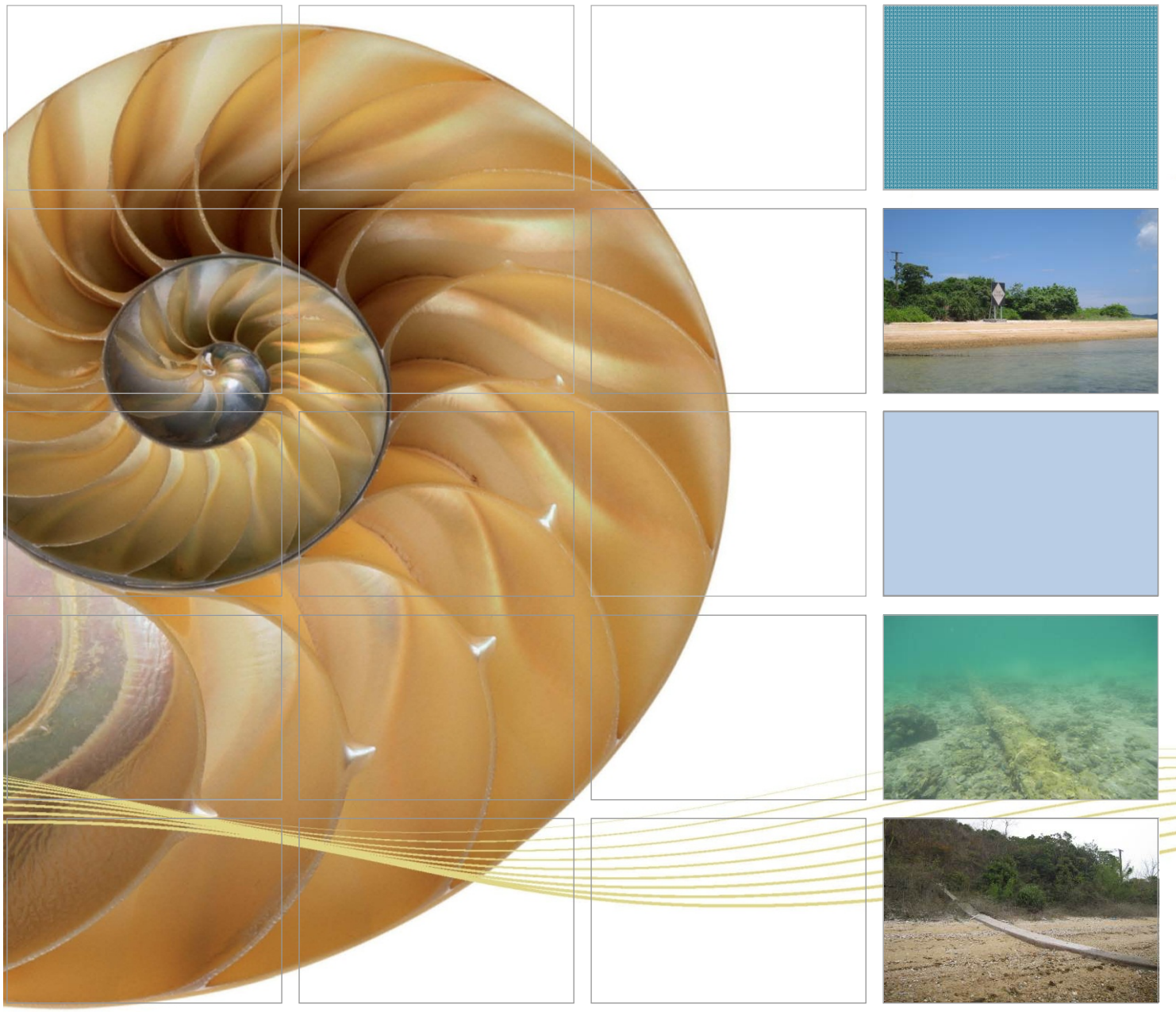

Proposed 11kV Submarine Cables Replacement Connecting Liu Ko Ngam and Pak Sha Tau Tsui at Kat O - Environmental Monitoring & Audit

Baseline Water Quality Monitoring Report

17 November 2015

Submitted by
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Baseline Water Quality Monitoring Report

Document Code: 0259952_Baseline Water Quality Monitoring Report.doc

Client: CLP Power Hong Kong Limited (CLP)		Project No: 0259952			
Summary: This document presents the monitoring requirements, methodologies and results of the baseline marine water quality measurements at the monitoring locations near the proposed 11kV submarine cables replacement connecting Liu Ko Ngam and Pak Sha Tau Tsui at Kat O.		Date: 17 November 2015 Approved by: *Terence Fong* *Partner*			
v0	Baseline Water Quality Monitoring Report	YL	FZ	TF	17/11/15
Revision	Description	By	Checked	Approved	Date

Distribution

☐ Internal

☒ Public

☐ Confidential

Proposed 11kV Submarine Cables Replacement Connecting Liu Ko Ngam and Pak Sha Tau Tsui at Kat O - Environmental Monitoring & Audit

Environmental Certification Sheet

EP-461/2013

Reference Document/Plan

Document/~~Plan~~ to be ~~Certified~~/ Verified:	Baseline Water Quality Monitoring Report
Date of Report:	17 November 2015
Date prepared by Environmental Team:	17 November 2015
Date received by IC:	17 November 2015

Reference Project Profile Annex E EM&A Requirement and EP Requirement

EM&A Requirement: Project Profile, Annex E EM&A Requirements, Section E1

Content: *Water Quality Monitoring and Reporting*

E.1.3 "Baseline Monitoring will comprise sampling on three occasions (days) prior to, but no more than three weeks before, cable laying work. The monitoring will be undertaken at ten locations (five impact monitoring, three gradient and two control monitoring stations) in total…. Samples will be taken during mid flood and mid ebb tidal state on each sampling occasion."

E.1.5 "The Baseline Monitoring Report shall be provided before the cable laying work..."

EP Condition: Condition No. 2.1

Content: *Water Quality Monitoring*

2.1 All measures described in the Project Profile (No. PP-489/2013) submitted by the applicant on 30 May 2013 shall be fully implemented.

IC Verification

I hereby verify that the above referenced document/~~plan~~ complies with the above referenced condition of EP-461/2013.

Terence Fong,
Independent Checker

Date: 20 November 2015

CONTENTS

ANNEXES

EXECUTIVE SUMMARY

Baseline Water Quality Monitoring

Baseline water quality monitoring was conducted between 2 November and 9 November 2015 at 10 designated monitoring stations (5 Impact Stations, 3 Gradient Stations and 2 Control Stations) established for the Project. *In situ* water quality measurements and water samples were taken at the monitoring stations on three days (2, 6 and 9 November 2015), at three depths (surface, middle and bottom) where practical. The intervals between two sets of monitoring were not less than 36 hours. The water quality sampling was undertaken within a 3 hour window of 1.5 hours before and 1.5 hours after mid flood and mid-ebb tides. The tidal range selected for the baseline monitoring was at least 0.5 m for both flood and ebb tides as far as practicable.

No major activities influencing water quality were observed in the vicinity of the Project's cable installation works area during the baseline monitoring. Water quality monitoring results are therefore considered to be representative for the baseline conditions of the areas where Project cable installation works will be undertaken.

In accordance with the *EM&A Requirement*, the baseline monitoring results were used to determine the Action and Limit Levels for Dissolved Oxygen (DO), Suspended Solids (SS) and Turbidity for the impact water quality monitoring which will be conducted during Project cable installation works. The Action and Limit Levels are summarized in *Table 1* below.

Table 1 Action and Limit Levels for Water Quality

Parameter	Action Level	Limit Level
DO in mg/L [a]	Surface and Middle 5%-ile of baseline data for surface and middle layer (4.85 mg/L), and 20% exceedance of value at any impact station compared with corresponding data from control stations Bottom 5%-ile of baseline data for bottom layers (4.72 mg/L) and 20% exceedance of value at any impact station compared with corresponding data from control stations	Surface and Middle 1%-ile of baseline for surface and middle layer (4.57 mg/L) [d] Bottom 1%-ile of baseline data for bottom layer (4.46 mg/L) [e]
SS in mg/L (Depth-averaged [b]) [c]	95%-ile of baseline data (5.40 mg/L) and 20% exceedance of value at any impact station compared with corresponding data from control stations	99%-ile of baseline data (5.71 mg/L) and 30% exceedance of value at any impact station compared with corresponding data from control stations
Turbidity in NTU (Depth-averaged [a]) [c]	95%-ile of baseline data (4.92 NTU) and 20% exceedance of value at any impact station compared with corresponding data from control stations	99%-ile of baseline data (5.11 NUT) and 30% exceedance of value at any impact station compared with corresponding data from control stations

Notes:

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

b. "Depth-averaged" is calculated by taking the arithmetic means of reading of all three depths (at 1 metre below surface, mid-depth and 1 metre above seabed for the definition of sampling water depth).

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

d. 4.57 mg/L is selected as Limit Level for Surface and Middle DO as it is more stringent than WQO standard of 4 mg/L with reference to *Table 2.3*.

e. 4.46 mg/L is selected as Limit Level for Bottom DO as it is more stringent than WQO standard of 2 mg/L with reference to *Table 2.3*.

1 INTRODUCTION

1.1 BACKGROUND

CLP Power Hong Kong Limited (CLP) proposes to enhance the security of power supply to Kat O Island. At present, there is only one set of 11kV submarine cable connecting Liu Ko Ngam to Pak Sha Tau Tsui at Kat O for power supply. The existing 11kV submarine cable is however more than 30 years old and deteriorating, thus potentially limiting the continuous supply of electricity in the future. CLP therefore proposes to replace the existing 11kV submarine cable connecting Liu Ko Ngam to Pak Sha Tau Tsui at Kat O (the Project) to ensure the continuous power supply for Kat O. The Project involves the installation of an 11kV cable circuit consisting of two individual cables, with an intended burial depth up to 5 m for the submarine cable section and about 1 m for the land section. The two submarine cables (except the shore end sections which will be of only about 1 m separation and joining into a single cable trench at each landing site) will be 30 m away from each other and running parallel along the alignment. In areas (especially near the landing site) where the cable burial depth does not meet the requirements due to seabed geotechnical constraints, a protective cover such as a concrete slab will be adopted. The total length of the proposed cable alignment is approximately 880 m. A map showing the proposed submarine cable route is presented in *Figure 1.1*.

A *Project Profile* (Register No. PP-489/2013, Titled: Replacement of the Existing 11kV Submarine Cable Circuit Connecting Liu Ko Ngam and Pak Sha Tau Tsui at Kat O) which includes an assessment of the potential environmental impacts associated with the installation of the submarine cables was prepared and submitted to the Environmental Protection Department (EPD) according to *Section 5(11)* of *the Environmental Impact Assessment Ordinance (EIAO)* for the application for Permission to apply directly for *Environmental Permit* (*EP*). On 11 July 2013 EPD approved the *Project Profile* (*PP*) and a direct application for *EP* was submitted on 23 July 2013 (Application No. AEP-461/2013). On 27 August 2013 EPD granted an environmental permit for the Project (EP - 461/2013) pursuant to *Section 10* of *EIAO*.

Pursuant to *Condition 2.1* of the *EP*, Water Quality Sampling, as set out in the approved *PP Annex E Environmental Monitoring & Audit (EM&A) Requirements* (henceforth "*EM&A Requirement*"), is required for this Project. Water Quality Sampling shall be conducted prior to and throughout the cable installation works, and after its completion as set out in the *EM&A Requirement*.

In accordance with the *EM&A Requirement*, the baseline water quality monitoring was conducted in November 2015, no more than three weeks before the cable installation works. The baseline water quality monitoring was used to reflect the current baseline water quality conditions prior to the cable installation works. This *Baseline Water Quality Monitoring Report* (the "Baseline WQ Report") is prepared by ERM-Hong Kong, Limited (ERM) on

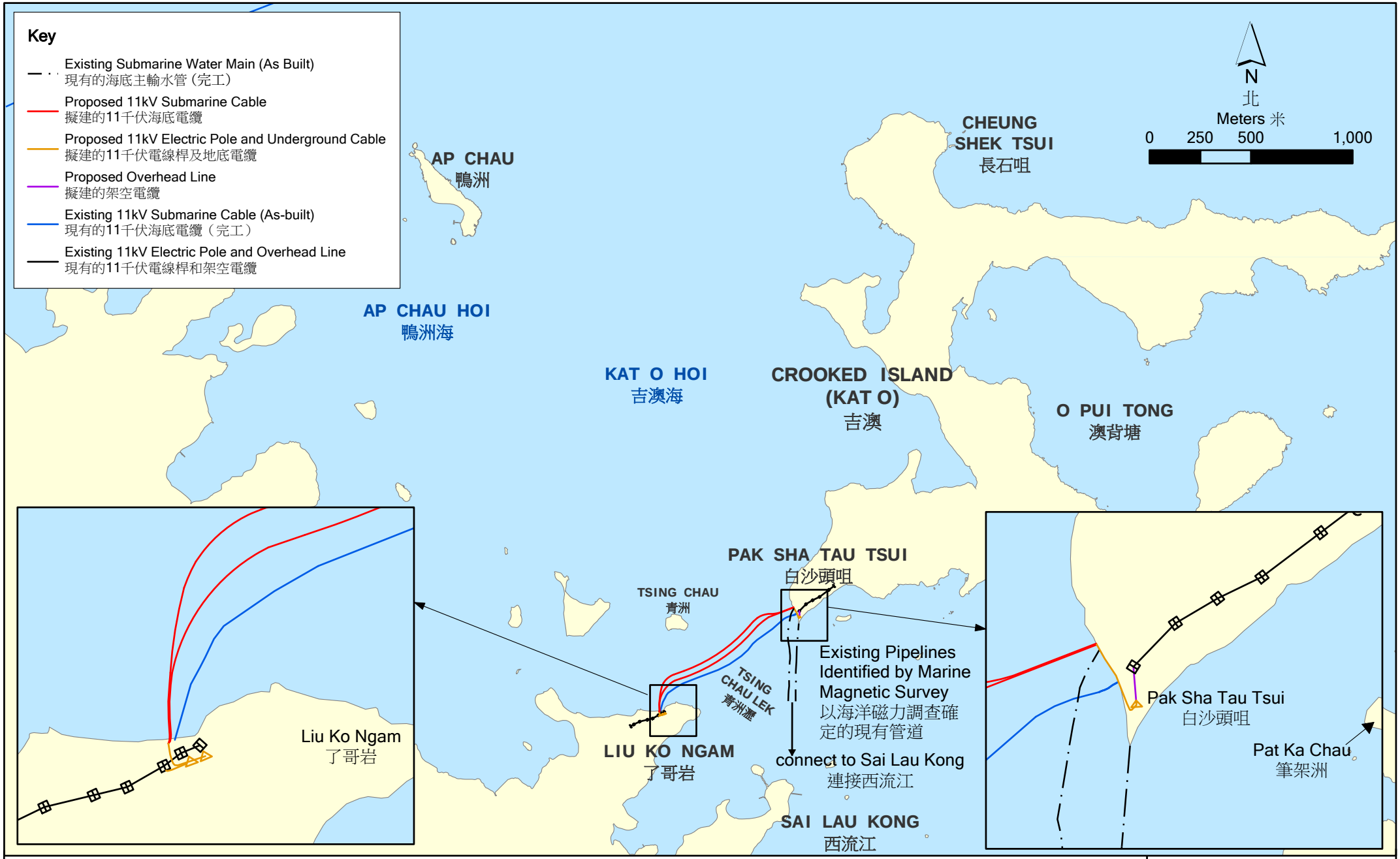

Figure 1.1
圖1.1

Alignment of the Proposed 11kV Submarine Cable Circuit from Liu Ko Ngam to Pak Sha Tau Tsui

了哥岩至白沙頭咀的擬建11kV海底電纜路線

File: Aug2012\0114462_Fig 1.1_alignment_v2.mxd
Date: 30-Oct-2012

Environmental Resources Management

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behalf of CLP to present the methodology and findings of the baseline water quality monitoring for the Project. The Report is provided before the cable installation works commence and submitted to EPD for the agreement on the Action and Limit Levels.

1.2 PURPOSE OF THIS REPORT

The purpose of this Report is to determine the current baseline marine water quality conditions and Action and Limit Levels at the designated monitoring locations around the Project works area prior to the commencement of the Project submarine cable installation works. The current baseline conditions and Action and Limit Levels agreed by EPD will be used as the basis for assessing water quality impacts, if any, and for compliance monitoring during the Project submarine cable installation works.

Pursuant to *Condition 2.1* of the *EP*, and as as set out in the approved PP's *EM&A Requirements,* the Baseline WQ Report shall be prepared and submitted to the EPD before the commencement of Project cable installation works.

1.3 STRUCTURE OF THE REPORT

This *Section 1* provides details of the background, purpose and structure of the report. The remainder of the report is structured as follows:

Section 2: Baseline Water Quality Monitoring

Summarizes the water quality monitoring locations, frequency, monitoring methodology and baseline monitoring results, and establishes the Action and Limit Levels in accordance with the *EM&A Requirement*.

Section 3: Conclusion

Summarises the key points of the Report and reports on the representativeness of the baseline monitoring results and observations for the Project.

2 BASELINE WATER QUALITY MONITORING

2.1 MONITORING LOCATION

Baseline water quality monitoring was conducted prior to the commencement of Project cable installation works at the monitoring stations listed in and shown in *Figure 2.1.*

- C1 is a Control Station to the north of the cable alignment (approximately 1.4 km away) with the same coordinates as EPD routine monitoring station MM2, which is not supposed to be influenced by the construction works due to its remoteness to the Project works area;
- C2 is a Control Station to the south of the cable alignment (over a distance of 1.6 km) with the same coordinates as EPD routine monitoring station MM7, which is not supposed to be influenced by the construction works due to its remoteness to the Project site;
- SR1 is Impact Station used to monitor the effect of the cable installation works on coral communities of high ecological concern at Tsing Chau;
- SR2 is Impact Station used to monitor the effect of the cable installation works on coral communities of high ecological concern at Ngau Shi Wu Wan;
- SR3 is Impact Station used to monitor the effect of the cable installation works on Lai Chi Wo/ Yan Chau Tong Marine Park (to the west of the Project site);
- SR4 is Impact Station used to monitor the effect of the cable installation works on Yan Chau Tong Marine Park (to the south of the Project site);
- SR5 is Impact Station used to monitor the effect of the cable installation works on Sai Lau Kong FCZ;
- G1 is regarded as a Gradient Station in between Impact Station SR1 and the construction work alignment;
- G2 is Gradient Station located between Impact Stations SR2, SR4 and SR5 and construction work alignment; and
- G3 is Gradient Station located between Impact Stations SR3 and the construction work alignment and landing point at Kiu Ko Ngam.

Key 圖例

- Water Quality Monitoring Stations 水質監察站
- Proposed 11kV Submarine Cable 擬議鋪設的11千伏海底電纜
- Existing 11kV Submarine Cable (As built) 現有的11千伏海底電纜（完工情況）
- Fish Culture Zone 魚類養殖區
- Marine Park 海岸公園
- Coral Colonies of High Ecological Value 具高生態價值的珊瑚群落
- Artificial Reef Depolyment Site 人工魚礁放置地點
- Recognized Seagrass Habitat 認可海草生境

Water Quality Monitoring Stations 水質監察站	Easting 東經	Northing 北緯
SR1	846957.82	843601.61
SR2	847041.35	843125.56
SR3	846208.21	843365.71
SR4	847534.45	842914.89
SR5	847209.44	842883.44
G1	846580.39	843334.26
G2	847066.97	843218.44
G3	847031.21	843538.70
C1	846615.32	844892.99
C2	848633.26	842648.35

AP CHAU 鴨洲
AP CHAU HOI 鴨洲海
KAT O HOI 吉澳海
C1
CROOKED ISLAND (KAT O) 吉澳
O PUI TONG 澳背塘
TSING CHAU 青洲
PAK SHA TAU TSUI 白沙頭咀
SR1
G3
SR3
G1
Yan Chau Tong Marine Park 印洲塘海岸公園
G2
SR2
LIU KO NGAM 了哥岩
LAI CHI WO 荔枝窩
SR4
SR5
NGAU SHI WU WAN 牛屎湖灣
SAI LAU KONG 西流江
C2
Yan Chau Tong Marine Park 印洲塘海岸公園
N 北
Meters 米
0 500 1,000

Figure 2.1
圖 2.1

Water Quality Monitoring Stations

水質監察站

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Date: 16-Nov-2015

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Table 2.1 ***Baseline Water Quality Monitoring Stations***

Station	Nature	Easting	Northing
C1	Control Station	846615.32	844892.99
C2	Control Station	848633.26	842648.35
SR1	Impact Station	846957.82	843601.61
SR2	Impact Station	847041.35	843125.56
SR3	Impact Station	846208.21	843365.71
SR4	Impact Station	847534.45	842914.89
SR5	Impact Station	847209.44	842883.44
G1	Gradient Station	846580.39	843334.26
G2	Gradient Station	847025.97	843218.44
G3	Gradient Station	847031.21	843538.70

2.2 SAMPLING AND TESTING METHODOLOGY

2.2.1 Monitoring Parameters

The parameters measured *in situ* were:

- Dissolved Oxygen (DO) (% saturation and mg/L)
- Water temperature (°C)
- Turbidity (Nephelometric Turbidity Units [NTU])
- Salinity (parts per thousand [ppt])

The only parameter to be measured in the laboratory was:

- Suspended solids (SS) (mg/L)

In addition to the water quality parameters, other relevant data were also be measured and recorded in field logs, including the location of the sampling stations, water depth, sampling depth, current velocity and direction, time, weather conditions, sea conditions (where appropriate), tidal state (where appropriate), special phenomena and work activities undertaken around the monitoring and Works area that may influence the monitoring results.

These parameters were monitored at all designated marine water quality monitoring stations during the whole baseline monitoring phase.

2.2.2 Monitoring Equipment

Table 2.2 summaries the equipment used for the baseline water quality monitoring.

Table 2.2 ***Equipment used during Baseline Water Quality Monitoring***

Equipment	Model
Global Positioning Device	GARMIN eTrex 10
Water Depth Gauge	Speedtech Instruments SM-5
Water Sampling Equipment	Wildlife Kemmerer 1520

Equipment	Model
Salinity, DO, Temperature Measuring Meter	YSI PRO 2030
Current Velocity and Direction	Global Water FP111
Turbidity Meter	HACH 2100Q

2.2.3 *Monitoring Frequency and Timing*

The water quality monitoring was carried out on three occasions (days) and the intervals between two sets of monitoring were not less than 36 hours. The water quality sampling was undertaken within a 3 hour window of 1.5 hours before and 1.5 hours after mid flood and mid-ebb tides. The tidal range selected for the baseline monitoring was at least 0.5 m for both flood and ebb tides as far as practicable.

Reference were made to the predicted tides at Ko Lau Wan, which is the tidal station nearest to the Project Site, published on the website of the Hong Kong Observatory [1]. Based on the predicted tidal levels at Ko Lau Wan, the baseline water quality monitoring was conducted between 2 November and 9 November 2015, following the schedule presented in Annex A.

2.2.4 *Sampling/ Testing Protocol*

All *in situ* monitoring instruments were checked, calibrated and certified by a laboratory accredited under HOKLAS or any other international accreditation scheme before use (see calibration reports in *Annex B*), and subsequently will be re-calibrated at-monthly intervals throughout all stages of the water quality monitoring. Responses of sensors and electrodes were checked with certified standard solutions before each use.

For the on-site calibration of field equipment, the *BS 1427: 1993, Guide to Field and On-Site Test Methods for the Analysis of Waters* was observed. Sufficient stocks of spare parts were maintained for replacements when necessary. Backup monitoring equipment was made available.

Water samples for SS measurements were collected in high density polythene bottles, packed in ice (cooled to 4° C without being frozen), and delivered to a HOKLAS laboratory as soon as possible after collection.

At each measurement / sampling depth, two (2) consecutive *in-situ* measurements (DO concentration and saturation, temperature, turbidity, and salinity) and two water samples for SS were taken for lab analysis.

2.2.5 *Laboratory Analysis*

All laboratory work was carried out in a HOKLAS accredited laboratory. Water samples of about 1,000 mL were collected at the monitoring and control stations for carrying out the laboratory determinations. The determination work started within the next working day after collection of the water samples. The SS laboratory measurements were provided within two (2)

[1] Hong Kong Observatory (2013) http://www.hko.gov.hk/tide/eQUBtide.htm [Accessed in November 2013]

days of the sampling event (48 hours). The analyses followed the standard methods as described in APHA Standard Methods for the *Examination of Water and Wastewater*, 19th Edition, unless otherwise specified (APHA 2540D for SS).

The QA/QC details were in accordance with requirements of HOKLAS or another internationally accredited scheme (*Annex C*)

2.2.6 Sampling Depths & Replication

Each station was sampled and measurements/ water samples were taken at three depths, namely, 1 m below water surface, mid-depth and 1 m above sea bed, except where the water depth less than 6 m, the mid-depth station may be omitted. For stations that are less than 3 m in depth, only the mid-depth sample was taken.

For *in situ* measurements, duplicate readings were made at each water depth at each station. Duplicate water samples were collected at each water depth at each station.

2.3 BASELINE MONITORING RESULTS

The monitoring data and graphical presentations for baseline water quality monitoring are provided in *Annex D*. No marine construction activities were observed in the vicinity of the monitoring stations during the baseline monitoring. No other major activities influencing water quality were identified during the monitoring period, and weather conditions were generally calm during the baseline monitoring period.

The observations from baseline monitoring results are as following:

- For all monitoring stations, water quality was variable throughout the baseline monitoring period and this represented natural fluctuation in water quality ;
- DO levels at all depths were generally high; DO levels smaller than 4 mg/L were not recorded;
- Surface DO levels on 6 November 2015 at Impact Station SR5 and Gradient Station G1 and G3 at both mid-ebb and mid-flood tidal stages were relatively higher than the other readings over the monitoring period. Surface DO levels on 2 November 2015 at Control Station C2 and Impact Station SR4 (both mid-ebb and mid-flood tides) were relatively lower than the other DO records measured during the baseline monitoring;
- Similar to monitoring results of surface DO, lower mid-depth DO levels were also recorded at Control Station C2 and Impact Station SR4 at both mid-ebb and mid-flood tidal stages on 2 November 2015. However on 6 November 2015 at Gradient Station G1 and G3 mid-depth DO levels were higher than the other DO records measured during the baseline monitoring period;

- Although variations of DO levels were observed between the stations and as well as at the same station over the baseline monitoring period, DO levels moved to a similar level across all the monitoring stations at bottom depth on the last day of monitoring;

- The overall depth-averaged levels of Turbidity show an increasing trend over the baseline monitoring period at both mid-ebb and mid-flood tidal stage; however the increase is slight and all the recorded depth-averaged Turbidity levels are no more than 5 NUT;

- Minor variations of depth-averaged SS levels were also observed over the baseline monitoring period. At mid-ebb tidal stage, relatively higher SS levels were recorded at Control Station C1, Gradient Station G2 and Impact Station SR2 on 2 November 2015 and as well as at Gradient Station G2 and Impact Station SR3 on 6 November 2015. At mid-flood tidal stage, relatively higher SS levels were at Gradient Station G1 on 2 November 2015 and at Impact Station SR3 on 6 November 2015. The lower SS levels were recorded at Impact Station SR5 at both mid-ebb and mid-flood tidal stages on 2 and 6 November 2015; and

- The above sporadic incidences of relatively high levels of Turbidity and SS or the sporadic incidences of relatively low levels of DO at the water monitoring stations are considered to be a characteristic of water quality in this area of Hong Kong.

2.4 ACTION AND LIMIT LEVELS

The Action and Limit Levels were set as percentiles of baseline data or set values in the *EM&A Requirement* as set out in *Table 2.3*. The proposed Action and Limit Levels have now been determined using the baseline data collected, as shown in *Table 2.4*

Table 2.3 ***Determination of Action and Limit Levels for Water Quality* (Table taken from approved PP, *EM&A Requirements*)**

Parameter	Action Level	Limit Level
DO in mg/L [a]	Surface and Middle 5%-ile of baseline data for surface and middle layer, and 20% exceedance of value at any impact station compared with corresponding data from control stations Bottom 5%-ile of baseline data for bottom layers and 20% exceedance of value at any impact station compared with corresponding data from control stations	Surface and Middle 4mg/L [e] or 1%-ile of baseline for surface and middle layer [d] Bottom 2mg/L [e] or 1%-ile of baseline data for bottom layer [d]
SS in mg/L (Depth-averaged [b]) [c]	95%-ile of baseline data and 20% exceedance of value at any impact station compared with corresponding data from control stations	99%-ile of baseline data and 30% exceedance of value at any impact station compared with corresponding data from control stations
Turbidity in NTU (Depth-averaged [a]) [c]	95%-ile of baseline data and 20% exceedance of value at any impact station compared with corresponding data from control stations	99%-ile of baseline data and 30% exceedance of value at any impact station compared with corresponding data from control stations

Notes:

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

b. "Depth-averaged" is calculated by taking the arithmetic means of reading of all three depths (at 1 metre below surface, mid-depth and 1 metre above seabed for the definition of sampling water depth).

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

d. Either one or both will be chosen as the Action Level and Limit Level upon the completion of baseline monitoring.

e. Limit level for DO was derived from the Water Quality Objectives (WQO) for Mirs Bay Water Control Zone under the Water Pollution Control Ordinance (WPCO) Chapter 358I.

Action and Limit Levels for the Project cable laying works to be undertaken have now been determined based on the baseline water quality monitoring data for all monitoring stations, and are presented in *Table 2.4*.

Table 2.4 Action and Limit Levels for Water Quality

Parameter	Action Level	Limit Level
DO in mg/L [a]	Surface and Middle 5%-ile of baseline data for surface and middle layer (4.85 mg/L), and 20% exceedance of value at any impact station compared with corresponding data from control stations Bottom 5%-ile of baseline data for bottom layers (4.72 mg/L) and 20% exceedance of value at any impact station compared with corresponding data from control stations	Surface and Middle 1%-ile of baseline for surface and middle layer (4.57 mg/L) [d] Bottom 1%-ile of baseline data for bottom layer (4.46 mg/L) [e]
SS in mg/L (Depth-averaged [b]) [c]	95%-ile of baseline data (5.40 mg/L) and 20% exceedance of value at any impact station compared with corresponding data from control stations	99%-ile of baseline data (5.71 mg/L) and 30% exceedance of value at any impact station compared with corresponding data from control stations
Turbidity in NTU (Depth-averaged [a]) [c]	95%-ile of baseline data (4.92 NTU) and 20% exceedance of value at any impact station compared with corresponding data from control stations	99%-ile of baseline data (5.11 NUT) and 30% exceedance of value at any impact station compared with corresponding data from control stations

Notes:

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

b. "Depth-averaged" is calculated by taking the arithmetic means of reading of all three depths (at 1 metre below surface, mid-depth and 1 metre above seabed for the definition of sampling water depth).

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

d. 4.57 mg/L is selected as Limit Level for Surface and Middle DO as it is more stringent than WQO standard of 4 mg/L with reference to *Table 2.3*.

e. 4.46 mg/L is selected as Limit Level for Bottom DO as it is more stringent than WQO standard of 2 mg/L with reference to *Table 2.3*.

3 CONCLUSION

Baseline water quality monitoring was conducted between 2 November and 9 November 2015 at 10 designated monitoring stations (including 5 Impact Stations, 3 Gradient Stations and 2 Control Stations). The baseline water quality monitoring was carried out on 3 days (2, 6, and 9 November 2015), at mid-flood and mid-ebb tides, at three depths (surface, middle and bottom). The intervals between two sets of monitoring were not less than 36 hours.

During the monitoring period, no major activities influencing water quality were observed in the vicinity of the Project's marine works area. Water quality monitoring results are therefore considered to be representative of the current baseline conditions of the areas where submarine cable installation works will be undertaken for the Project.

The baseline monitoring results were used to determine the Action and Limit Levels for the DO, SS and Turbidity for impact monitoring to be conducted throughout the Project cable installation works.

Annex A

Baseline Water Quality Monitoring Schedule

Replacement of the Existing 11 KV Submarine Cable Circuit Connecting Liu Ko Ngam and Pak Sha Tau at Kat O
Baseline Marine Water Quality Monitoring (WQM) Schedule

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
01-Nov	02-Nov	03-Nov	04-Nov	05-Nov	06-Nov	07-Nov
	WQM Mid-Flood 10:57 (09:12 - 12:42) Mid-Ebb 16:00 (14:15 - 17:45)				**WQM** Mid-Ebb 8:33 (06:48 - 10:18) Mid-Flood 15:15 (13:30 - 17:00)	
08-Nov	09-Nov	10-Nov	11-Nov	12-Nov	13-Nov	14-Nov
	WQM Mid-Ebb 10:56 (09:11 - 12:41) Mid-Flood 16:59 (15:14 - 18:44)					
15-Nov	16-Nov	17-Nov	18-Nov	19-Nov	20-Nov	21-Nov

Annex B

Calibration Reports of Multi-parameter Sensor

東業德勤測試顧問有限公司
ETS-TESTCONSULT LIMITED

Internal Calibration Report of Dissolved Oxygen Meter

Equipment Ref. No.	:	ET/EW/008/006	Manufacturer	:	YSI
Model No.	:	Pro 2030	Serial No.	:	12A 100554
Date of Calibration	:	31/10/2015	Calibration Due Date	:	30/11/2015

Temperature Verification

Ref. No. of Reference Thermometer : ET/0521/005

Ref. No. of Water Bath : ---

	Temperature (°C)			
Reference Thermometer reading	Measured	19.7	Corrected	20.0
DO Meter reading	Measured	19.6	Difference	0.4

Standardization of sodium thiosulphate ($Na_2S_2O_3$) solution

Reagent No. of $Na_2S_2O_3$ titrant	CPE/012/4.5/001/12	Reagent No. of 0.025N $K_2Cr_2O_7$	CPE/012/4.4/002/03

	Trial 1	Trial 2
Initial Vol. of $Na_2S_2O_3$ (ml)	0.00	10.30
Final Vol. of $Na_2S_2O_3$ (ml)	10.30	20.50
Vol. of $Na_2S_2O_3$ used (ml)	10.30	10.20
Normality of $Na_2S_2O_3$ solution (N)	0.02427	0.02451
Average Normality (N) of $Na_2S_2O_3$ solution (N)	0.02439	
Acceptance criteria, Deviation	Less than ± 0.001N	

Calculation: Normality of $Na_2S_2O_3$, N = 0.25 / ml $Na_2S_2O_3$ used

Lineality Checking

Determination of dissolved oxygen content by Winkler Titration *

Purging Time (min)	2		5		10	
Trial	1	2	1	2	1	2
Initial Vol. of $Na_2S_2O_3$ (ml)	0.00	11.50	22.90	0.00	6.80	10.90
Final Vol. of $Na_2S_2O_3$ (ml)	11.50	22.90	29.40	6.80	10.90	14.80
Vol. (V) of $Na_2S_2O_3$ used (ml)	11.50	11.40	6.50	6.80	4.10	3.90
Dissolved Oxygen (DO), mg/L	7.53	7.46	4.26	4.45	2.68	2.55
Acceptance criteria, Deviation	Less than + 0.3mg/L		Less than + 0.3mg/L		Less than + 0.3mg/L	

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

Purging time, min	DO meter reading, mg/L			Winkler Titration result *, mg/L			Difference (%) of DO Content
	1	2	Average	1	2	Average	
2	7.46	7.38	7.42	7.53	7.46	7.50	1.07
5	4.51	4.61	4.56	4.26	4.45	4.36	4.48
10	2.55	2.61	2.58	2.68	2.55	2.62	1.54
Linear regression coefficient				0.9965			

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Internal Calibration Report of Dissolved Oxygen Meter

Zero Point Checking

DO meter reading, mg/L	0.00

Salinity Checking

Reagent No. of NaCl (10ppt)	CPE/012/4.7/003/7	Reagent No. of NaCl (30ppt)	CPE/012/4.8/003/7

Determination of dissolved oxygen content by Winkler Titration **

Salinity (ppt)	10		30	
Trial	1	2	1	2
Initial Vol. of $Na_2S_2O_3$ (ml)	0.00	11.10	22.50	31.90
Final Vol. of $Na_2S_2O_3$ (ml)	11.10	22.50	31.90	41.40
Vol. (V) of $Na_2S_2O_3$ used (ml)	11.10	11.40	9.40	9.50
Dissolved Oxygen (**DO**), mg/L	7.27	7.46	6.15	6.22
Acceptance criteria, Deviation	Less than + 0.3mg/L		Less than + 0.3mg/L	

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

Salinity (ppt)	DO meter reading, mg/L			Winkler Titration result**, mg/L			Difference (%) of DO Content
	1	2	Average	1	2	Average	
10	7.15	7.11	7.13	7.27	7.46	7.37	3.31
30	6.34	6.28	6.31	6.15	6.22	6.19	1.92

Acceptance Criteria

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

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

Delete as appropriate

Calibrated by : _____ Approved by : _____

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Performance Check of Salinity Meter

Equipment Ref. No. : ET/EW/008/006 Manufacturer : YSI

Model No. : Pro 2030 Serial No. : 12A 100554

Date of Calibration : 31/10/2015 Due Date : 30/11/2015

Ref. No. of Salinity Standard used (30ppt)	S/001/5

Salinity Standard (ppt)	Measured Salinity (ppt)	Difference %
30.0	30.4	1.33

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

Acceptance Criteria

Difference : -10 % to 10 %

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

Checked by : 李 Approved by : [illegible]

Performance Check of Turbidity Meter

Equipment Ref. No. : ET/0505/011 Manufacturer : HACH

Model No. : 2100Q Serial No. : 12060 C 018534

Date of Calibration : 31/10/2015 Due Date : 30/11/2015

Theoretical Value of Turbidity Standard (NTU)	Measured Value (NTU)	Difference % *
20	19.5	-2.50
100	97.6	-2.40
800	774	-3.25

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

Acceptance Criteria

Difference : -5 % to 5 %

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

Prepared by : _____ Checked by : _____

Annex C

QA/QC Results for Suspended Solids Testing

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QA/QC Results of Laboratory Analysis of Total Suspended Solids

Sampling Date	QC Sample	Sample Duplicate		Sample Spike	
	% Recovery *	Sample ID	% Error #	Sample ID	% Recovery @
11/2/2015	106.1	FC1S-1	0.00	FG3M-2	107.5
	94.3	FG3B-1	4.15	FSR3S-2	105.5
	104.0	FSR3M-1	2.71	FC2B-2	101.9
	99.4	EC1S-1	8.22	EG3M-2	94.7
	102.6	EG3B-1	1.32	ESR3S-2	92.7
	101.0	ESR3B-1	7.56	EC2B-2	95.7

Note:
(*) % Recovery of QC sample should be between 85.5% to 113.5%.
(#) % Error of Sample Duplicate should be between 0% to 10%.
(@) % Recovery of Sample Spike should be between 80% to 120%.
(**) % Error of Sample Duplicate >10% but invalid due to sample results less than PQL (2.0 mg/L).

Sampling Date	QC Sample	Sample Duplicate		Sample Spike	
	% Recovery *	Sample ID	% Error #	Sample ID	% Recovery @
11/6/2015	101.3	Flood C1 S-1	8.00	G3 B-2	94.5
	98.9	Flood G2 M-1	2.74	SR4 M-2	94.5
	92.9	Flood SR4 B-1	8.0	C2 B-2	101.0
	107.6	ebb C1 S-1	8.5	G3 B-2	107.0
	106.7	ebb SR2 M-1	6.1	SR3 M-2	108.3
	96.1	ebb SR3 B-1	1.9	ebb C2 B-2	107.4

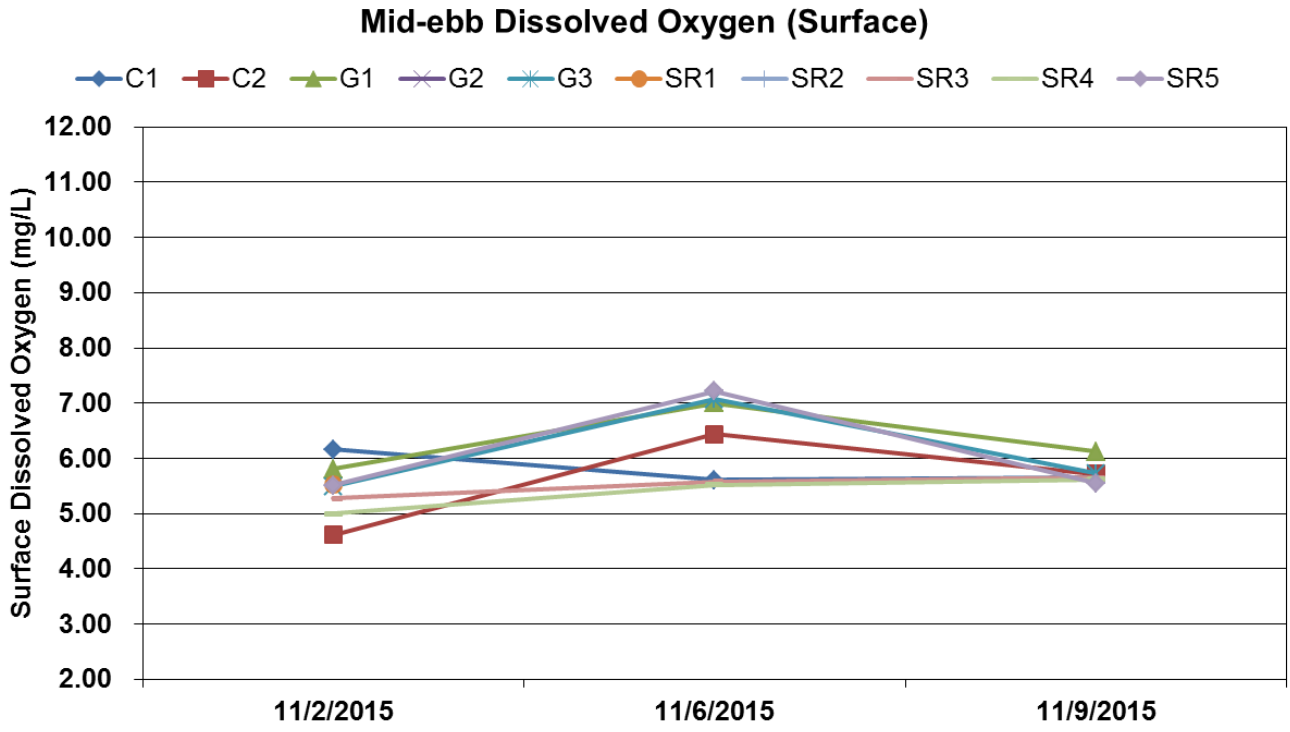
Note:
(*) % Recovery of QC sample should be between 85.5% to 113.5%.
(#) % Error of Sample Duplicate should be between 0% to 10%.
(@) % Recovery of Sample Spike should be between 80% to 120%.
(**) % Error of Sample Duplicate >10% but invalid due to sample results less than PQL (2.0 mg/L).

Sampling Date	QC Sample	Sample Duplicate		Sample Spike	
	% Recovery *	Sample ID	% Error #	Sample ID	% Recovery @
11/9/2015	95.3	FC1 S-1	5.83	FG3 B-2	96.6
	103.2	FSR2 M-1	0.00	FSR3 M-2	96.8
	100.7	FSR3 B-1	5.56	FC2 B-2	104.9
	107.4	EC1 S-1	3.70	EG3 B-2	100.5
	100.9	ESR2 M-1	7.79	ESR3 M-2	100.5
	107.7	ESR3 B-1	2.82	EC2 B-2	96.2

Note:
(*) % Recovery of QC sample should be between 85.5% to 113.5%.
(#) % Error of Sample Duplicate should be between 0% to 10%.
(@) % Recovery of Sample Spike should be between 80% to 120%.
(**) % Error of Sample Duplicate >10% but invalid due to sample results less than PQL (2.0 mg/L).

Annex D

Baseline Water Quality Monitoring Results



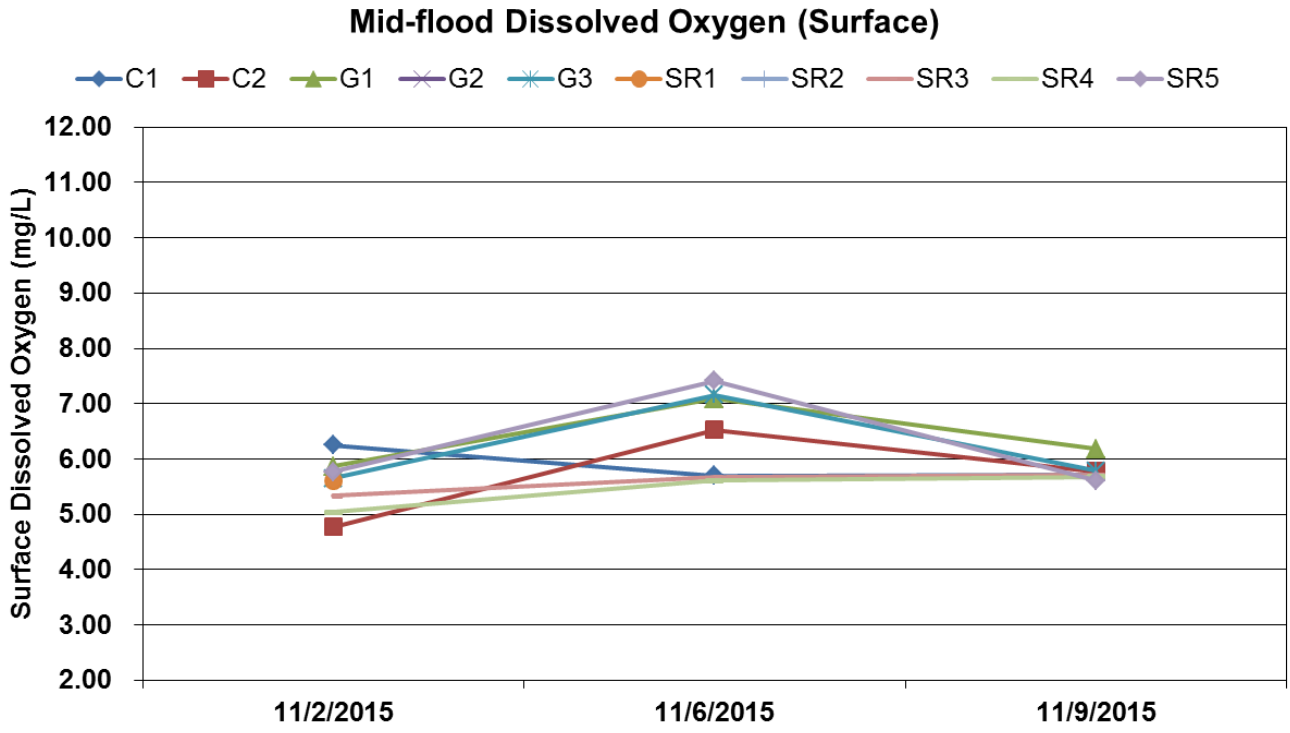
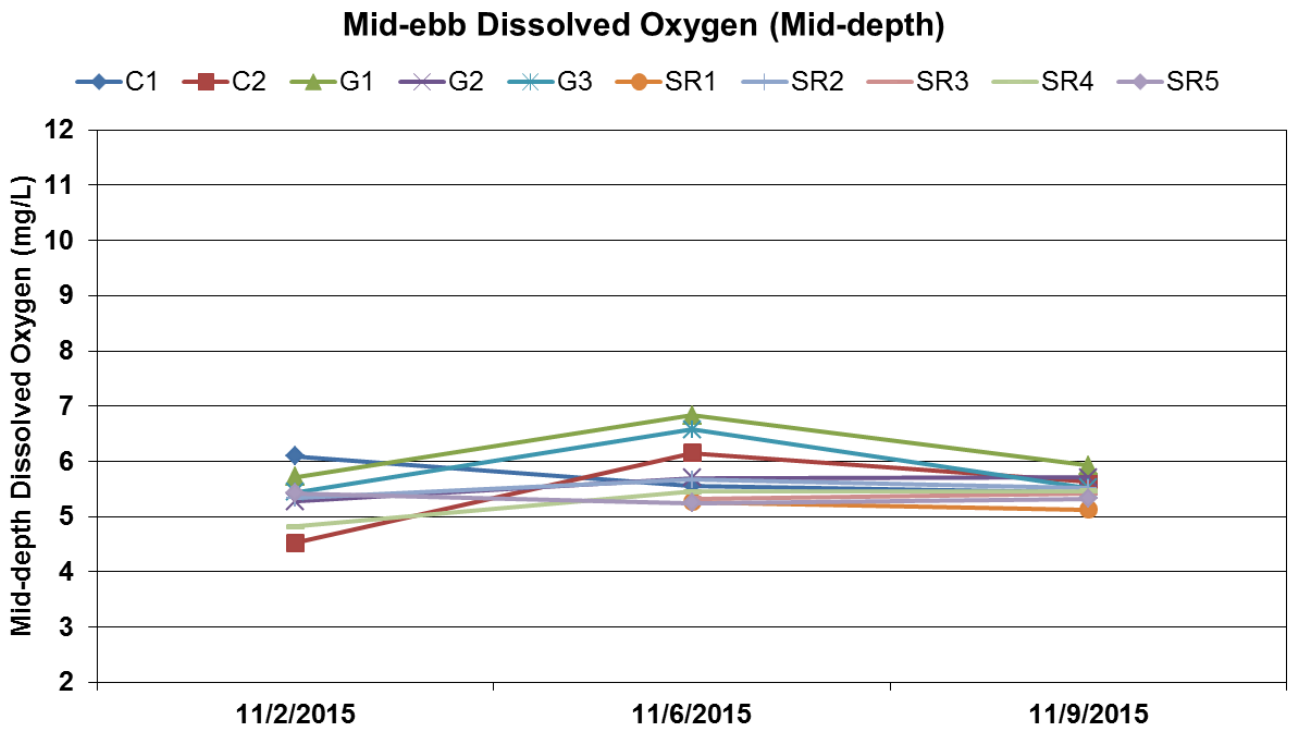


Figure D1 Dissolved oxygen (mg/L) at surface of water column measured during the baseline monitoring period from 2 November to 9 November 2015



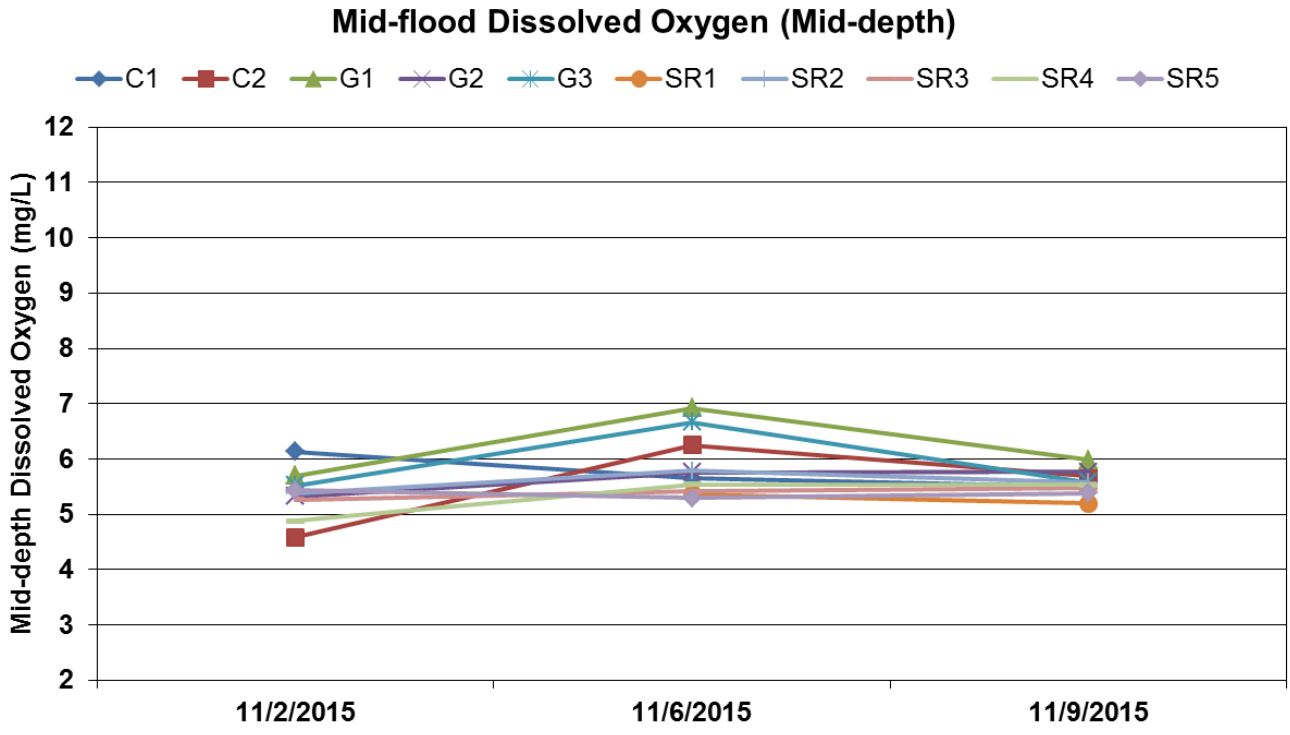
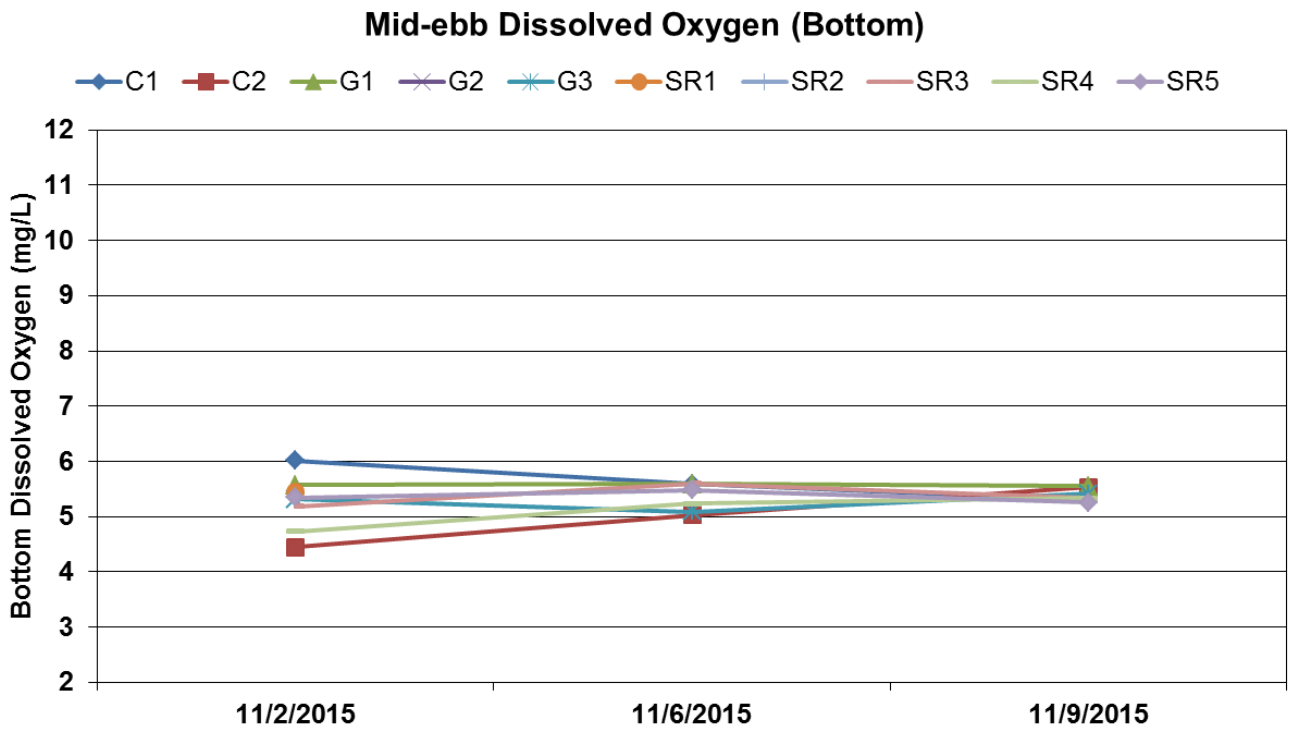


Figure D2 Dissolved oxygen (mg/L) at mid-depth of water column measured during the baseline monitoring period from 2 November to 9 November 2015



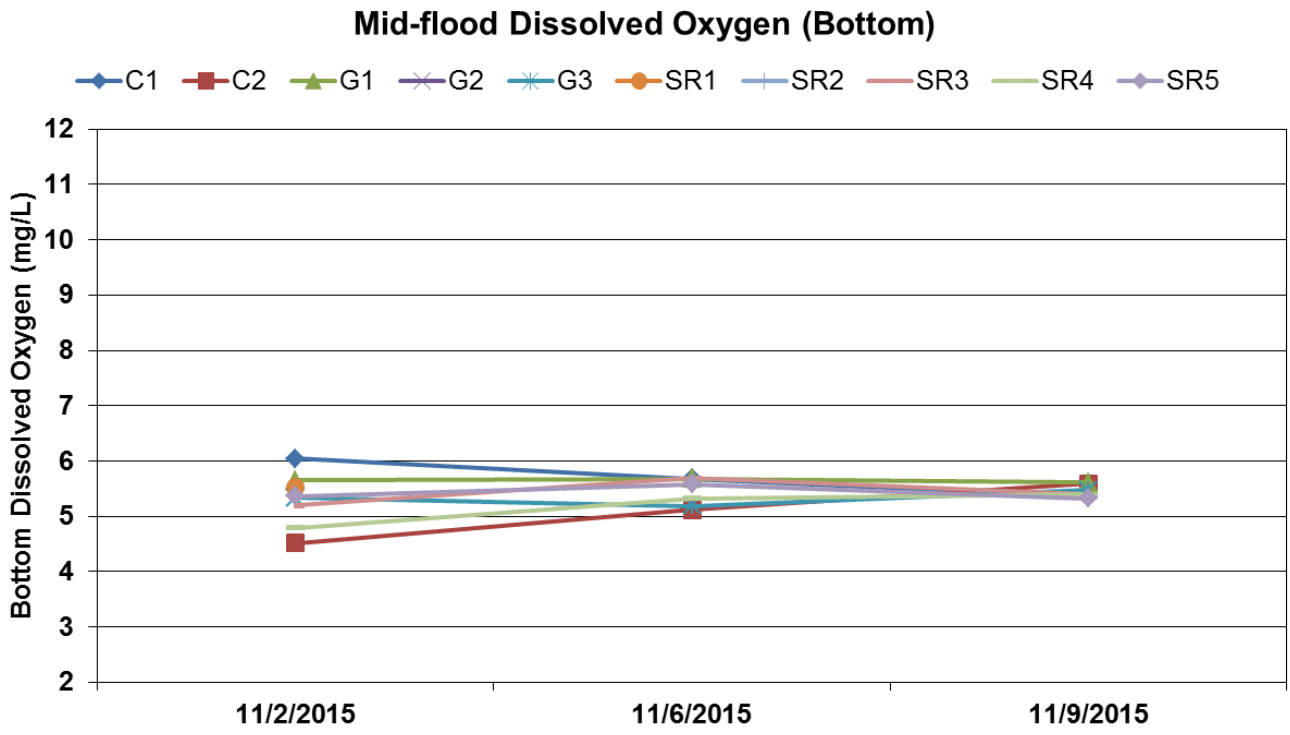
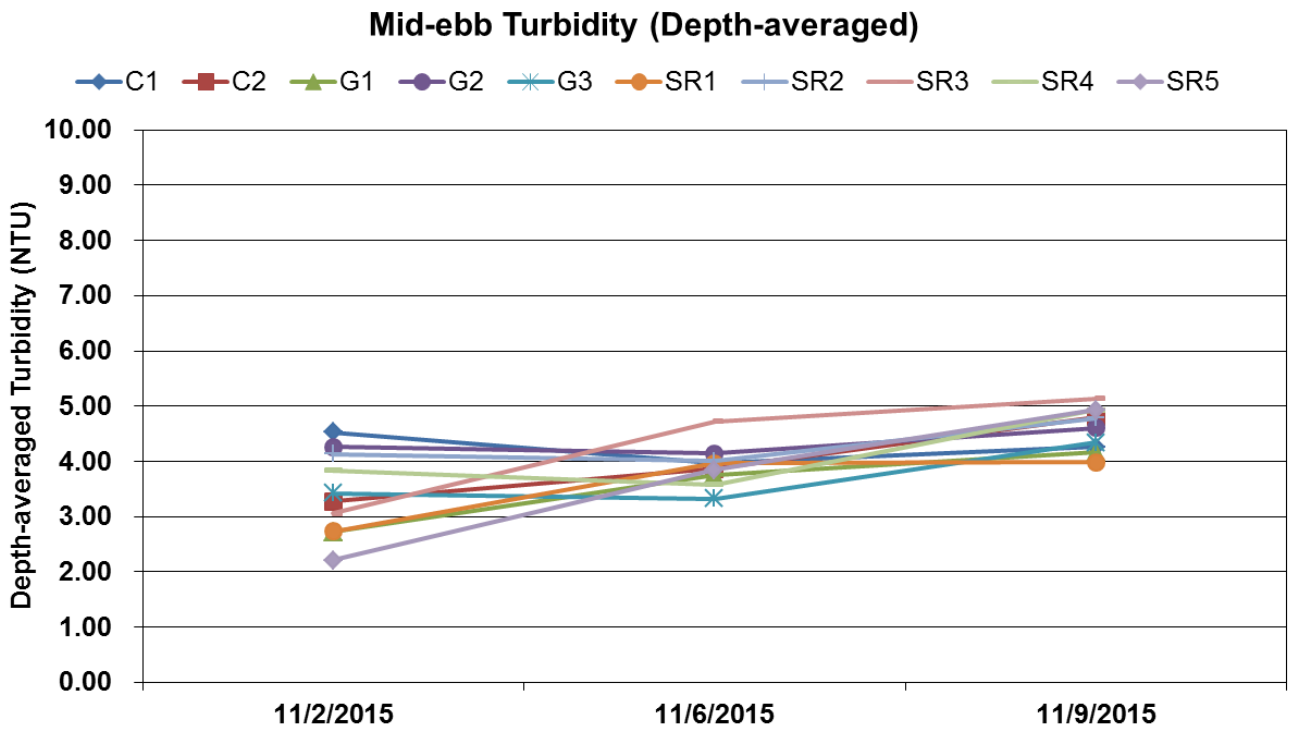


Figure D3 Dissolved oxygen (mg/L) at bottom of water column measured during the baseline monitoring period from 2 November to 9 November 2015



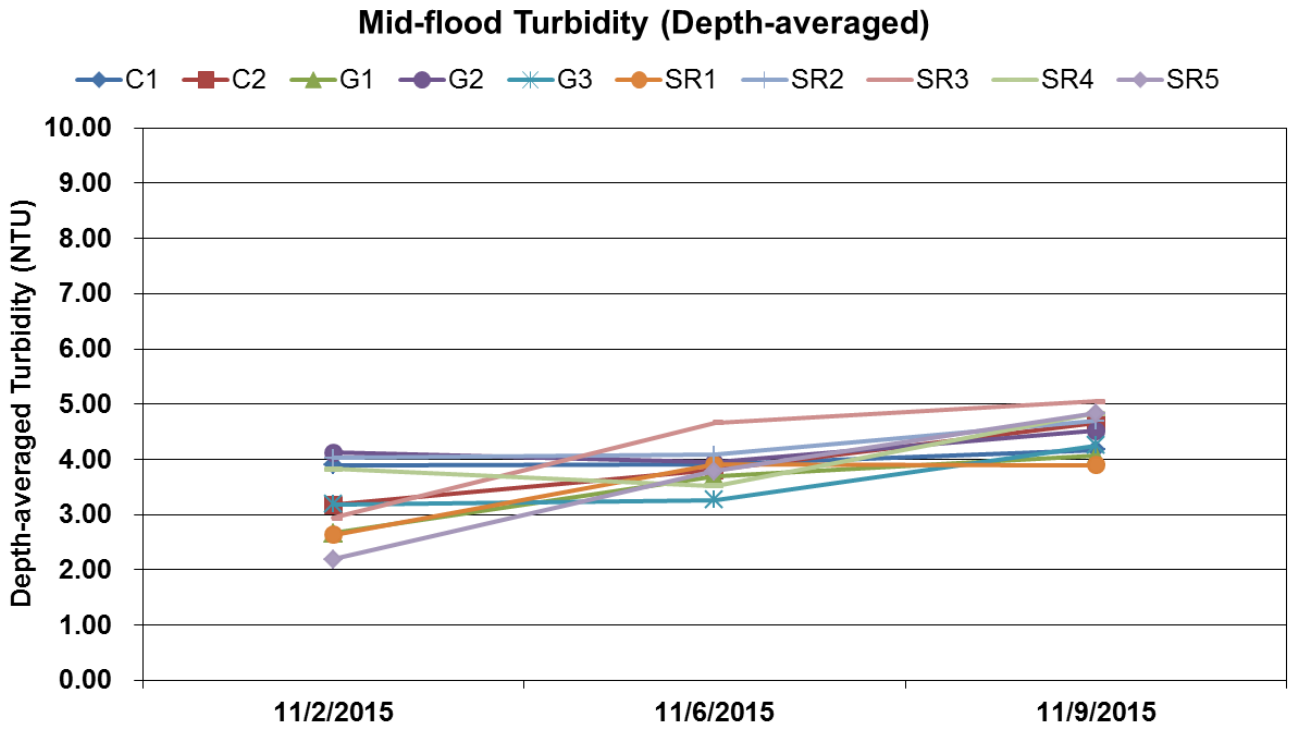
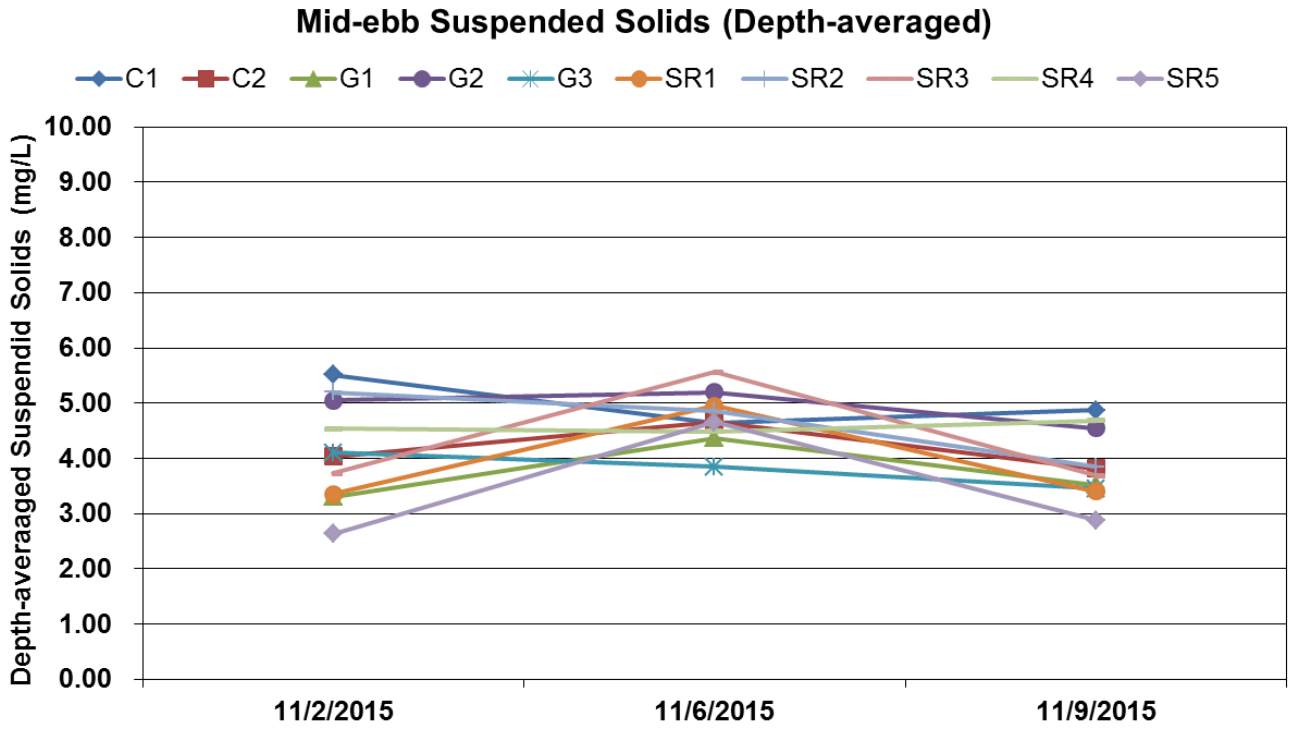


Figure D4 Depth-averaged turbidity (NTU) of water column measured during the baseline monitoring period from 2 November to 9 November 2015

ERM



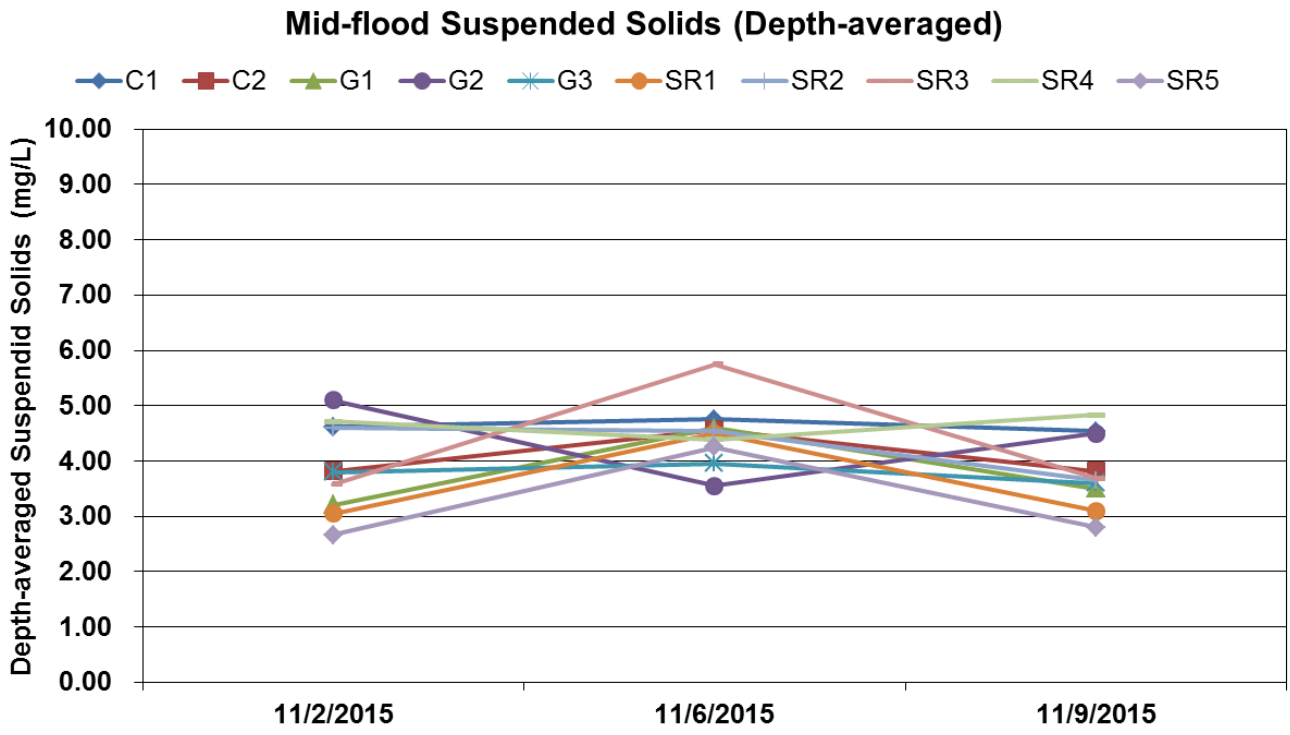


Figure D5 Depth-averaged suspended solid (mg/L) of water column measured during the baseline monitoring period from 2 November to 9 November 2015

Date:	2-Nov-15
Tide:	Mid-Flood
Weather:	Cloudy
Sea Conditions:	Calm

Location	Sampling Time	Water Depth (m)	Current direction	Current speed (ms^{-1})	Monitoring Depth	Temperature (°C)			Salinity (ppt)			DO (mg/l)			DO Saturation (%)			Turbidity (NTU)				Suspended Solids (mg/l)			
						1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	D.A.**	1	2	Ave.*	D.A.**
C1	0912-0927	12.8	E	0.2	*Surface*	26.3	26.4	26.4	33.1	33.2	33.2	6.2	6.3	6.3	91.1	91.3	91.2	4.4	4.4	4.4		5.3	5.2	5.3	
					Middle	26.5	26.6	26.6	33.6	33.5	33.6	6.1	6.1	6.1	90.1	90.0	90.1	3.9	4.1	4.0	3.9	4.7	4.9	4.8	4.6
					Bottom	26.5	26.4	26.5	33.7	33.8	33.8	6.1	6.0	6.0	88.5	88.4	88.5	3.3	3.3	3.3		3.6	4.0	3.8	
C2	1215-1230	13.6	E	0.2	*Surface*	26.3	26.2	26.3	33.2	33.2	33.2	4.8	4.8	4.8	69.9	70.6	70.3	3.3	3.3	3.3		3.7	3.9	3.8	
					Middle	26.3	26.4	26.4	33.3	33.2	33.3	4.6	4.6	4.6	67.5	67.1	67.3	3.2	3.1	3.2	3.2	4.2	3.8	4.0	3.8
					Bottom	26.4	26.3	26.4	33.3	33.4	33.4	4.5	4.5	4.5	66.0	66.6	66.3	3.1	3.1	3.1		3.7	3.6	3.7	
G1	0933-0948	11.1	E	0.1	*Surface*	26.4	26.3	26.4	33.2	33.3	33.3	5.9	5.9	5.9	85.8	86.2	86.0	2.3	2.3	2.3		2.7	2.5	2.6	
					Middle	26.3	26.3	26.3	33.3	33.2	33.3	5.7	5.7	5.7	84.2	83.7	84.0	2.7	2.7	2.7	2.7	3.2	3.2	3.2	3.2
					Bottom	26.1	26.2	26.2	33.4	33.5	33.5	5.6	5.7	5.6	83.1	83.2	83.2	3.0	3.1	3.0		3.9	3.7	3.8	
G2	1052-1102	1.3	E	0.1	*Surface*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	
					Middle	26.3	26.2	26.3	33.3	33.4	33.4	5.3	5.3	5.3	78.4	77.9	78.2	4.1	4.1	4.1	4.1	4.9	5.3	5.1	5.1
					Bottom	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	
G3	1015-1030	13.1	E	0.1	*Surface*	26.3	26.2	26.3	33.2	33.3	33.3	5.6	5.7	5.7	82.5	82.7	82.6	3.4	3.3	3.3		3.7	3.6	3.7	
					Middle	26.4	26.3	26.4	33.3	33.4	33.4	5.5	5.5	5.5	81.7	81.2	81.5	3.2	3.2	3.2	3.2	3.8	3.8	3.8	3.8
					Bottom	26.4	26.4	26.4	33.8	33.9	33.9	5.4	5.3	5.3	78.7	78.2	78.5	3.0	3.1	3.1		3.9	4.0	4.0	
SR1	0954-1009	5.6	E	0.1	*Surface*	26.4	26.4	26.4	33.3	33.2	33.3	5.6	5.6	5.6	82.3	82.1	82.2	2.4	2.5	2.4		2.7	3.0	2.9	
					Middle	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.6	-	-	-	3.1
					Bottom	26.3	26.4	26.4	33.5	33.4	33.5	5.5	5.5	5.5	81.1	80.6	80.9	2.8	2.8	2.8		3.4	3.1	3.3	
SR2	1036-1046	1.4	E	0.1	*Surface*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	
					Middle	26.2	26.1	26.2	33.2	33.1	33.2	5.4	5.4	5.4	79.5	78.8	79.2	4.0	4.1	4.0	4.0	4.8	4.4	4.6	4.6
					Bottom	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	
SR3	1150-1205	6.6	E	0.1	*Surface*	26.5	26.4	26.5	33.1	33.2	33.2	5.3	5.3	5.3	78.4	78.1	78.3	2.8	2.8	2.8		3.6	3.0	3.3	
					Middle	26.4	26.4	26.4	33.3	33.2	33.3	5.3	5.3	5.3	77.2	77.6	77.4	3.0	3.1	3.1	2.9	3.7	3.7	3.7	3.6
					Bottom	26.3	26.4	26.4	33.3	33.4	33.4	5.2	5.2	5.2	76.0	76.5	76.3	3.0	2.9	3.0		3.9	3.6	3.8	
SR4	11.08-1123	7.1	E	0.1	*Surface*	26.4	26.3	26.4	33.1	33.2	33.2	5.1	5.0	5.0	73.7	73.1	73.4	3.7	3.8	3.7		4.7	4.1	4.4	
					Middle	26.2	26.3	26.3	33.2	33.1	33.2	4.9	4.9	4.9	71.8	71.1	71.5	3.9	4.0	4.0	3.8	4.7	5.2	5.0	4.7
					Bottom	26.3	26.2	26.3	33.2	33.3	33.3	4.8	4.8	4.8	71.4	70.9	71.2	3.8	3.8	3.8		4.9	4.7	4.8	
SR5	1129-1144	10.3	E	0.1	*Surface*	26.3	26.2	26.3	33.2	33.3	33.3	5.8	5.8	5.8	84.3	84.8	84.6	2.1	2.0	2.0		2.7	2.8	2.8	
					Middle	26.2	26.2	26.2	33.3	33.4	33.4	5.5	5.4	5.4	80.1	79.4	79.8	2.1	2.2	2.2	2.2	2.5	2.4	2.5	2.7
					Bottom	26.2	26.3	26.3	33.4	33.5	33.5	5.3	5.4	5.4	78.3	78.8	78.6	2.3	2.4	2.4		2.9	2.7	2.8	

Remark or Obsevation:

1. * Average; ** Depth Average
2. Each station was sampled and measurements/ water samples were taken at three depths, namely, 1 m below water surface, mid-depth and 1 m above sea bed, except where the water depth less than 6 m, the mid-depth station may be omitted. For stations that are less than 3 m in depth, only the mid-depth sample was taken.

Date:	2-Nov-15
Tide:	Mid-Ebb
Weather:	Cloudy
Sea Conditions:	Calm

Location	Sampling Time	Water Depth (m)	Current direction	Current speed (ms^{-1})	Monitoring Depth	Temperature (°C)			Salinity (ppt)			DO (mg/l)			DO Saturation (%)			Turbidity (NTU)				Suspended Solids (mg/l)			
						1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	D.A.**	1	2	Ave.*	D.A.**
C1	1415-1431	12.1	W	0.3	*Surface*	26.2	26.1	26.2	33.0	32.9	33.0	6.2	6.2	6.2	89.9	89.4	89.7	4.7	4.6	4.6		6.1	5.5	5.8	
					Middle	26.3	26.2	26.3	33.3	33.4	33.4	6.1	6.1	6.1	89.2	88.9	89.1	4.4	4.4	4.4	4.5	4.9	5.2	5.1	5.5
					Bottom	26.0	25.9	26.0	33.6	33.7	33.7	6.0	6.0	6.0	87.9	87.3	87.6	4.5	4.6	4.6		5.4	6.0	5.7	
C2	1643-1659	13.1	W	0.1	*Surface*	26.1	26.2	26.2	33.2	33.1	33.2	4.6	4.6	4.6	67.9	67.7	67.8	3.3	3.4	3.4		4.0	4.1	4.1	
					Middle	26.2	26.3	26.3	33.2	33.2	33.2	4.5	4.5	4.5	66.4	65.9	66.2	3.3	3.3	3.3	3.3	3.9	4.2	4.1	4.0
					Bottom	26.2	26.1	26.2	33.5	33.4	33.5	4.4	4.5	4.4	64.7	64.9	64.8	3.2	3.2	3.2		4.2	3.8	4.0	
G1	1437-1450	10.7	W	0.1	*Surface*	26.2	26.3	26.3	33.1	33.0	33.1	5.8	5.8	5.8	84.9	84.5	84.7	2.3	2.4	2.4		3.0	3.1	3.1	
					Middle	26.2	26.1	26.2	33.2	33.1	33.2	5.7	5.7	5.7	83.7	83.5	83.6	2.7	2.7	2.7	2.7	3.6	3.0	3.3	3.3
					Bottom	26.1	26.1	26.1	33.3	33.2	33.3	5.6	5.6	5.6	81.6	81.3	81.5	3.1	3.1	3.1		3.4	3.7	3.6	
G2	1531-1536	0.9	W	0.1	*Surface*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	
					Middle	26.2	26.3	26.3	33.2	33.1	33.2	5.3	5.3	5.3	77.4	76.9	77.2	4.2	4.3	4.3	4.3	5.0	5.1	5.1	5.1
					Bottom	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	
G3	1507-1519	12.4	W	0.1	*Surface*	26.2	26.1	26.2	33.0	33.1	33.1	5.5	5.5	5.5	80.4	80.1	80.3	3.5	3.4	3.5		4.2	4.1	4.2	
					Middle	26.3	26.3	26.3	33.2	33.1	33.2	5.4	5.5	5.4	79.6	79.9	79.8	3.4	3.3	3.4	3.4	4.0	4.0	4.0	4.1
					Bottom	26.1	26.0	26.1	33.6	33.7	33.7	5.3	5.3	5.3	78.1	78.0	78.1	3.5	3.4	3.4		4.6	3.7	4.2	
SR1	1454-1504	5.1	W	0.1	*Surface*	26.1	26.2	26.2	33.2	33.3	33.3	5.5	5.5	5.5	81.1	80.6	80.9	2.5	2.6	2.5		3.0	3.3	3.2	
					Middle	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.7	-	-	-	3.4
					Bottom	26.3	26.2	26.3	33.7	33.6	33.7	5.5	5.4	5.5	79.9	79.7	79.8	2.9	3.0	2.9		3.2	3.9	3.6	
SR2	1523-1529	1.1	W	0.1	*Surface*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	
					Middle	26.2	26.3	26.3	33.0	33.1	33.1	5.3	5.4	5.3	77.9	78.4	78.2	4.1	4.2	4.1	4.1	5.0	5.4	5.2	5.2
					Bottom	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	
SR3	1624-1635	5.8	W	0.2	*Surface*	26.2	26.1	26.2	33.0	33.1	33.1	5.3	5.3	5.3	77.1	77.2	77.2	3.0	3.0	3.0		3.8	3.3	3.6	
					Middle	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.1	-	-	-	3.7
					Bottom	26.3	26.2	26.3	33.1	33.2	33.2	5.2	5.2	5.2	75.9	75.6	75.8	3.2	3.1	3.1		4.1	3.7	3.9	
SR4	1541-1554	6.5	W	0.1	*Surface*	26.1	26.2	26.2	33.1	33.0	33.1	5.0	5.0	5.0	72.8	72.3	72.6	3.8	3.8	3.8		4.1	5.0	4.6	
					Middle	26.3	26.2	26.3	33.1	33.1	33.1	4.8	4.8	4.8	70.6	70.2	70.4	4.0	4.1	4.1	3.8	4.9	4.4	4.7	4.5
					Bottom	26.1	26.0	26.1	33.2	33.1	33.2	4.8	4.7	4.7	69.3	69.1	69.2	3.7	3.6	3.6		4.4	4.4	4.4	
SR5	1601-1618	9.8	W	0.1	*Surface*	26.2	26.3	26.3	33.1	33.0	33.1	5.5	5.5	5.5	80.6	80.4	80.5	2.2	2.3	2.2		2.6	2.7	2.7	
					Middle	26.3	26.3	26.3	33.2	33.1	33.2	5.4	5.4	5.4	79.4	79.1	79.3	2.1	2.1	2.1	2.2	2.8	2.2	2.5	2.6
					Bottom	26.2	26.1	26.2	33.3	33.2	33.3	5.3	5.4	5.3	77.7	78.2	78.0	2.3	2.3	2.3		2.7	2.8	2.8	

Remark or Obsevation:

1. * Average; ** Depth Average
2. Each station was sampled and measurements/ water samples were taken at three depths, namely, 1 m below water surface, mid-depth and 1 m above sea bed, except where the water depth less than 6 m, the mid-depth station may be omitted. For stations that are less than 3 m in depth, only the mid-depth sample was taken.

Date:	6-Nov-15
Tide:	Mid-Flood
Weather:	Cloudy
Sea Conditions:	Small Wave

Location	Sampling Time	Water Depth (m)	Current direction	Current speed (ms^{-1})	Monitoring Depth	Temperature (°C)			Salinity (ppt)			DO (mg/l)			DO Saturation (%)			Turbidity (NTU)				Suspended Solids (mg/l)			
						1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	D.A.**	1	2	Ave.*	D.A.**
C1	1330-1350	13.2	N	0.2	*Surface*	26.5	26.5	26.5	33.9	33.9	33.9	5.7	5.7	5.7	85.1	86.0	85.6	4.0	4.1	4.1		5.2	5.0	5.1	
					Middle	26.4	26.4	26.4	33.9	33.9	33.9	5.7	5.6	5.6	84.7	84.4	84.6	3.9	3.9	3.9	3.9	4.6	5.1	4.9	4.8
					Bottom	26.3	26.3	26.3	33.8	33.8	33.8	5.7	5.7	5.7	84.8	85.4	85.1	3.7	3.8	3.8		4.4	4.2	4.3	
C2	1630-1640	13.5	N	0.1	*Surface*	26.6	26.6	26.6	33.2	33.2	33.2	6.5	6.5	6.5	97.0	96.1	96.6	3.4	3.6	3.5		4.4	4.8	4.6	
					Middle	26.5	26.5	26.5	33.3	33.3	33.3	6.3	6.2	6.3	92.6	92.4	92.5	3.7	3.8	3.8	3.8	3.9	4.2	4.1	4.6
					Bottom	26.3	26.3	26.3	33.3	33.3	33.3	5.1	5.1	5.1	75.5	75.7	75.6	4.2	4.2	4.2		5.1	5.0	5.1	
G1	1525-1540	11.9	N	0.1	*Surface*	26.5	26.5	26.5	33.8	33.8	33.8	7.1	7.1	7.1	105.3	104.7	105.0	3.5	3.6	3.6		4.4	5.0	4.7	
					Middle	26.4	26.4	26.4	33.8	33.8	33.8	6.9	6.9	6.9	102.8	103.3	103.1	3.9	3.7	3.8	3.7	4.2	4.8	4.5	4.6
					Bottom	26.3	26.3	26.3	33.9	33.9	33.9	5.7	5.7	5.7	84.0	83.5	83.8	3.6	3.8	3.7		4.3	4.9	4.6	
G2	1450-1505	2.1	N	0.1	*Surface*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	
					Middle	26.5	26.5	26.5	33.2	33.2	33.2	5.7	5.8	5.8	84.2	84.9	84.6	3.9	4.0	3.9	3.9	3.6	3.5	3.6	3.6
					Bottom	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	
G3	1425-1445	15.3	N	0.1	*Surface*	26.6	26.6	26.6	33.2	33.2	33.2	7.1	7.2	7.2	106.2	107.0	106.6	3.2	3.2	3.2		3.8	4.2	4.0	
					Middle	26.4	26.4	26.4	33.2	33.2	33.2	6.7	6.7	6.7	98.9	98.2	98.6	3.4	3.5	3.5	3.3	3.5	3.9	3.7	4.0
					Bottom	26.3	26.3	26.3	33.3	33.3	33.3	5.2	5.2	5.2	76.4	76.8	76.6	3.1	3.2	3.1		4.1	4.2	4.2	
SR1	1415-1422	2.0	N	0.1	*Surface*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	
					Middle	26.7	26.7	26.7	32.6	32.6	32.6	5.4	5.4	5.4	78.9	78.4	78.7	4.0	3.8	3.9	3.9	4.8	4.2	4.5	4.5
					Bottom	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	
SR2	1510-1520	1.2	N	0.1	*Surface*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	
					Middle	26.5	26.5	26.5	33.2	33.2	33.2	5.8	5.8	5.8	85.3	85.1	85.2	4.0	4.1	4.1	4.1	4.2	4.9	4.6	4.6
					Bottom	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	
SR3	1400-1410	7.1	N	0.1	*Surface*	26.5	26.5	26.5	33.8	33.8	33.8	5.7	5.7	5.7	84.7	85.2	85.0	4.9	4.8	4.8		6.3	5.8	6.1	
					Middle	26.5	26.5	26.5	33.8	33.8	33.8	5.4	5.4	5.4	80.2	80.9	80.6	4.8	4.6	4.7	4.7	5.7	5.6	5.7	5.8
					Bottom	26.3	26.3	26.3	33.9	33.9	33.9	5.7	5.7	5.7	84.5	85.4	85.0	4.4	4.5	4.4		5.3	5.8	5.6	
SR4	1605-1620	6.7	N	0.1	*Surface*	26.6	26.6	26.6	33.3	33.3	33.3	5.6	5.6	5.6	83.8	83.5	83.7	3.4	3.4	3.4		4.9	4.7	4.8	
					Middle	26.6	26.6	26.6	33.3	33.3	33.3	5.6	5.5	5.5	81.3	81.0	81.2	3.3	3.2	3.3	3.5	4.7	4.2	4.5	4.4
					Bottom	26.3	26.3	26.3	33.3	33.3	33.3	5.3	5.3	5.3	78.5	79.1	78.8	3.9	3.9	3.9		3.9	3.9	3.9	
SR5	1545-1600	9.6	N	0.1	*Surface*	26.6	26.6	26.6	33.2	33.2	33.2	7.4	7.4	7.4	108.2	107.8	108.0	3.2	3.2	3.2		4.0	4.1	4.1	
					Middle	26.3	26.3	26.3	33.2	33.2	33.2	5.3	5.3	5.3	78.1	78.4	78.3	4.1	4.2	4.2	3.8	3.5	3.9	3.7	4.3
					Bottom	26.3	26.3	26.3	33.3	33.3	33.3	5.6	5.6	5.6	84.0	83.3	83.7	4.1	3.9	4.0		5.0	5.0	5.0	

Remark or Obsevation:

1. * Average; ** Depth Average
2. Each station was sampled and measurements/ water samples were taken at three depths, namely, 1 m below water surface, mid-depth and 1 m above sea bed, except where the water depth less than 6 m, the mid-depth station may be omitted. For stations that are less than 3 m in depth, only the mid-depth sample was taken.

Date:	6-Nov-15
Tide:	Mid-Ebb
Weather:	Cloudy
Sea Conditions:	Calm

Location	Sampling Time	Water Depth (m)	Current direction	Current speed (ms^{-1})	Monitoring Depth	Temperature (°C)			Salinity (ppt)			DO (mg/l)			DO Saturation (%)			Turbidity (NTU)				Suspended Solids (mg/l)			
						1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	D.A.**	1	2	Ave.*	D.A.**
C1	0738-0749	13.6	E	0.2	*Surface*	26.4	26.3	26.4	33.7	33.8	33.8	5.6	5.6	5.6	83.7	84.6	84.2	4.1	4.2	4.1		4.5	4.6	4.6	
					Middle	26.2	26.3	26.3	33.8	33.7	33.8	5.6	5.6	5.6	83.3	83.0	83.2	3.9	4.0	4.0	4.0	4.7	4.4	4.6	4.6
					Bottom	26.0	26.1	26.1	33.7	33.6	33.7	5.6	5.6	5.6	83.4	84.0	83.7	3.8	3.9	3.8		4.9	4.7	4.8	
C2	0952-1015	13.8	E	0.1	*Surface*	26.5	26.4	26.5	33.1	33.0	33.1	6.5	6.4	6.4	95.6	94.7	95.2	3.4	3.6	3.5		4.4	4.1	4.3	
					Middle	26.3	26.4	26.4	33.2	33.2	33.2	6.2	6.1	6.2	91.2	90.7	91.0	3.8	3.9	3.8	3.9	4.6	5.1	4.9	4.7
					Bottom	26.1	26.2	26.2	33.2	33.1	33.2	5.0	5.0	5.0	74.1	74.3	74.2	4.2	4.3	4.3		5.1	4.7	4.9	
G1	0754-0804	12.2	E	0.1	*Surface*	26.4	26.4	26.4	33.6	33.7	33.7	7.0	7.0	7.0	103.9	103.3	103.6	3.6	3.7	3.6		4.3	4.4	4.4	
					Middle	26.2	26.3	26.3	33.7	33.6	33.7	6.8	6.9	6.8	101.4	101.9	101.7	3.9	3.8	3.9	3.8	4.3	4.6	4.5	4.4
					Bottom	26.1	26.2	26.2	33.7	33.7	33.7	5.6	5.6	5.6	82.6	82.1	82.4	3.7	3.8	3.8		4.4	4.2	4.3	
G2	0849-0857	1.4	E	0.1	*Surface*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	
					Middle	26.4	26.3	26.4	33.1	33.0	33.1	5.7	5.7	5.7	83.9	83.7	83.8	4.1	4.2	4.1	4.1	5.3	5.1	5.2	5.2
					Bottom	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	
G3	0822-0833	15.6	E	0.1	*Surface*	26.5	26.4	26.5	33.0	33.1	33.1	7.1	7.1	7.1	104.8	105.6	105.2	3.2	3.3	3.3		3.9	3.9	3.9	
					Middle	26.3	26.2	26.3	33.1	33.2	33.2	6.6	6.6	6.6	97.5	96.3	96.9	3.5	3.6	3.5	3.3	4.2	4.0	4.1	3.9
					Bottom	26.1	26.2	26.2	33.2	33.1	33.2	5.1	5.1	5.1	75.0	75.4	75.2	3.2	3.2	3.2		3.5	3.6	3.6	
SR1	0809-0817	2.4	E	0.1	*Surface*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	
					Middle	26.6	26.5	26.6	32.4	32.5	32.5	5.3	5.3	5.3	77.5	76.8	77.2	4.0	3.9	4.0	4.0	5.2	4.7	5.0	5.0
					Bottom	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	
SR2	0838-0846	2.6	E	0.1	*Surface*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	
					Middle	26.3	26.4	26.4	33.0	33.1	33.1	5.7	5.7	5.7	82.9	83.5	83.2	4.0	4.1	4.0	4.0	4.8	4.9	4.9	4.9
					Bottom	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	
SR3	0935-0946	7.4	E	0.2	*Surface*	26.3	26.4	26.4	33.6	33.7	33.7	5.6	5.6	5.6	83.3	83.8	83.6	4.9	4.9	4.9		5.9	5.9	5.9	
					Middle	26.4	26.3	26.4	33.7	33.6	33.7	5.3	5.3	5.3	78.8	79.5	79.2	4.8	4.7	4.8	4.7	5.3	5.1	5.2	5.6
					Bottom	26.2	26.1	26.2	33.7	33.8	33.8	5.6	5.6	5.6	83.1	84.0	83.6	4.4	4.6	4.5		5.3	5.9	5.6	
SR4	0902-0913	7.2	E	0.2	*Surface*	26.4	26.5	26.5	33.2	33.1	33.2	5.5	5.5	5.5	82.4	82.1	82.3	3.4	3.5	3.5		4.4	4.2	4.3	
					Middle	26.5	26.4	26.5	33.1	33.2	33.2	5.5	5.4	5.5	79.9	79.6	79.8	3.4	3.3	3.3	3.6	4.4	3.9	4.2	4.5
					Bottom	26.2	26.1	26.2	33.2	33.3	33.3	5.2	5.3	5.2	77.1	77.7	77.4	4.0	4.0	4.0		4.8	5.2	5.0	
SR5	0918-0929	9.8	E	0.1	*Surface*	26.5	26.4	26.5	33.1	33.0	33.1	7.4	7.1	7.2	106.8	106.2	106.5	3.2	3.3	3.3		3.6	3.9	3.8	
					Middle	26.2	26.1	26.2	33.0	33.1	33.1	5.2	5.3	5.2	76.7	78.0	77.4	4.2	4.3	4.2	3.8	5.5	5.1	5.3	4.7
					Bottom	26.2	26.2	26.2	33.1	33.2	33.2	5.5	5.5	5.5	82.6	81.9	82.3	4.1	4.0	4.1		5.0	4.8	4.9	

Remark or Obsevation:

1. * Average; ** Depth Average
2. Each station was sampled and measurements/ water samples were taken at three depths, namely, 1 m below water surface, mid-depth and 1 m above sea bed, except where the water depth less than 6 m, the mid-depth station may be omitted. For stations that are less than 3 m in depth, only the mid-depth sample was taken.

Date:	9-Nov-15
Tide:	Mid-Flood
Weather:	Fine
Sea Conditions:	Small Wave

Location	Sampling Time	Water Depth (m)	Current direction	Current speed (ms^{-1})	Monitoring Depth	Temperature (°C)			Salinity (ppt)			DO (mg/l)			DO Saturation (%)			Turbidity (NTU)				Suspended Solids (mg/l)			
						1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	D.A.**	1	2	Ave.*	D.A.**
C1	1514-1524	13.6	W	0.1	*Surface*	27.0	27.1	27.1	33.1	33.2	33.2	5.7	5.7	5.7	86.2	86.4	86.3	4.0	4.1	4.0		5.0	5.0	5.0	
					Middle	26.9	26.8	26.9	33.4	33.3	33.4	5.5	5.5	5.5	82.7	82.9	82.8	4.2	4.2	4.2	4.2	4.7	4.5	4.6	4.5
					Bottom	26.6	26.5	26.6	33.4	33.5	33.5	5.4	5.4	5.4	80.6	80.4	80.5	4.3	4.3	4.3		4.0	4.0	4.0	
C2	1733-1745	14.4	W	0.2	*Surface*	27.1	27.2	27.2	33.1	33.1	33.1	5.8	5.8	5.8	87.1	87.4	87.3	4.7	4.7	4.7		3.6	3.8	3.7	
					Middle	27.0	26.9	27.0	33.3	33.2	33.3	5.7	5.7	5.7	85.8	85.5	85.7	4.5	4.5	4.5	4.7	4.1	4.1	4.1	3.8
					Bottom	26.8	26.7	26.8	33.4	33.5	33.5	5.6	5.6	5.6	84.1	83.9	84.0	4.8	4.9	4.8		3.8	3.5	3.7	
G1	1532-1542	12.2	W	0.2	*Surface*	27.2	27.1	27.2	33.3	33.2	33.3	6.2	6.2	6.2	93.5	93.3	93.4	3.9	3.9	3.9		3.3	3.5	3.4	
					Middle	27.0	26.9	27.0	33.4	33.5	33.5	6.0	6.0	6.0	90.1	90.0	90.1	4.0	4.1	4.0	4.1	3.5	3.5	3.5	3.5
					Bottom	26.7	26.8	26.8	33.8	33.7	33.8	5.6	5.6	5.6	84.1	84.2	84.2	4.2	4.3	4.3		3.5	3.7	3.6	
G2	1626-1636	1.6	W	0.1	*Surface*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	
					Middle	26.9	26.8	26.9	33.3	33.4	33.4	5.8	5.8	5.8	87.0	86.9	87.0	4.5	4.5	4.5	4.5	4.4	4.6	4.5	4.5
					Bottom	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	
G3	1558-1608	15.8	W	0.1	*Surface*	27.1	27.1	27.1	33.0	33.1	33.1	5.8	5.8	5.8	87.3	87.6	87.5	4.1	4.1	4.1		3.5	3.7	3.6	
					Middle	26.8	26.9	26.9	33.3	33.2	33.3	5.6	5.6	5.6	83.9	84.1	84.0	4.3	4.3	4.3	4.3	3.7	4.0	3.9	3.6
					Bottom	26.6	26.5	26.6	33.4	33.5	33.5	5.5	5.5	5.5	82.0	82.1	82.1	4.4	4.4	4.4		3.2	3.5	3.4	
SR1	1547-1553	2.5	W	0.1	*Surface*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	
					Middle	26.8	26.7	26.8	33.2	33.3	33.3	5.2	5.2	5.2	78.3	78.1	78.2	3.9	3.9	3.9	3.9	3.2	3.0	3.1	3.1
					Bottom	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	
SR2	1613-1621	2.8	W	0.1	*Surface*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				-	
					Middle	26.8	26.8	26.8	33.1	33.2	33.2	5.6	5.6	5.6	83.7	83.9	83.8	4.7	4.7	4.7	4.7	3.8	3.5	3.7	3.7
					Bottom	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	
SR3	1715-1727	7.9	W	0.1	*Surface*	27.1	27.0	27.1	33.2	33.1	33.2	5.7	5.7	5.7	86.1	86.3	86.2	4.9	4.9	4.9		3.4	3.6	3.5	
					Middle	26.8	26.9	26.9	33.3	33.4	33.4	5.5	5.5	5.5	82.4	82.6	82.5	5.0	5.0	5.0	5.0	3.6	3.9	3.8	3.7
					Bottom	26.7	26.6	26.7	33.6	33.5	33.6	5.4	5.4	5.4	80.8	80.9	80.9	5.2	5.2	5.2		3.7	3.9	3.8	
SR4	1641-1653	7.4	W	0.1	*Surface*	27.1	27.0	27.1	33.1	33.2	33.2	5.7	5.7	5.7	85.7	85.9	85.8	4.6	4.6	4.6		4.9	4.7	4.8	
					Middle	26.9	26.8	26.9	33.4	33.3	33.4	5.5	5.5	5.5	83.4	83.7	83.6	4.8	4.9	4.9	4.8	4.9	4.3	4.6	4.8
					Bottom	26.7	26.6	26.7	33.5	33.6	33.6	5.4	5.4	5.4	81.1	80.9	81.0	5.0	5.0	5.0		5.0	5.2	5.1	
SR5	1658-1710	10.2	W	0.1	*Surface*	27.1	27.2	27.2	33.0	33.1	33.1	5.6	5.6	5.6	84.6	84.7	84.7	4.7	4.7	4.7		3.1	2.9	3.0	
					Middle	26.8	26.8	26.8	33.2	33.3	33.3	5.4	5.4	5.4	81.2	81.0	81.1	4.9	4.9	4.9	4.8	2.6	2.6	2.6	2.8
					Bottom	26.6	26.5	26.6	33.5	33.4	33.5	5.3	5.3	5.3	79.6	79.9	79.8	4.9	4.9	4.9		2.7	2.9	2.8	

Remark or Obsevation:

1. * Average; ** Depth Average
2. Each station was sampled and measurements/ water samples were taken at three depths, namely, 1 m below water surface, mid-depth and 1 m above sea bed, except where the water depth less than 6 m, the mid-depth station may be omitted. For stations that are less than 3 m in depth, only the mid-depth sample was taken.

Date:	9-Nov-15
Tide:	Mid-Ebb
Weather:	Fine
Sea Conditions:	Small Wave

Location	Sampling Time	Water Depth (m)	Current direction	Current speed (ms^{-1})	Monitoring Depth	Temperature (°C)			Salinity (ppt)			DO (mg/l)			DO Saturation (%)			Turbidity (NTU)				Suspended Solids (mg/l)			
						1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	1	2	Ave.*	D.A.**	1	2	Ave.*	D.A.**
C1	0911-0921	13.3	E	0.1	*Surface*	27.0	26.9	27.0	33.0	33.1	33.1	5.6	5.7	5.7	85.2	85.4	85.3	4.1	4.1	4.1		5.3	5.2	5.3	
					Middle	26.8	26.7	26.8	33.2	33.3	33.3	5.4	5.5	5.4	81.7	81.9	81.8	4.3	4.3	4.3	4.3	4.9	5.2	5.1	4.9
					Bottom	26.5	26.6	26.6	33.3	33.4	33.4	5.3	5.3	5.3	79.6	79.4	79.5	4.4	4.4	4.4		4.2	4.4	4.3	
C2	1130-1140	14.0	E	0.1	*Surface*	27.1	27.0	27.1	32.4	33.0	32.7	5.7	5.7	5.7	86.2	86.4	86.3	4.8	4.8	4.8		3.6	3.8	3.7	
					Middle	26.9	26.8	26.9	33.1	33.2	33.2	5.6	5.6	5.6	84.8	84.6	84.7	4.6	4.9	4.7	4.8	4.1	4.1	4.1	3.8
					Bottom	26.7	26.6	26.7	33.3	33.4	33.4	5.5	5.5	5.5	83.1	82.9	83.0	4.9	4.9	4.9		3.8	3.5	3.7	
G1	0930-0940	11.9	E	0.1	*Surface*	27.1	27.0	27.1	33.1	33.2	33.2	6.1	6.1	6.1	92.5	92.3	92.4	4.0	4.0	4.0		3.3	3.5	3.4	
					Middle	26.9	26.9	26.9	33.3	33.4	33.4	5.9	5.9	5.9	89.2	89.0	89.1	4.1	4.1	4.1	4.2	3.4	3.7	3.6	3.5
					Bottom	26.7	26.7	26.7	33.5	33.6	33.6	5.5	5.6	5.6	83.1	83.3	83.2	4.3	4.4	4.3		3.7	3.5	3.6	
G2	1030-1040	1.3	E	0.1	*Surface*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	
					Middle	26.8	26.7	26.8	33.2	33.3	33.3	5.7	5.7	5.7	86.1	85.9	86.0	4.6	4.6	4.6	4.6	4.6	4.5	4.6	4.6
					Bottom	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	
G3	1000-1010	15.4	E	0.2	*Surface*	26.9	27.0	27.0	32.9	33.0	33.0	5.7	5.7	5.7	86.4	86.6	86.5	4.2	4.2	4.2		3.3	3.3	3.3	
					Middle	26.7	26.8	26.8	33.1	33.2	33.2	5.5	5.5	5.5	82.9	83.1	83.0	4.4	4.4	4.4	4.3	3.5	3.5	3.5	3.5
					Bottom	26.5	26.5	26.5	33.3	33.4	33.4	5.4	5.4	5.4	81.0	81.2	81.1	4.5	4.5	4.5		3.5	3.6	3.6	
SR1	0945-0955	2.2	E	0.2	*Surface*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	
					Middle	26.7	26.7	26.7	33.1	33.2	33.2	5.1	5.1	5.1	77.3	77.1	77.2	4.0	4.0	4.0	4.0	3.3	3.5	3.4	3.4
					Bottom	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	
SR2	1015-1025	2.5	E	0.2	*Surface*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	
					Middle	26.7	26.6	26.7	33.1	33.1	33.1	5.5	5.5	5.5	82.7	82.9	82.8	4.8	4.8	4.8	4.8	4.0	3.7	3.9	3.9
					Bottom	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	
SR3	1115-1125	7.6	E	0.1	*Surface*	27.0	26.9	27.0	33.1	33.0	33.1	5.6	5.7	5.7	85.1	85.3	85.2	5.0	5.0	5.0		3.4	3.6	3.5	
					Middle	26.8	26.7	26.8	33.2	33.3	33.3	5.4	5.4	5.4	81.4	81.6	81.5	5.1	5.1	5.1	5.1	3.6	3.9	3.8	3.7
					Bottom	26.6	26.5	26.6	33.4	33.5	33.5	5.3	5.3	5.3	79.8	80.0	79.9	5.3	5.3	5.3		3.7	3.9	3.8	
SR4	1045-1055	7.0	E	0.1	*Surface*	27.0	26.9	27.0	33.0	33.1	33.1	5.6	5.6	5.6	84.7	84.9	84.8	4.7	4.7	4.7		4.9	4.7	4.8	
					Middle	26.8	26.7	26.8	33.2	33.3	33.3	5.5	5.5	5.5	82.5	82.7	82.6	4.9	5.0	5.0	4.9	4.5	4.3	4.4	4.7
					Bottom	26.6	26.5	26.6	33.4	33.5	33.5	5.3	5.3	5.3	80.1	79.9	80.0	5.1	5.1	5.1		4.7	5.0	4.9	
SR5	1100-1110	10.0	E	0.1	*Surface*	27.1	27.0	27.1	32.9	33.0	33.0	5.5	5.6	5.6	83.6	83.8	83.7	4.8	4.8	4.8		3.3	3.0	3.2	
					Middle	26.8	26.7	26.8	33.1	33.2	33.2	5.3	5.3	5.3	80.2	80.0	80.1	4.9	5.0	5.0	4.9	3.1	2.6	2.9	2.9
					Bottom	26.5	26.5	26.5	33.3	33.4	33.4	5.2	5.3	5.3	78.6	78.9	78.8	5.0	5.0	5.0		2.6	2.7	2.7	

Remark or Obsevation:

1. * Average; ** Depth Average
2. Each station was sampled and measurements/ water samples were taken at three depths, namely, 1 m below water surface, mid-depth and 1 m above sea bed, except where the water depth less than 6 m, the mid-depth station may be omitted. For stations that are less than 3 m in depth, only the mid-depth sample was taken.

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