*	: *
	ESC-IPE4		* *		*	*		* *	*	*	*																										۴	* *		*	*	*	*	*	: *
	ESC-IPE5		* *		*	*		* *	*	*	*																										۴	* *		*	*	*	*	*	* *
Intermediate Station																																											,		
	ESC-INE1		* *		*	*		* *	*	*	*																										۴	* *		*	*	*	*	*	: *
	ESC-INE2		* *		*	*		* *	*	*	*																										۴	* *		*	*	*	*	*	: *
	ESC-INE3		* *		*	*		* *	*	*	*																										۴	* *		*	*	*	*	*	: *
	ESC-INE4		* *		*	*		* *	*	*	*																										Ą	* *		*	*	*	*	*	: *
	ESC-INE5		* *		*	*		* *	*	*	*																										Ą	* *		*	*	*	*	*	: *
Reference Station																																											,		
	ESC-RFE1		* *		*	*		* *	*	*	*																										۴	* *		*	*	*	*	*	: *
	ESC-RFE2		* *		*	*		* *	*	*	*																										Ą	* *		*	*	*	*	*	: *
	ESC-RFE3		* *		*	*	;	* *	*	*	*																										ķ	* *		*	*	*	*	*	*
	ESC-RFE4		* *		*	*		* *	*	*	*																										۴	* *		*	*	*	*	*	: *
	ESC-RFE5		* *		*	*		* *	*	*	*																										۴	* *		*	*	*	*	*	: *
Ma Wan Station																																													
	MW1		* *	•	*	*	;	* *	*	*	*																										Ą	* *		*	*	*	*	*	*
Flood Tide																																													
Impact Station																																													
	ESC-IPF1		* *		*	*		* *	*	*	*				1																						ų	* *		*	*	*	*	*	: *
	ESC-IPF2		* *		*	*		* *	*	*	*																										ŕ	* *		*	*	*	*	*	: *
	ESC-IPF3		* *		*	*		* *	*	*	*																										ŕ	* *		*	*	*	*	*	* *
Intermediate Station																																											, , , , , , , , , , , , , , , , , , ,		
	ESC-INF1		* *		*	*		* *	*	*	*																										ķ	* *		*	*	*	*	*	: *
	ESC-INF2		* *		*				*	*																											ķ			*		*			: *
	ESC-INF3		* *		*	*		* *	*	*	*																										Ą	* *		*	*	*	*	*	: *
Reference Station																																											, , , , , , , , , , , , , , , , , , ,		
	ESC-RFF1		* *	•	*	*		* *	*	*	*																										لا	* *		*	*	*	*	*	: *
	ESC-RFF2		* *	•	*	*		* *	*	*	*																										لا	* *		*	*	*	*	*	: *
	ESC-RFF3		* *		*	*		* *	*	*	*																										ų	* *		*	*	*	*	*	: *
Ma Wan Station																																													
	MW1		* *		*	*		* *	*	*	*				I																						لا	* *		*	*	*	*	*	: *

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

				20	012						2013									2014									20	15									201	16					201
Baseline Monitoring Prior to Dredging	Code	Frequency	J A	A S	0	Ν	D J	F	M A	M	JJ	Α	S	O N	D	J	F N	A A	MJ	J	Α	S O	N	D	J	F 1	M A	M	J	J	A	6 O	Ν	D	J F	M	A	Μ	J	J	Α	S C	D N	I D	J
Far Field Stations																																					1								
	SB-WFA	3 days per week for 4 weeks	* *	*																																									
	SB-WFB	3 days per week for 4 weeks	* *	*																												1				1	1	1							$\uparrow \uparrow$
Mid Field Stations		, , , , , , , , , , , , , , , , , , ,																																											
	SB-WMA	3 days per week for 4 weeks	* *	*																																									
	SB-WMB	3 days per week for 4 weeks	* *	*																																									
Near Field Stations	02 11112	e days per meenter i meene										+ +											+										+ +	-											
	SB-WNAA	3 days per week for 4 weeks	* *	*								+ +		_	-								-					_				_	+ +	-		_	-				_		_	_	
			* *					+				+		_	_								_					_				_				_	_						_	_	
	SB-WNAB	3 days per week for 4 weeks	* *		-			+				+		_	_									_				_				_	+ +			_	_	-					_	_	+
	SB-WNBA	3 days per week for 4 weeks						+				+			_								_					_				_	+				_								
	SB-WNBB	3 days per week for 4 weeks	* *	*																												_													
Reference Stations																																													
	NM1	3 days per week for 4 weeks	* *	*																																									
	NM2	3 days per week for 4 weeks	* *	*																																									
	NM3	3 days per week for 4 weeks	* *	*																																									
	NM5	3 days per week for 4 weeks	* *	*																																									
	NM6	3 days per week for 4 weeks	* *	*																																									
Sensitive Receiver Stations		,						+				+				┢──┼										-+			┝─┤		+					1	1	1							
	MW1	3 days per week for 4 weeks	* *	*			_	+		+	_	+			+	\vdash			+				-	+		-+	_		┝─┤		-+	-	+			-	+	-					_	-	
	THB1	3 days per week for 4 weeks	* *		+	\vdash		┼╴╂		+ +		+			+	╉──┼	<u> </u>	_	+ +	+ +	┝──╂─		+	┼─┤	-+	+			┝─┤		+		╉╌┥			+	+		┝──╄					+	╉─┼
			* *		+	\vdash		+		+		+			_	┢─┤			+				_	+		-+		_	┝─┤		-+		+			_	-		$ \rightarrow $					_	+
	THB2	3 days per week for 4 weeks	* *		+	\vdash		+		+		+			_				\vdash		\vdash		_	+		-+		_	┝──┦		-+		+			_	+							_	╉╌┼
	WSR45C	3 days per week for 4 weeks						+				+								+							_						+				_								
	WSR46	3 days per week for 4 weeks	* *	*																																									
Impact Monitoring for Dredging			J A	A S	0	Ν	D J	F	M A	M	JJ	Α	S (O N	D	J	F N	A A	M J	J	Α	S O) N	D	J	F 1	M A	M	J	J	A	6 0	Ν	D	J F	M	A	Μ	J	J	Α	S C	D N	I D	J
Upstream Stations																																													
-	US1	3 days per week				*	* *	*	* *	*	* *	*	*	* *	*	*	*	* *	* *	*	*	* *	*																						
	US2	3 days per week				*	* *	*	* *	*	* *	*	*	* *	*	*	*	* *	* *	*	*	* *	*																						
Downstream Stations	002	e days per week										+											+										+ +												
	DS1	3 days per week		-		*	* *	*	* *	*	* *	*	*	* *	*	*	* *	* *	* *	*	*	* *	*					-								-								-	
	DS2					*		*	* *	*	* *	*	*	* *	*			* *	* *	*	*	* *	*									_	+ +			_	-							<u> </u>	
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Annex A2 - Environmental Monitoring and Audit Sampling Schedule for South of The Brothers (July 2012 - February 2017)

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

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	SB-RFF3	4 times per year																	3	3 3		3	3			3 3		3	3			3	
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	THB2	4 times per year																	3	3 3		3	3			3 3		3	3			3	
	WSR45C	4 times per year																	3	3 3		3	3			3 3		3	3			3	
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	NDC	2 times per year				1									1				1				14			-			12			14	

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

Notes:

"*" = Number of replicates depends on parameters

Naming of stations are tentative only and will be subjected to changes

Annex B

Water Quality Monitoring Results

Sampling	Tidal	Station	Average	DO Levels	Average	Average SS
Date	Period		(n	ng/L)	Turbidity	Level
			Bottom	Surface and	Level	(mg/L)
				Mid Depth	(NTU)	
2016/02/22	Mid-Ebb	DS1	7.97	8.02	4.85	7.32
		DS2	7.97	8.01	4.49	6.95
		DS3	7.98	8.00	5.22	6.30
		DS4	8.00	8.00	4.19	7.68
		DS5	8.04	8.04	4.40	6.60
		US1	7.92	7.99	4.19	6.32
		US2	7.92	7.98	4.40	6.87
		MW1	7.46	7.51	3.64	5.23
	Mid-Flood	DS1	7.93	7.95	10.65	9.65
		DS2	7.97	7.97	7.66	12.35
		DS3	7.84	7.92	5.10	8.32
		DS4	7.91	7.95	4.64	8.18
		DS5	7.93	7.95	5.46	4.03
		US1	8.01	8.03	6.24	8.25
		US2	7.99	8.01	6.47	6.03
		MW1	7.62	7.66	2.67	7.00

Table B1Summary Table of DO, Turbidity and SS Levels Recorded in February 2016

Notes:

1. Please refer to Table B2 below for the Action and Limit Levels for dredging activities.

2. Cell shaded yellow indicated value exceeding the Action Level criteria.

3. Cell shaded red indicated value exceeding the Limit Level criteria.

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

Table B2Action and Limit Levels of Water Quality for Dredging, Backfilling and
Capping Activities at ESC CMPs

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⁻¹, it is proposed to set the Limit Level at 3.11 mg L⁻¹ 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 B3Monitoring Results for Water Quality Monitoring during Capping of ESC on
17 February 2016

Sampling	Stations	Temp	Salinity	Turbidity	Dissolve	d Oxygen	pН	SS
Period	Stations	(°C)	(ppt)	(NTU)	(%)	(mg L-1)	(mg L-1)	(mg L-1)
February	RFF (Reference)	15.89	30.24	1.71	95.66	7.87	8.04	4.17
2016	IPF (Impact)	15.81	29.76	2.09	96.66	7.99	8.06	4.66
	INF	15.98	30.99	1.67	94.38	7.72	8.06	3.91
	(Intermediate)							
	Ma Wan	15.86	30.19	1.05	96.88	7.98	8.03	5.20
	WQO	N/A	27.22- 33.27*	N/A	N/A	>4	6.5-8.5	13.5

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) (1)	Surface and Mid-depth ⁽²⁾	Surface and Mid-depth ⁽²⁾
	The average of the impact, WSR 45C	The average of the impact, WSR 45C
	and WSR 46 station readings are < 5%-	and WSR 46 station readings are < 4
	ile of baseline data for surface and	mg L-1
	middle layer = 4.32 mg L ⁻¹	0
		and
	and	
	and	Significantly less than the reference
	Cignificantly loss than the reference	stations mean DO (at the same tide of
	Significantly less than the reference	
	stations mean DO (at the same tide of	the same day)
	the same day)	
		D
	Bottom	Bottom
	The average of the impact, WSR 45C	The average of the impact station,
	and WSR 46 station readings are $< 5\%$ -	WSR 45C and WSR 46 readings are < 2
	ile of baseline data for bottom layers = 3.12 mg L ⁻¹	mg L ⁻¹
	-	and
	and	
		Significantly less than the reference
	Significantly less than the reference	stations mean DO (at the same tide of
	stations mean DO (at the same tide of	the same day)
	the same day)	<i>,</i> ,
	5,7	
Depth-averaged Suspended	The average of the impact, WSR 45C	The average of the impact, WSR 45C
Solids (SS) (3) (4)	and WSR 46 station readings are >	and WSR 46 station readings are >
	95%-ile of baseline data for depth	99%-ile of baseline data for depth
	average = 21.60 mg L^{-1}	average = 40.10 mg L^{-1}
		average fore ing 2
	and	and
	120% of control station's SS at the same	130% of control station's SS at the same
	tide of the same day	tide of the same day
	,	, , , , , , , , , , , , , , , , , , ,
Depth-averaged Turbidity	The average of the impact, WSR 45C	The average of the impact, WSR 45C
(Tby) ^{(3) (4)}	and WSR 46 station readings are >	and WSR 46 station readings are >
(109) (10	95%-ile of baseline data = 25.04 NTU	99%-ile of baseline data = 32.68 NTU
	and	and
	100% of control at the state The state	1200/ of control stations Theory
	120% of control station's Tby at the	130% of control station's Tby at the
	same tide of the same day	same tide of the same day

Table B4Action and Limit Levels of Water Quality for Dredging, Backfilling and
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 B5In-situ Monitoring Results for Routine Water Quality Monitoring of SB CMPin February 2016

Sampling	Stations	Temp	Salinity	Turbidity	Dissolve	d Oxygen	pН
Period	Stations	(°C)	(ppt)	(NTU)	(%)	(mg L-1)	(mg L-1)
February	RFF (Reference)	15.89	31.03	1.79	92.63	7.59	8.09
2016	IPF (Impact)	15.65	30.50	12.02	94.91	7.83	7.99
	INF (Intermediate)	15.62	30.03	5.58	93.67	7.76	7.97
	Ma Wan	15.90	31.05	1.46	92.85	7.60	8.05
	Shum Shui Kok	15.81	31.08	3.10	92.39	7.58	8.03
	Tai Mo To	15.67	30.20	2.20	95.16	7.87	8.08
	Tai Ho Bay 1	15.87	30.25	6.10	90.89	7.48	7.98
	Tai Ho Bay 2	15.94	28.34	3.88	89.18	7.42	7.90
	WQO	N/A	25.75 – 31.48#	N/A	N/A	>4	6.5-8.5

Notes:

*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 B6Laboratory Results for Routine Water Quality Monitoring of SB CMP in
February 2016

Sampling Period	Stations	As (µg/L)	Cd (µg/L)	Cr (µg/L)	Cu (µg/L)	Pb (µg/L)	Hg (µg/L)	Ni (µg/L)	Ag (μg/L)	Zn (µg/L)	NH₃ (mg/L)	TIN (mg/L)	BOD5 (mg/L)	SS (mg/L)
February	RFF	2.22	<lor< td=""><td><lor< td=""><td>3.10</td><td><lor< td=""><td><lor< td=""><td><lor< td=""><td><lor< td=""><td>4.98</td><td>0.13</td><td>0.37</td><td>1.17</td><td>5.15</td></lor<></td></lor<></td></lor<></td></lor<></td></lor<></td></lor<>	<lor< td=""><td>3.10</td><td><lor< td=""><td><lor< td=""><td><lor< td=""><td><lor< td=""><td>4.98</td><td>0.13</td><td>0.37</td><td>1.17</td><td>5.15</td></lor<></td></lor<></td></lor<></td></lor<></td></lor<>	3.10	<lor< td=""><td><lor< td=""><td><lor< td=""><td><lor< td=""><td>4.98</td><td>0.13</td><td>0.37</td><td>1.17</td><td>5.15</td></lor<></td></lor<></td></lor<></td></lor<>	<lor< td=""><td><lor< td=""><td><lor< td=""><td>4.98</td><td>0.13</td><td>0.37</td><td>1.17</td><td>5.15</td></lor<></td></lor<></td></lor<>	<lor< td=""><td><lor< td=""><td>4.98</td><td>0.13</td><td>0.37</td><td>1.17</td><td>5.15</td></lor<></td></lor<>	<lor< td=""><td>4.98</td><td>0.13</td><td>0.37</td><td>1.17</td><td>5.15</td></lor<>	4.98	0.13	0.37	1.17	5.15
2016	IPF	2.05	<lor< td=""><td><lor< td=""><td>4.25</td><td><lor< td=""><td><lor< td=""><td><lor< td=""><td><lor< td=""><td>5.01</td><td>0.13</td><td>0.43</td><td>1.54</td><td>11.58</td></lor<></td></lor<></td></lor<></td></lor<></td></lor<></td></lor<>	<lor< td=""><td>4.25</td><td><lor< td=""><td><lor< td=""><td><lor< td=""><td><lor< td=""><td>5.01</td><td>0.13</td><td>0.43</td><td>1.54</td><td>11.58</td></lor<></td></lor<></td></lor<></td></lor<></td></lor<>	4.25	<lor< td=""><td><lor< td=""><td><lor< td=""><td><lor< td=""><td>5.01</td><td>0.13</td><td>0.43</td><td>1.54</td><td>11.58</td></lor<></td></lor<></td></lor<></td></lor<>	<lor< td=""><td><lor< td=""><td><lor< td=""><td>5.01</td><td>0.13</td><td>0.43</td><td>1.54</td><td>11.58</td></lor<></td></lor<></td></lor<>	<lor< td=""><td><lor< td=""><td>5.01</td><td>0.13</td><td>0.43</td><td>1.54</td><td>11.58</td></lor<></td></lor<>	<lor< td=""><td>5.01</td><td>0.13</td><td>0.43</td><td>1.54</td><td>11.58</td></lor<>	5.01	0.13	0.43	1.54	11.58
	INF	2.14	<lor< td=""><td><lor< td=""><td>5.60</td><td><lor< td=""><td><lor< td=""><td><lor< td=""><td><lor< td=""><td>4.80</td><td>0.13</td><td>0.46</td><td>1.17</td><td>7.77</td></lor<></td></lor<></td></lor<></td></lor<></td></lor<></td></lor<>	<lor< td=""><td>5.60</td><td><lor< td=""><td><lor< td=""><td><lor< td=""><td><lor< td=""><td>4.80</td><td>0.13</td><td>0.46</td><td>1.17</td><td>7.77</td></lor<></td></lor<></td></lor<></td></lor<></td></lor<>	5.60	<lor< td=""><td><lor< td=""><td><lor< td=""><td><lor< td=""><td>4.80</td><td>0.13</td><td>0.46</td><td>1.17</td><td>7.77</td></lor<></td></lor<></td></lor<></td></lor<>	<lor< td=""><td><lor< td=""><td><lor< td=""><td>4.80</td><td>0.13</td><td>0.46</td><td>1.17</td><td>7.77</td></lor<></td></lor<></td></lor<>	<lor< td=""><td><lor< td=""><td>4.80</td><td>0.13</td><td>0.46</td><td>1.17</td><td>7.77</td></lor<></td></lor<>	<lor< td=""><td>4.80</td><td>0.13</td><td>0.46</td><td>1.17</td><td>7.77</td></lor<>	4.80	0.13	0.46	1.17	7.77
	Ma Wan	2.25	<lor< td=""><td><lor< td=""><td>2.01</td><td><lor< td=""><td><lor< td=""><td><lor< td=""><td><lor< td=""><td>1.47</td><td>0.12</td><td>0.35</td><td>1.43</td><td>5.20</td></lor<></td></lor<></td></lor<></td></lor<></td></lor<></td></lor<>	<lor< td=""><td>2.01</td><td><lor< td=""><td><lor< td=""><td><lor< td=""><td><lor< td=""><td>1.47</td><td>0.12</td><td>0.35</td><td>1.43</td><td>5.20</td></lor<></td></lor<></td></lor<></td></lor<></td></lor<>	2.01	<lor< td=""><td><lor< td=""><td><lor< td=""><td><lor< td=""><td>1.47</td><td>0.12</td><td>0.35</td><td>1.43</td><td>5.20</td></lor<></td></lor<></td></lor<></td></lor<>	<lor< td=""><td><lor< td=""><td><lor< td=""><td>1.47</td><td>0.12</td><td>0.35</td><td>1.43</td><td>5.20</td></lor<></td></lor<></td></lor<>	<lor< td=""><td><lor< td=""><td>1.47</td><td>0.12</td><td>0.35</td><td>1.43</td><td>5.20</td></lor<></td></lor<>	<lor< td=""><td>1.47</td><td>0.12</td><td>0.35</td><td>1.43</td><td>5.20</td></lor<>	1.47	0.12	0.35	1.43	5.20
	Shum	1.92	<lor< td=""><td><lor< td=""><td>2.06</td><td><lor< td=""><td><lor< td=""><td><lor< td=""><td><lor< td=""><td>7.95</td><td>0.12</td><td>0.41</td><td>2.25</td><td>5.13</td></lor<></td></lor<></td></lor<></td></lor<></td></lor<></td></lor<>	<lor< td=""><td>2.06</td><td><lor< td=""><td><lor< td=""><td><lor< td=""><td><lor< td=""><td>7.95</td><td>0.12</td><td>0.41</td><td>2.25</td><td>5.13</td></lor<></td></lor<></td></lor<></td></lor<></td></lor<>	2.06	<lor< td=""><td><lor< td=""><td><lor< td=""><td><lor< td=""><td>7.95</td><td>0.12</td><td>0.41</td><td>2.25</td><td>5.13</td></lor<></td></lor<></td></lor<></td></lor<>	<lor< td=""><td><lor< td=""><td><lor< td=""><td>7.95</td><td>0.12</td><td>0.41</td><td>2.25</td><td>5.13</td></lor<></td></lor<></td></lor<>	<lor< td=""><td><lor< td=""><td>7.95</td><td>0.12</td><td>0.41</td><td>2.25</td><td>5.13</td></lor<></td></lor<>	<lor< td=""><td>7.95</td><td>0.12</td><td>0.41</td><td>2.25</td><td>5.13</td></lor<>	7.95	0.12	0.41	2.25	5.13
	Shui Kok													
	Tai Mo To	2.22	<lor< td=""><td><lor< td=""><td>2.29</td><td><lor< td=""><td><lor< td=""><td><lor< td=""><td><lor< td=""><td>4.11</td><td>0.12</td><td>0.40</td><td>1.79</td><td>5.34</td></lor<></td></lor<></td></lor<></td></lor<></td></lor<></td></lor<>	<lor< td=""><td>2.29</td><td><lor< td=""><td><lor< td=""><td><lor< td=""><td><lor< td=""><td>4.11</td><td>0.12</td><td>0.40</td><td>1.79</td><td>5.34</td></lor<></td></lor<></td></lor<></td></lor<></td></lor<>	2.29	<lor< td=""><td><lor< td=""><td><lor< td=""><td><lor< td=""><td>4.11</td><td>0.12</td><td>0.40</td><td>1.79</td><td>5.34</td></lor<></td></lor<></td></lor<></td></lor<>	<lor< td=""><td><lor< td=""><td><lor< td=""><td>4.11</td><td>0.12</td><td>0.40</td><td>1.79</td><td>5.34</td></lor<></td></lor<></td></lor<>	<lor< td=""><td><lor< td=""><td>4.11</td><td>0.12</td><td>0.40</td><td>1.79</td><td>5.34</td></lor<></td></lor<>	<lor< td=""><td>4.11</td><td>0.12</td><td>0.40</td><td>1.79</td><td>5.34</td></lor<>	4.11	0.12	0.40	1.79	5.34
	Tai Ho Bay 1	2.15	<lor< td=""><td><lor< td=""><td>5.60</td><td><lor< td=""><td><lor< td=""><td><lor< td=""><td><lor< td=""><td>4.96</td><td>0.15</td><td>0.48</td><td>2.29</td><td>9.08</td></lor<></td></lor<></td></lor<></td></lor<></td></lor<></td></lor<>	<lor< td=""><td>5.60</td><td><lor< td=""><td><lor< td=""><td><lor< td=""><td><lor< td=""><td>4.96</td><td>0.15</td><td>0.48</td><td>2.29</td><td>9.08</td></lor<></td></lor<></td></lor<></td></lor<></td></lor<>	5.60	<lor< td=""><td><lor< td=""><td><lor< td=""><td><lor< td=""><td>4.96</td><td>0.15</td><td>0.48</td><td>2.29</td><td>9.08</td></lor<></td></lor<></td></lor<></td></lor<>	<lor< td=""><td><lor< td=""><td><lor< td=""><td>4.96</td><td>0.15</td><td>0.48</td><td>2.29</td><td>9.08</td></lor<></td></lor<></td></lor<>	<lor< td=""><td><lor< td=""><td>4.96</td><td>0.15</td><td>0.48</td><td>2.29</td><td>9.08</td></lor<></td></lor<>	<lor< td=""><td>4.96</td><td>0.15</td><td>0.48</td><td>2.29</td><td>9.08</td></lor<>	4.96	0.15	0.48	2.29	9.08
	Tai Ho Bay 2	1.88	<lor< td=""><td><lor< td=""><td>2.11</td><td><lor< td=""><td><lor< td=""><td><lor< td=""><td><lor< td=""><td>3.83</td><td>0.15</td><td>0.51</td><td>1.79</td><td>3.63</td></lor<></td></lor<></td></lor<></td></lor<></td></lor<></td></lor<>	<lor< td=""><td>2.11</td><td><lor< td=""><td><lor< td=""><td><lor< td=""><td><lor< td=""><td>3.83</td><td>0.15</td><td>0.51</td><td>1.79</td><td>3.63</td></lor<></td></lor<></td></lor<></td></lor<></td></lor<>	2.11	<lor< td=""><td><lor< td=""><td><lor< td=""><td><lor< td=""><td>3.83</td><td>0.15</td><td>0.51</td><td>1.79</td><td>3.63</td></lor<></td></lor<></td></lor<></td></lor<>	<lor< td=""><td><lor< td=""><td><lor< td=""><td>3.83</td><td>0.15</td><td>0.51</td><td>1.79</td><td>3.63</td></lor<></td></lor<></td></lor<>	<lor< td=""><td><lor< td=""><td>3.83</td><td>0.15</td><td>0.51</td><td>1.79</td><td>3.63</td></lor<></td></lor<>	<lor< td=""><td>3.83</td><td>0.15</td><td>0.51</td><td>1.79</td><td>3.63</td></lor<>	3.83	0.15	0.51	1.79	3.63
	WQO of TIN: 0.5 mg/ Dry Season WQO of S: 13.5 mg/												0,	

Notes: Cell shaded yellow / red indicate value exceeding the Action/Limit levels. Cell shaded grey indicate value exceeding the WQO.

Table B7

Water Column Profiling Results for SB CMP 2 in February 2016

Stations	Temp	Salinity	Turbidity		solved Sygen	pН	Suspended Solids
	(°C)	(ppt)	(NTU)	(%)	(mg L-1)	(mg L-1)	(mg L-1)
WCP 1	15.76	26.41	15.99	88.83	7.50	8.00	17.33
(Downstream)							17.55
WCP 2	15.82	26.74	14.38	85.70	7.22	7.94	14.28
(Upstream)							14.20
WQO (Dry season)	N/A	23.92 - 29.41#	N/A	N/A	>4	6.5-8.5	13.5

Note:

*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 B8Monitoring Results for Water Quality Monitoring during Capping of SB CMP11 February 2016

Sampling Period	Stations	Temp	Salini y	t Turbi ity	Dis d ve Oxy n	d yge p	H	SS	NH3	TIN	BOD ₅
		(°C)	(ppt)	(NTU)	(%)	(mg L- 1)					
February	RFF (Reference)	15.76	28.62	14.99	96.85	8.07	7.98	15.36	0.19	0.57	0.98
2016	IPF (Impact)	15.80	28.29	8.31	97.33	8.12	7.99	13.02	0.19	0.56	1.00
	INF (Intermediate)	15.76	28.23	9.46	97.18	8.12	8.00	21.47	0.17	0.48	0.83
	Ma Wan	15.82	29.31	8.34	94.62	7.84	7.99	14.77	0.17	0.49	1.37
	Sham Shui Kok	15.85	29.41	20.92	94.69	7.84	7.97	14.70	0.18	0.55	0.97
	Tai Mo To	15.93	29.58	6.67	95.10	7.85	7.97	14.80	0.17	0.53	0.90
	Tai Ho Bay 1	15.80	28.80	17.33	96.46	8.02	7.97	9.63	0.20	0.56	1.70
	Tai Ho Bay 2	15.84	29.34	21.01	94.64	7.84	7.98	8.25	0.14	0.47	1.10
	WQO	N/A	25.75- 31.48*	N/A	N/A	>4	6.5-8.5	13.5	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.

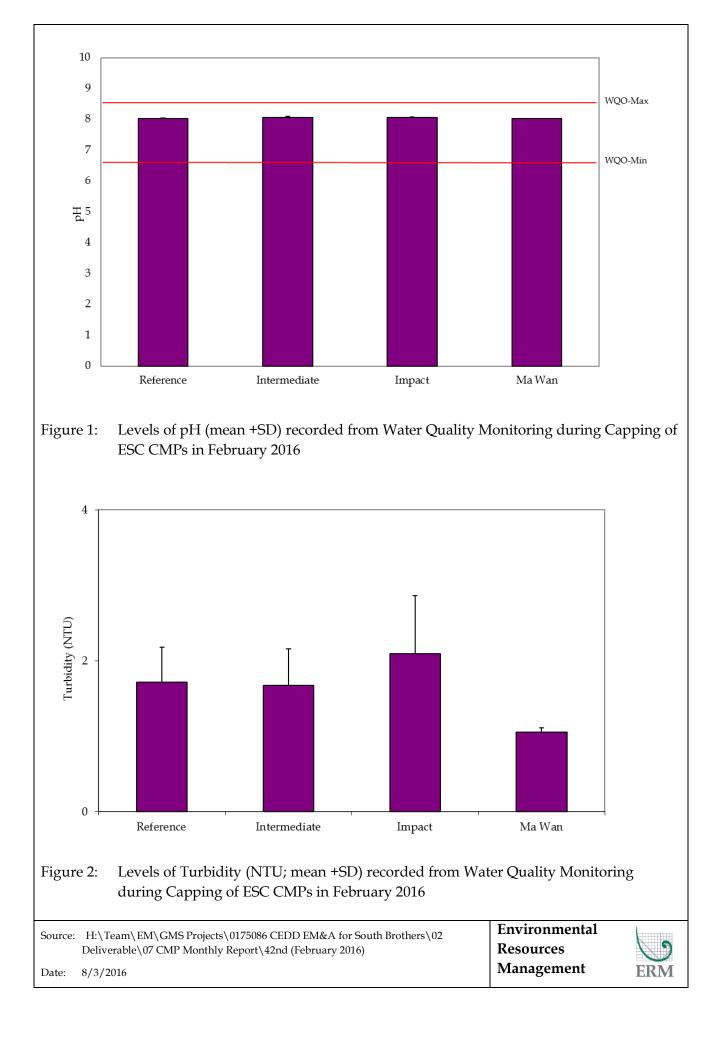
Annex C

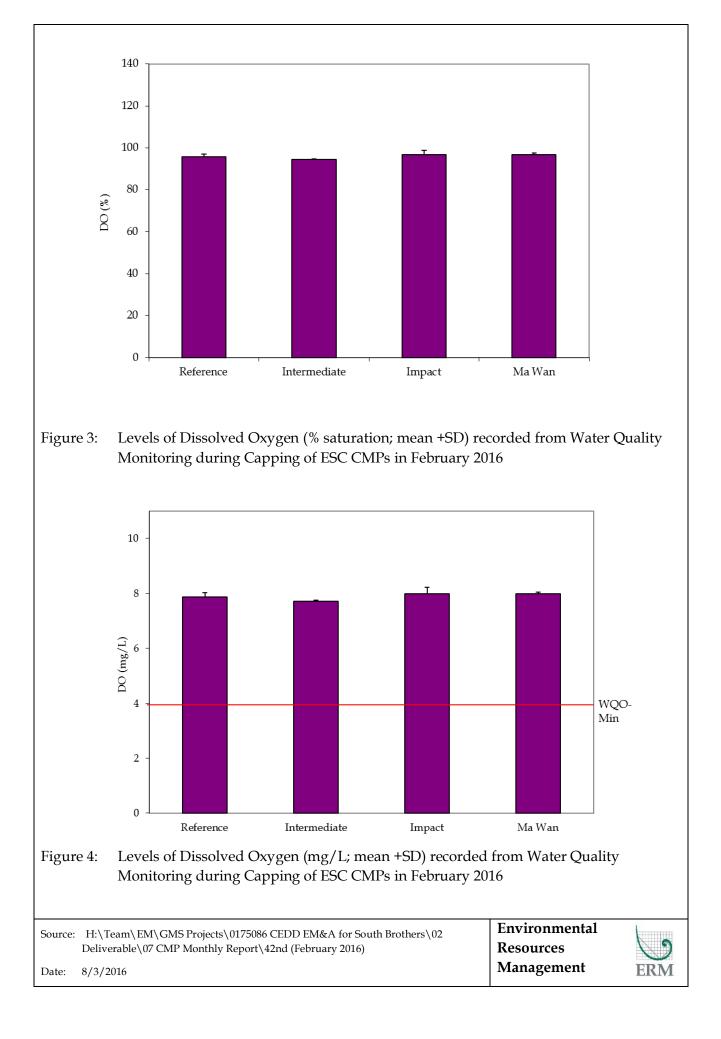
Dredging Record for ESC CMP Vd

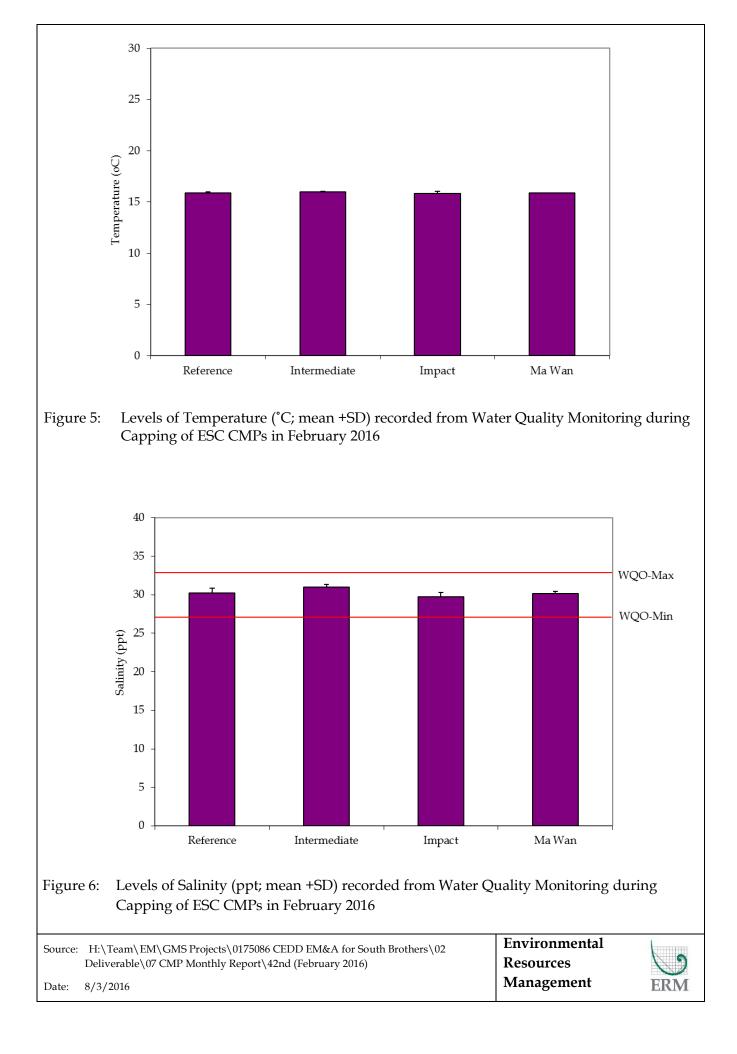
Date	Daily Dredging Volume (m ³)	Weekly Dredging Volume (m ³) (From Sunday to Saturday)
31-Jan-2016	0	
01-Feb-2016	0	
02-Feb-2016	0	
03-Feb-2016	0	0
04-Feb-2016	0	
05-Feb-2016	0	
06-Feb-2016	0	
07-Feb-2016	0	
08-Feb-2016	0	
09-Feb-2016	0	
10-Feb-2016	0	0
11-Feb-2016	0	
12-Feb-2016	0	
13-Feb-2016	0	
14-Feb-2016	0	
15-Feb-2016	0	
16-Feb-2016	0	
17-Feb-2016	0	5,200
18-Feb-2016	0	
19-Feb-2016	1,300	
20-Feb-2016	3,900	1
21-Feb-2016	2,600	
22-Feb-2016	3,900	1
23-Feb-2016	650]
24-Feb-2016	0	7,150
25-Feb-2016	0]
26-Feb-2016	0]
27-Feb-2016	0	1
28-Feb-2016	0	0
29-Feb-2016	0	0

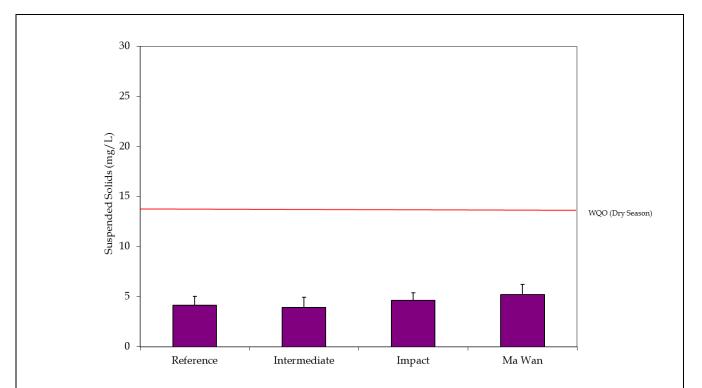
Annex D

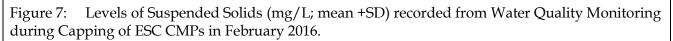
Graphical Presentations



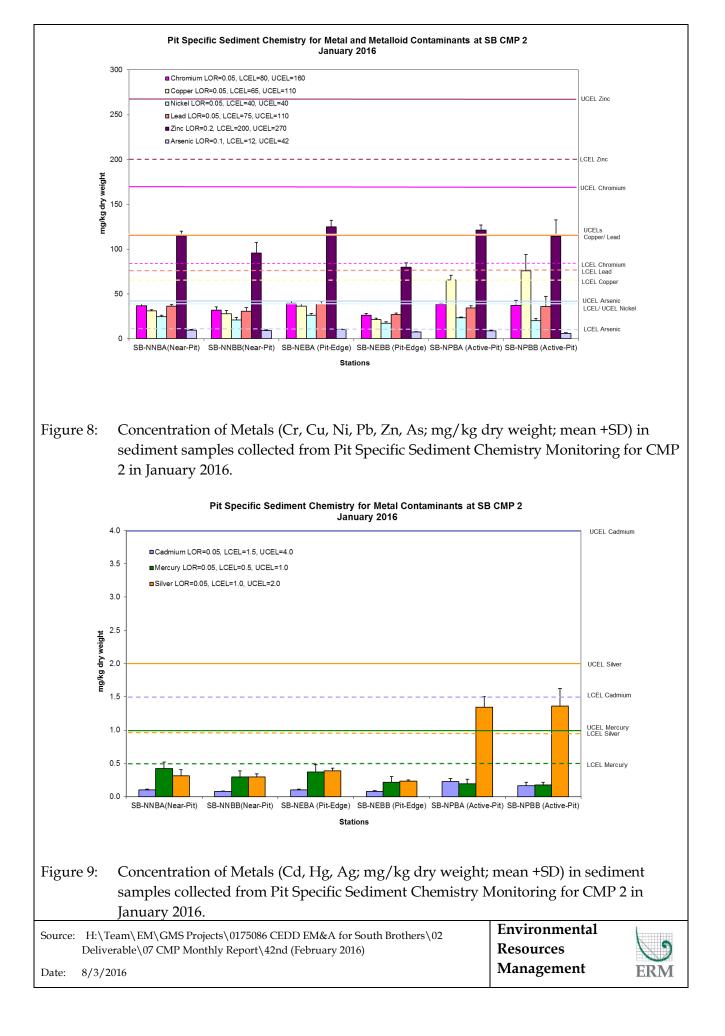


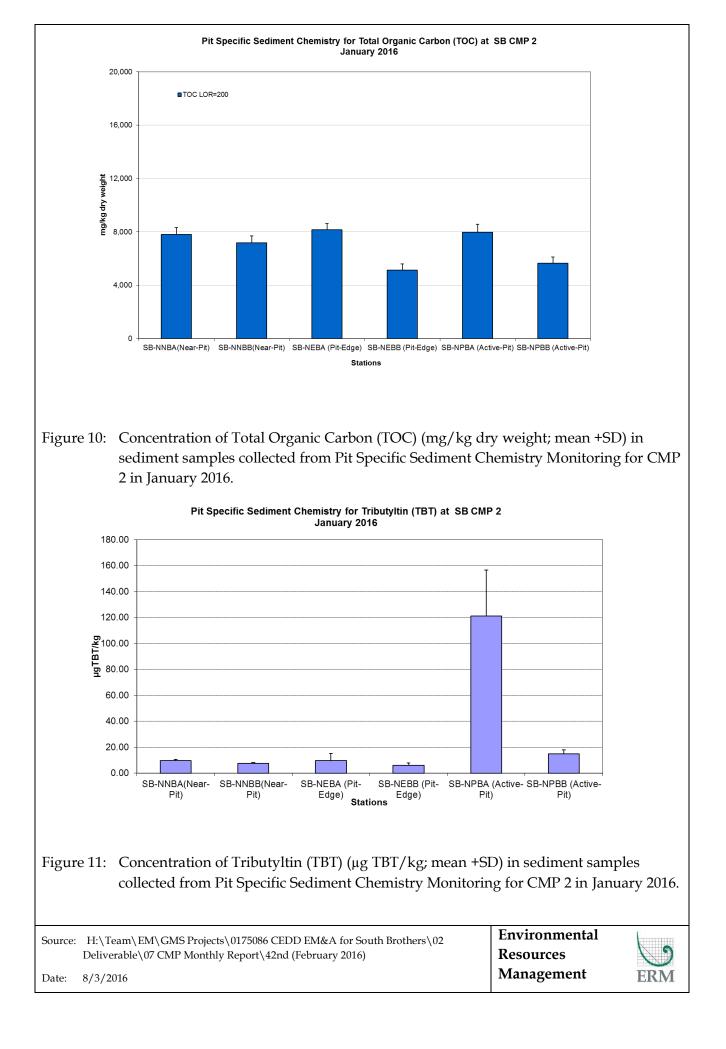


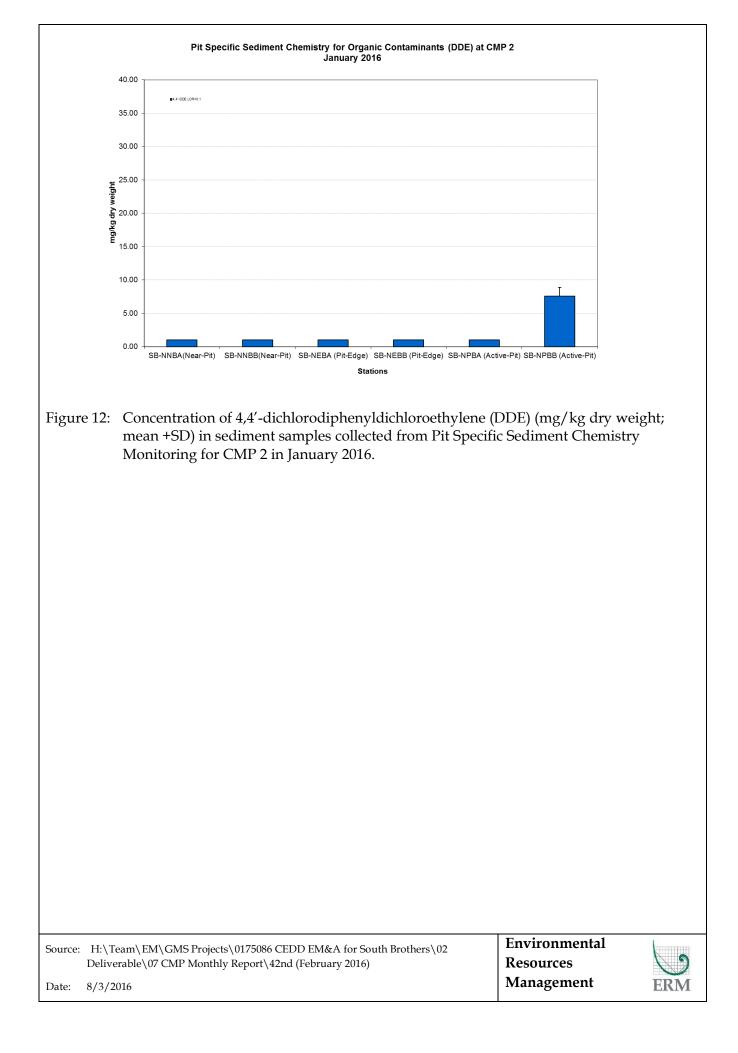


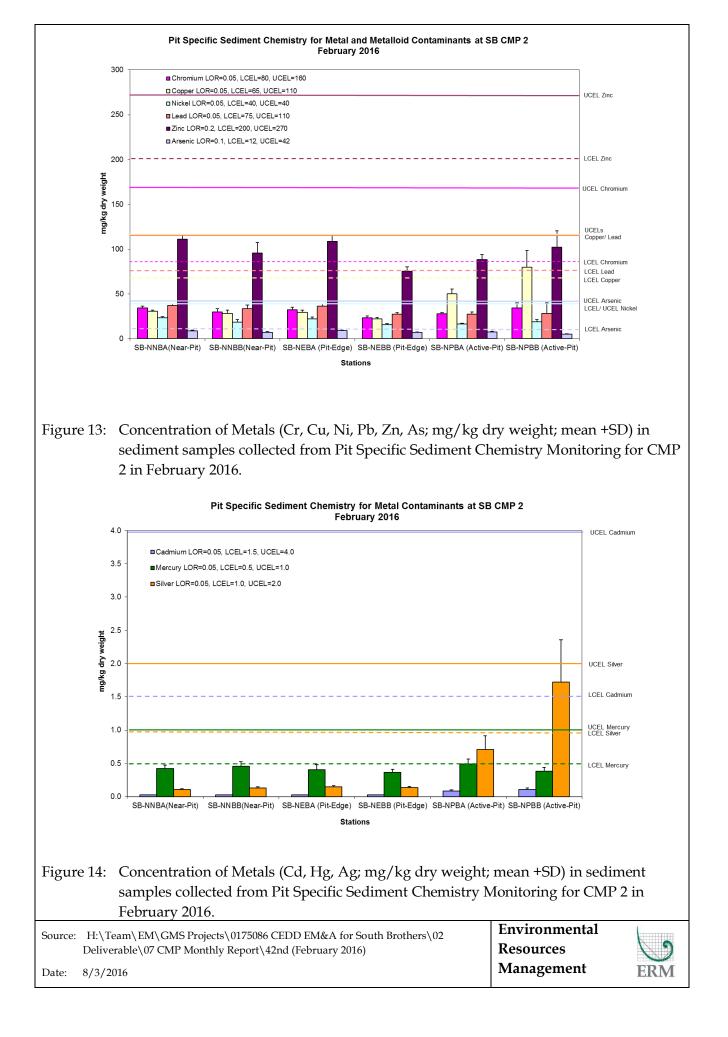


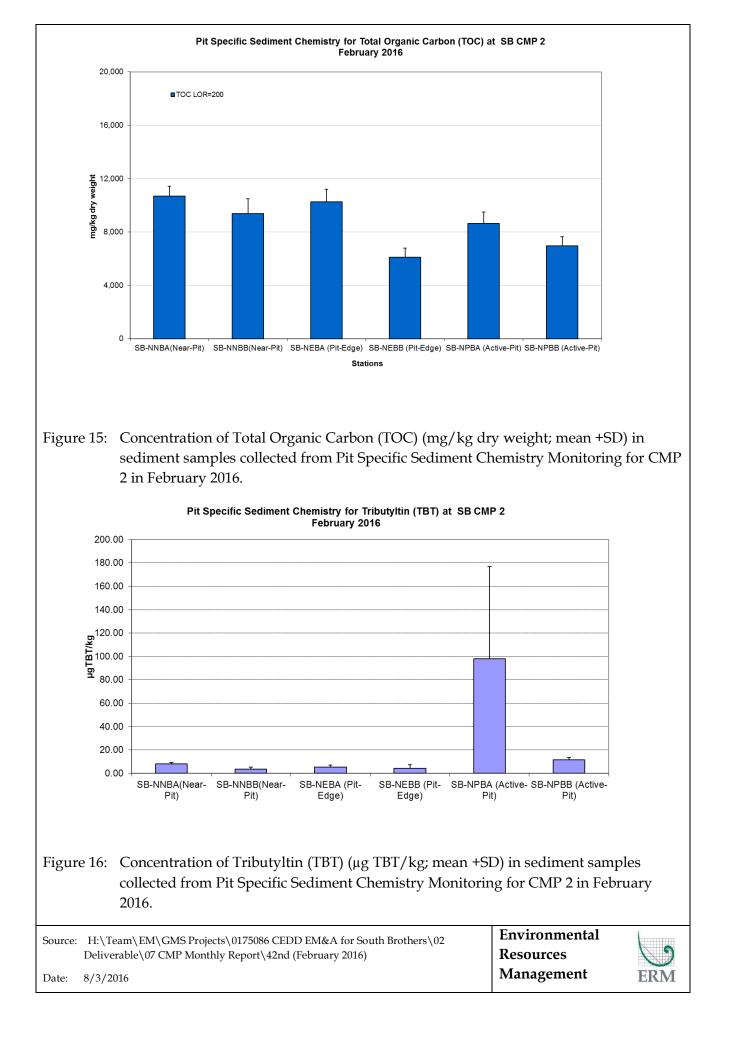
Source:	H:\Team\EM\GMS Projects\0175086 CEDD EM&A for South Brothers\02	Environmental	
	Deliverable\07 CMP Monthly Report\42nd (February 2016)	Resources	$\bigcirc \bigcirc$
Date:	8/3/2016	Management	ERM

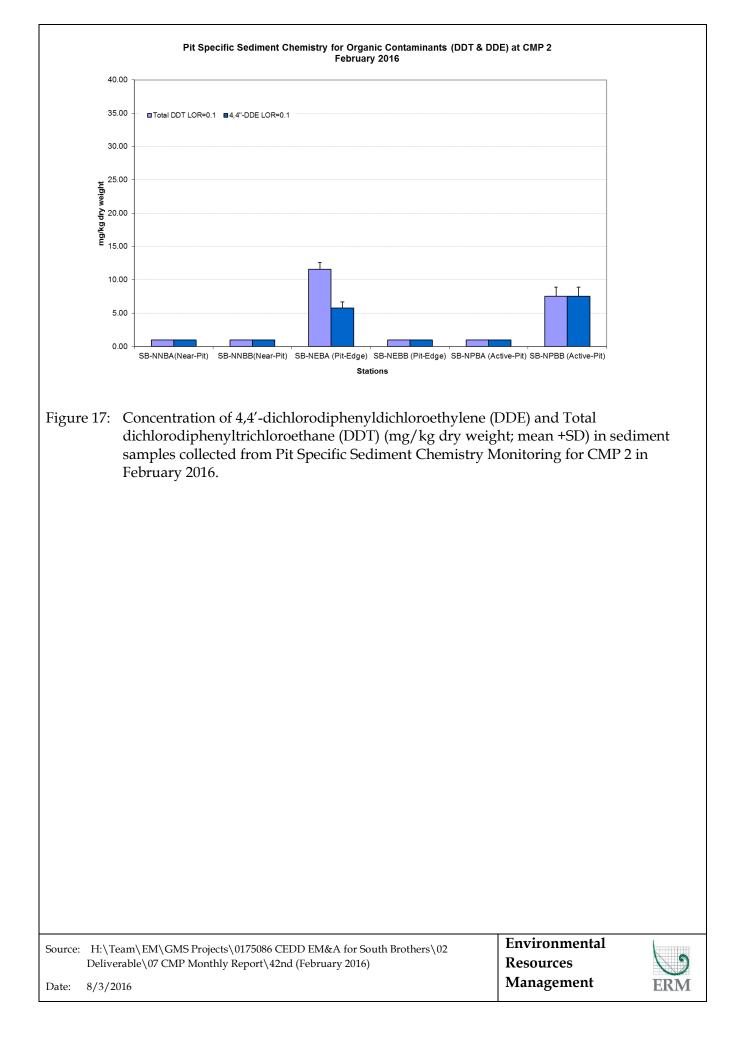


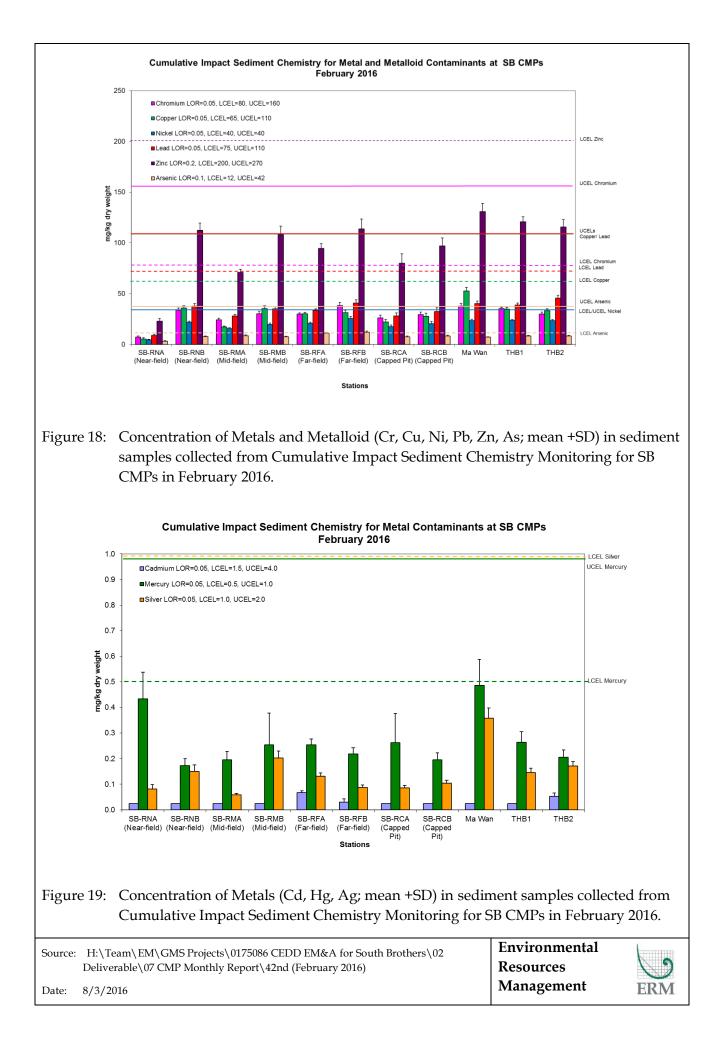


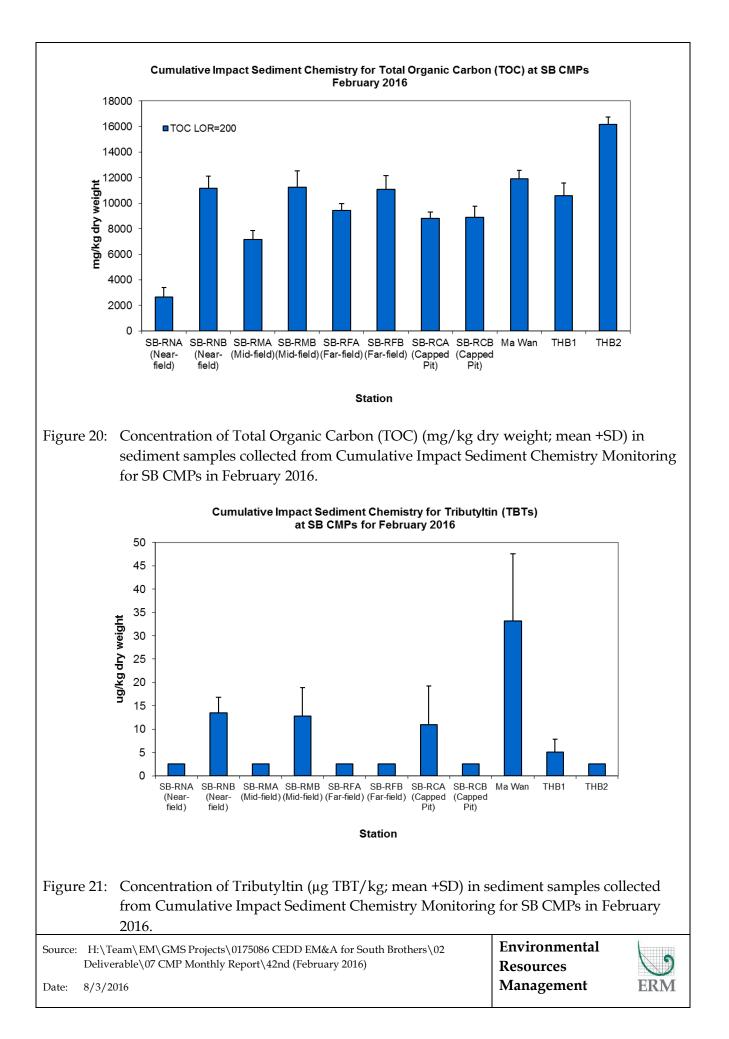




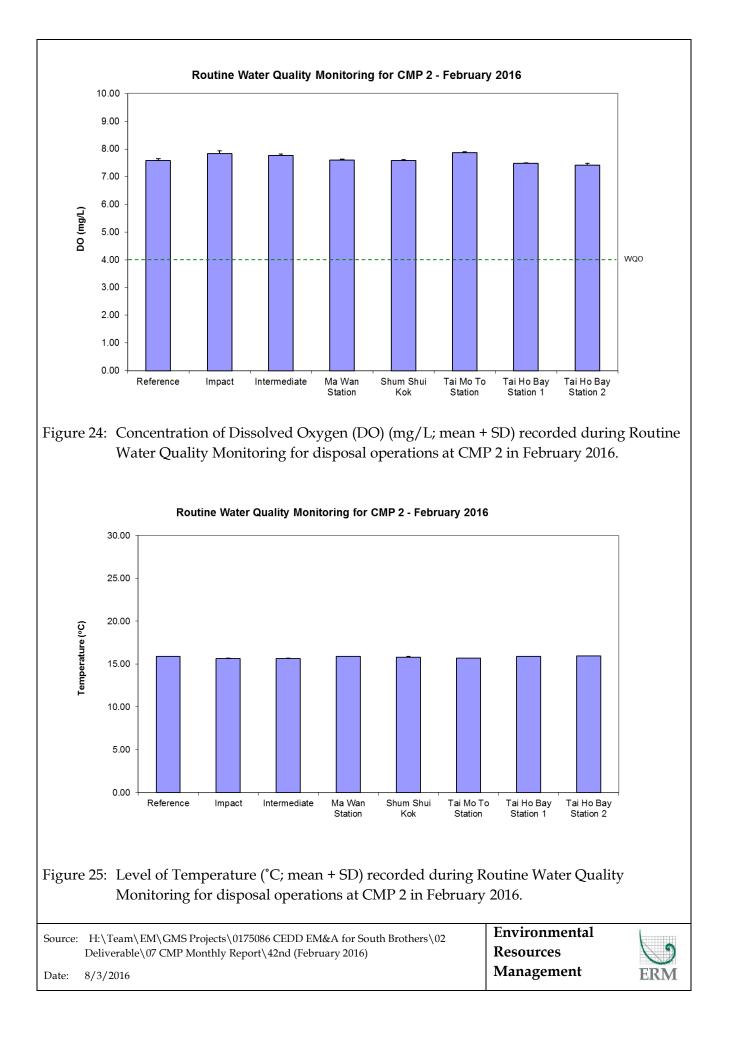


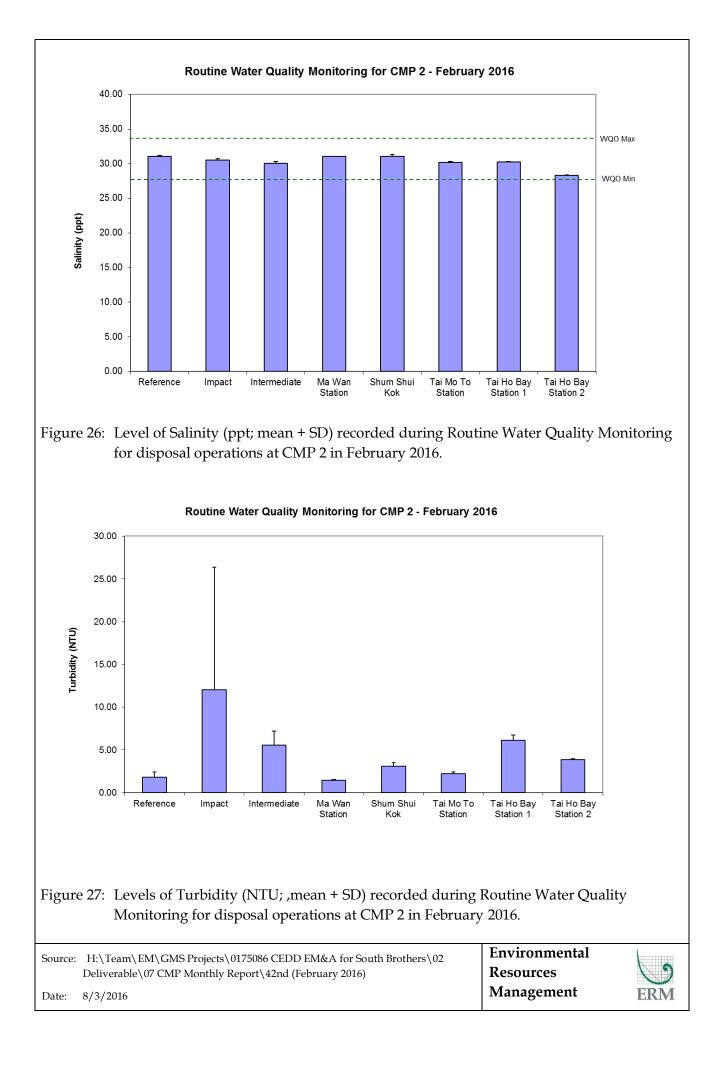


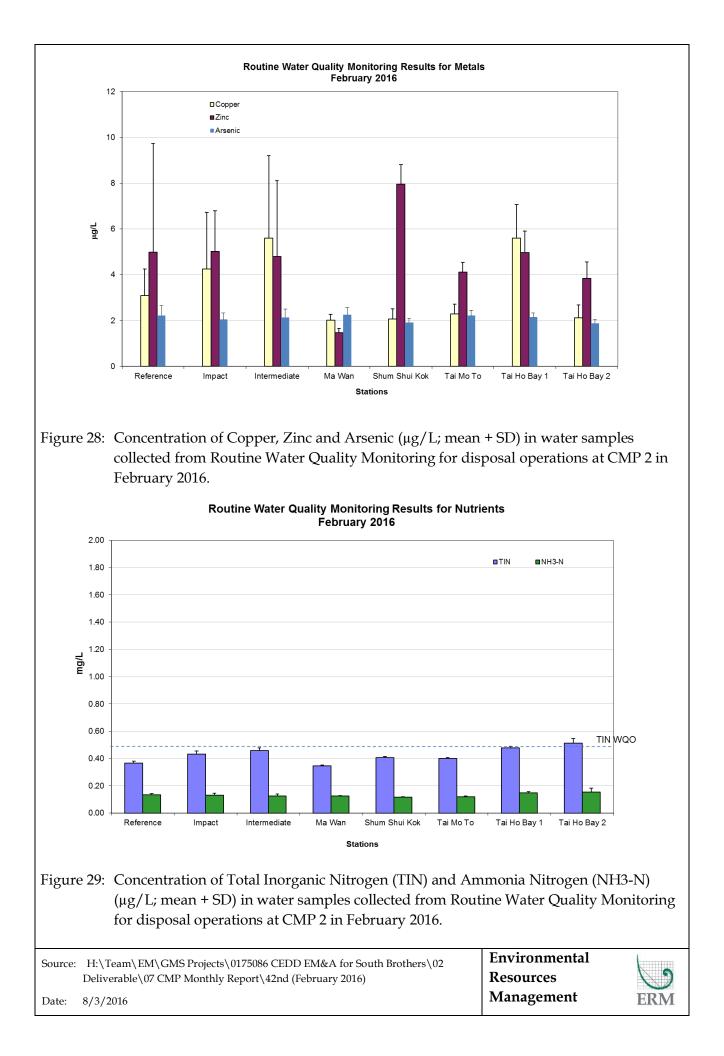


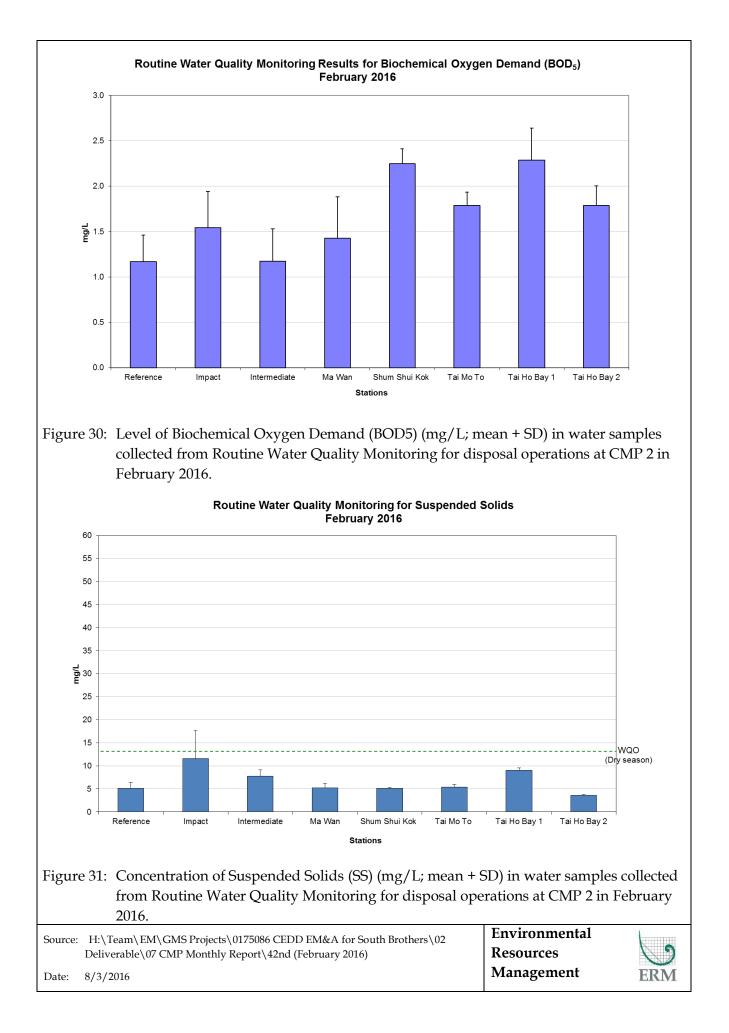


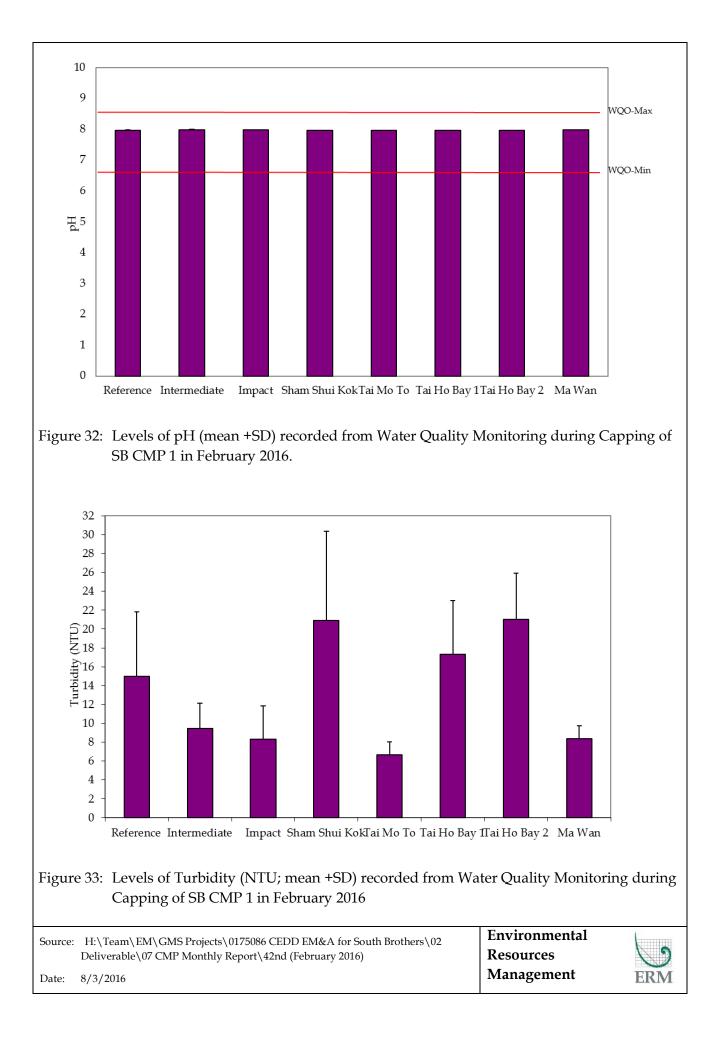


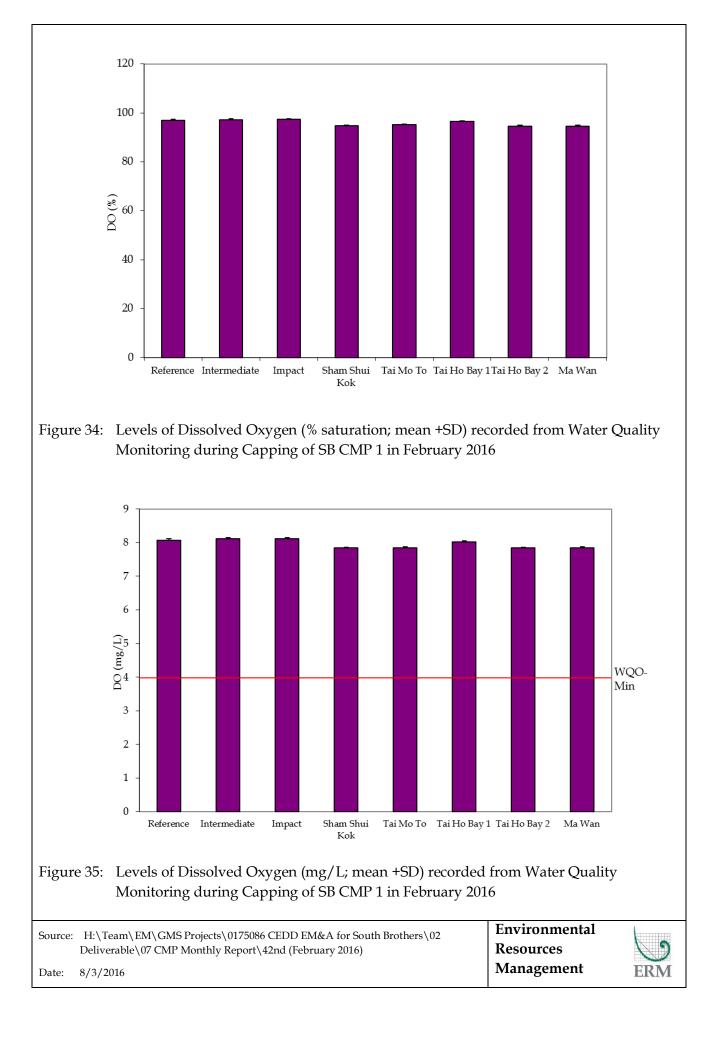


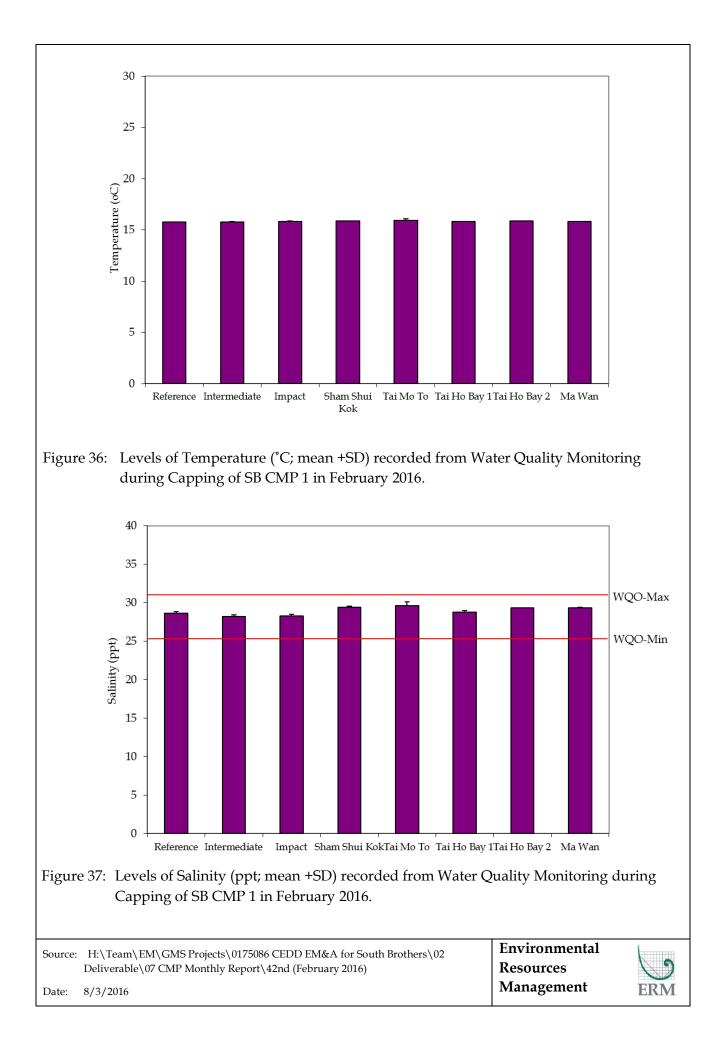


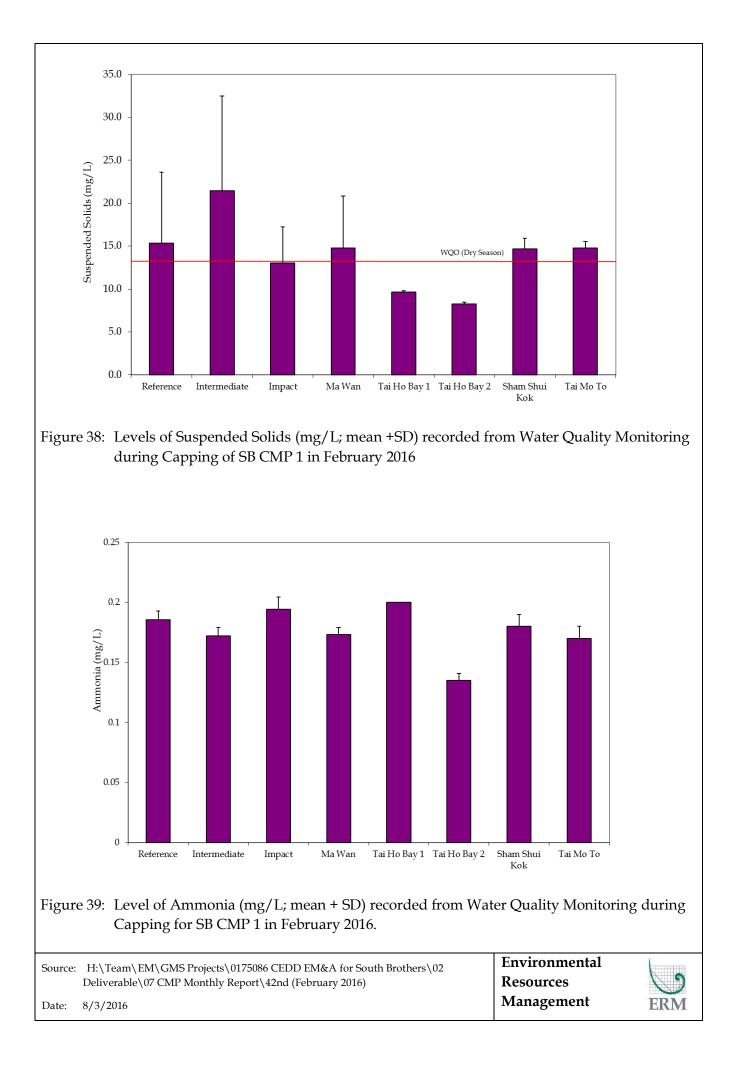


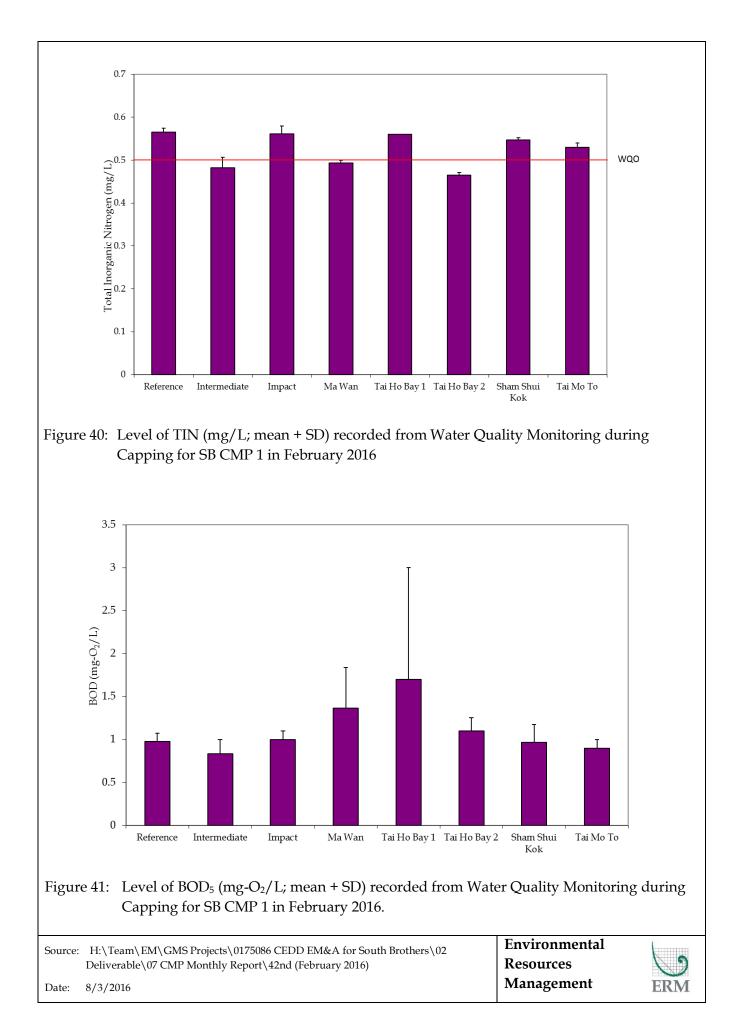












Annex E

Study Programme

Task Name	20)12 JASC				1 1	20 M	13	0					<u>20</u>)14	0					2	2015	
Project Commencement		JASC					IVI J	JA			DJ				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)		*	9/18 10/2																				
Submission of Draft EM&A Manual (Second Review)			4-10	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					(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	♦	Summary	Rolled Up Task	0

