

MTR Corporation Limited

**Shatin to Central Link –  
Hung Hom to Admiralty Section**

**Baseline Water Quality Monitoring Report  
for Temporary Marine Works at Shek O  
Casting Basin**

(August 2014)

Verified by: Fredrick Leong



Position: Independent Environmental Checker

Date: 4 August 2014

MTR Corporation Limited

**Shatin to Central Link –  
Hung Hom to Admiralty Section**

Baseline Water Quality Monitoring Report  
for Temporary Marine Works at Shek O  
Casting Basin

(August 2014)

Certified by: Richard Kwan 

Position: Environmental Team Leader

Date: 4 August 2014

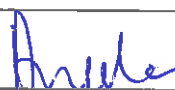

**MTR Corporation Limited**

Consultancy Agreement No. C11033B

**Shatin to Central Link–  
Mong Kok East to Hung Hom and Hung  
Hom to Admiralty Sections  
[SCL (MKK-HUH & HUH-ADM)]**

**Baseline Water Quality Monitoring  
Report for Temporary Marine Works  
at Shek O Casting Basin**

August 2014

	Name	Signature
Prepared & Checked:	Angela Tong	
Reviewed & Approved:	Josh Lam	

Version:	B	Date: 4 August 2014
<p>This Report is prepared for MTR Corporation Limited and is given for its sole benefit in relation to and pursuant to Consultancy Agreement No. C11033B and may not be disclosed to, quoted to or relied upon by any person other than MTR Corporation Limited without our prior written consent. No person (other than MTR Corporation Limited) into whose possession a copy of this Report comes may rely on this Report without our express written consent and MTR Corporation Limited may not rely on it for any purpose other than as described above.</p>		

<p>AECOM Asia Co. Ltd. 8/F, Grand Central Plaza, Tower 2, 138 Shatin Rural Committee Road, Shatin, NT, Hong Kong Tel: (852) 3922 9000 Fax: (852) 3922 9797 www.aecom.com</p>
--

## Table of Content

	Page
<b>EXECUTIVE SUMMARY .....</b>	<b>1</b>
<b>1 INTRODUCTION .....</b>	<b>2</b>
1.1 Background.....	2
1.2 Purpose of the Report.....	2
1.3 Structure of the Report.....	2
<b>2 WATER QUALITY MONITORING.....</b>	<b>3</b>
2.1 Monitoring Requirements.....	3
2.2 Monitoring Equipment.....	3
2.3 Monitoring Parameters, Frequency and Duration.....	3
2.4 Monitoring Locations.....	3
2.5 Monitoring Methodology.....	4
2.6 Results and Observations.....	4
2.7 Action and Limit Levels.....	5
<b>3 CONCLUSIONS .....</b>	<b>7</b>

### List of Tables

Table 2.1	Water Quality Monitoring Equipment
Table 2.2	Water Quality Monitoring Parameters, Frequency and Duration
Table 2.3	Locations of Water Quality Impact Stations
Table 2.4	Summary of Baseline Water Quality Monitoring Results
Table 2.5	Derivation of Action and Limit Levels for Water Quality
Table 2.6	Derived Action and Limit Levels for Water Quality at GB3 (Wet Season)
Table 2.7	Derived Action and Limit Levels for Water Quality at GB3 (Dry Season)

### List of Figures

C11033B/C/SCL/ACM/M62/160	Locations of Water Quality Monitoring Stations
---------------------------	--

### Appendices

Appendix 2.1	Calibration Certificates of Monitoring Equipments
Appendix 2.2	Baseline Water Quality Monitoring Schedules
Appendix 2.3	Laboratory Results
Appendix 2.4	Baseline Water Quality Monitoring Results
Appendix 2.5	Summary of EPD monitoring data between 2011 and 2012
Appendix 2.6	Background Conditions in Wet and Dry Seasons (2011 – 2012)

## EXECUTIVE SUMMARY

Shatin to Central Link – Hung Hom to Admiralty Section [SCL (TAW-HUH)] (the Project) is an approximately 6 km long extension of the existing East Rail Line from Hung Hom Station (HUH) across the harbour to Admiralty Station (ADM). Construction and operation of SCL (HUH-ADM) is currently governed by an Environmental Permit No. EP-436/2012/A.

The proposed temporary sea bed levelling works at Shek O is tentatively scheduled to commence in the 3<sup>rd</sup> quarter of 2014 (wet season).

Pursuant to EP Condition 2.23.7, water quality monitoring shall be conducted throughout the construction period of sea bed levelling work at the northern gate and the removal of earth bunds at the northern and southern gates, therefore baseline monitoring for marine water quality should be conducted prior to the commencement of temporary marine works.

The baseline monitoring for marine water quality was carried out 3 days per week for 4 weeks between 10 May 2014 and 5 June 2014 (wet season) at three designated water quality monitoring locations prior to the commencement of temporary site levelling works. Data collected was reviewed and analysed to establish the Action and Limit Levels for water quality during impact monitoring period.

The baseline water quality is summarized in the following table:

Locations		Parameters					
		Salinity (ppt)	Dissolved Oxygen (mg/L)		pH	Turbidity (NTU)	Suspended Solids (mg/L)
			Surface & Middle	Bottom			
GB3	Avg.	31.1	7.10	6.56	8.08	1.39	3.08
	Min.	24.7	5.12	4.91	7.63	0.50	<2.0
	Max.	35.5	9.89	8.70	8.63	2.50	6.0
C3 (control station for ebb tide)	Avg.	30.6	6.87	6.24	8.06	1.45	3.15
	Min.	22.5	5.05	4.39	7.46	0.40	<2.0
	Max.	33.9	8.89	8.22	8.53	3.50	6.0
C4 (control station for flood tide)	Avg.	32.0	6.70	5.98	8.05	1.56	3.24
	Min.	24.0	4.97	4.57	7.44	0.50	<2.0
	Max.	36.6	9.05	8.80	8.50	3.70	6.0

In the event that the temporary marine works would be conducted during dry season, dry season Action and Limit Levels with consideration of seasonal fluctuation should be adopted for compliance checking.

## 1 INTRODUCTION

### 1.1 Background

- 1.1.1 The Shatin to Central Link (SCL) is a 17km extension of the existing Ma On Shan Line (MOL) and East Rail Line (EAL) comprising (i) The East-West Corridor which extends the MOL from Tai Wai to Hung Hom via East Kowloon to connect with the West Rail Line (WRL) at Hung Hom Station (HUH) and Stabling Sidings at Hung Hom Freight Yard (HHS); and (ii) The North-South Corridor which is an extension of the EAL at Hung Hom across the harbour to Admiralty Station (ADM).
- 1.1.2 SCL – Hung Hom to Admiralty Section [SCL (HUH-ADM)] is a designated project (DP) covering DP elements under items A.2, A.7, C.2 and C.12 in Schedule 2 Part 1 of the *Environmental Impact Assessment Ordinance* (EIAO). EIA Report for SCL (HUH-ADM) (Register No. AEIAR-166/2012) was approved on 17 February 2012 under the *Environmental Impact Assessment Ordinance* (EIAO). Following the approval of the EIA Report, the Environmental Permit (EP) (EP No: EP-436/2012), covering the construction and operation of SCL (HUH-ADM), was granted on 22 March 2012. Variations of Environmental Permit (VEP) were subsequently applied for the Project and the latest Environmental Permit (EP No: EP-436/2012/A) was issued by Director of Environmental Protection (DEP) on 30<sup>th</sup> April 2014.
- 1.1.3 Pursuant to EP Condition 2.23.7, water quality monitoring shall be conducted throughout the construction period of sea bed levelling work at the northern gate and the removal of earth bunds at the northern and southern gates, therefore baseline monitoring for marine water quality should be conducted prior to the commencement of temporary marine works to review the baseline conditions and establish Action and Limit Levels. Baseline water quality monitoring was conducted between 10 May and 5 June 2014 at the designated monitoring stations.

### 1.2 Purpose of the Report

- 1.2.1 This Baseline Water Quality Report presents monitoring locations, equipment, period, methodology, results and observations during the baseline monitoring period.
- 1.2.2 The purposes of this Report are to:
- Summarise the findings of baseline monitoring for marine water quality; and
  - Establish the Action and Limit (A/L) levels in accordance with the EM&A Manual for the subsequent impact monitoring during construction stage.

### 1.3 Structure of the Report

- 1.3.1 This Report comprises the following sections:
- Section 1 introduces the background of the Project and purpose of this Report;
  - Section 2 presents the baseline monitoring requirements, methodologies and monitoring results of marine water quality; and
  - Section 3 concludes the findings of baseline monitoring.

## 2 WATER QUALITY MONITORING

### 2.1 Monitoring Requirements

- 2.1.1 Baseline water quality monitoring was undertaken at three monitoring stations, following the monitoring methodology as stipulated for baseline and impact water quality monitoring in the approved EM&A Manual. The baseline monitoring was conducted 3 days per week for at least 4 weeks prior to the commencement of temporary marine works which is tentative scheduled to commence in the 3<sup>rd</sup> quarter of 2014 (wet season).
- 2.1.2 Measurements were taken at mid-flood and mid-ebb tides at three water depths, namely, 1 m below water surface, mid-depth and 1 m above sea bed, except where the water depth was less than 6 m, in which case the mid-depth station was omitted. If the water depth was less than 3 m, only the mid-depth station would be monitored.

### 2.2 Monitoring Equipment

- 2.2.1 Equipment used in the baseline water quality monitoring programme is summarized in **Table 2.1**. A copy of the calibration certificates for the water quality monitoring equipment are attached in **Appendix 2.1**.

**Table 2.1 Water Quality Monitoring Equipment**

Equipment	Model
DO and Temperature Meter, Salinity Meter, pH meter and Turbidimeter	YSI Model 6820 V2
Positioning Equipment	JRC DGPS 224 Model JLR-4341 with J-NAV 500 Model NWZ4551
Water Depth Detector	Eagle cuda 168
Water Sampler	Kahlsico Water Sampler 2 L with messenger

### 2.3 Monitoring Parameters, Frequency and Duration

- 2.3.1 **Table 2.2** summarizes the monitoring parameters, frequency and duration of the baseline water quality monitoring. The monitoring schedule is provided in **Appendix 2.2**.

**Table 2.2 Water Quality Monitoring Parameters, Frequency and Duration**

Parameter, unit	Frequency and Duration
Turbidity, Suspended Solids, Dissolved Oxygen, pH, Temperature and Salinity	3 days per week at mid-flood and mid-ebb tides for four weeks (12 days)

### 2.4 Monitoring Locations

- 2.4.1 Baseline monitoring was conducted at the designated monitoring stations (**Table 2.3**) according to Table 1 in EP Condition 2.23.7. The locations of the monitoring stations are shown in **Figure No. C11033B/C/SCL/ACM/M62/160**.

**Table 2.3 Locations of Water Quality Impact Stations**

Station	Description	Easting	Northing
GB3	Turtle Cove Beach	841120	810280
C3	Control station for ebb tide	841200	806210
C4	Control station for flood tide	843330	807320

## 2.5 Monitoring Methodology

2.5.1 The following procedures were adopted for DO, temperature, turbidity, pH, salinity and suspended solids measurement:

### *Instrumentation*

2.5.2 The in-situ water quality parameters, viz. dissolved oxygen, temperature, turbidity, pH and salinity were measured by a multi-parameter meter (YSI Model 6820 V2).

### *Operating/Analytical Procedures*

2.5.3 Given that all water quality monitoring stations had water depths over 6 m, all in-situ measurements and samplings were conducted at 3 water depths, namely 1 m below water surface, mid-depth and 1 m above sea bed.

2.5.4 At each sampling depth, at least duplicate readings of dissolved oxygen content and turbidity were taken. The probes were retrieved out of the water after the first measurement and then re-deployed for the second measurement.

2.5.5 Three replicates of water samples for suspended solids were collected by water samplers and stored in polyethylene bottles. Sampling bottles were pre-rinsed with the same water samples. The sample bottles were then packed into a cool-box kept at 4°C, and delivered to a HOKLAS accredited laboratory, ALS Technichem (HK) Pty Ltd. for the analysis of suspended solids following the standard methods "American Public Health Association (APHA) Standard Methods (APHA 2540 D). The results for laboratory analysis of suspended solids are presented in **Appendix 2.3**.

### *Maintenance and Calibration*

2.5.6 Before each round of monitoring, the dissolved oxygen probe of YSI 6820 was calibrated by the wet bulb method.

2.5.7 The monitoring instruments were checked, calibrated and certified by a laboratory accredited under HOKLAS before use and subsequently re-calibrated at 3-monthly intervals throughout baseline water quality monitoring.

## 2.6 Results and Observations

2.6.1 The baseline water quality monitoring for the designated monitoring stations was conducted between 10 May and 5 June 2014. The monitoring results are summarized in **Table 2.4**. Details of water quality monitoring results are presented in **Appendix 2.4**.

2.6.2 The weather conditions during the monitoring period were sunny, fine or cloudy. Sea conditions for the majority of monitoring days were either calm or moderate. No major pollution sources, which might affect the results, were observed being conducted in the vicinity during the baseline monitoring. It is considered that the baseline monitoring data collected between the period of 10 May and 5 June 2014 represent the baseline water quality condition.



**Table 2.4 Summary of Baseline Water Quality Monitoring Results**

Locations		Parameters					
		Salinity (ppt)	Dissolved Oxygen (mg/L)		pH	Turbidity (NTU)	Suspended Solids (mg/L)
			Surface & Middle	Bottom			
GB3	Avg.	31.1	7.10	6.56	8.08	1.39	3.08
	Min.	24.7	5.12	4.91	7.63	0.50	<2.0
	Max.	35.5	9.89	8.70	8.63	2.50	6.0
C3 (control station for ebb tide)	Avg.	30.6	6.87	6.24	8.06	1.45	3.15
	Min.	22.5	5.05	4.39	7.46	0.40	<2.0
	Max.	33.9	8.89	8.22	8.53	3.50	6.0
C4 (control station for flood tide)	Avg.	32.0	6.70	5.98	8.05	1.56	3.24
	Min.	24.0	4.97	4.57	7.44	0.50	<2.0
	Max.	36.6	9.05	8.80	8.50	3.70	6.0

## 2.7 Action and Limit Levels

2.7.1 The Action and Limit Levels (AL levels) have been set in accordance with the derivation criteria specified in the EM&A Manual as shown in **Table 2.5**. The derived AL levels for the wet season impact monitoring are presented in **Table 2.6**.

**Table 2.5 Derivation of Action and Limit Levels for Water Quality**

Parameters	Action Level	Limit Level
DO in mg/L	5 percentile of baseline data	1 percentile of baseline data
SS in mg/L (depth-averaged)	95 percentile of baseline data	99 percentile of baseline data
Turbidity in NTU (depth-averaged)	95 percentile of baseline data	99 percentile of baseline data

Notes: 1. For DO, non-compliance of the water quality limits occurs when monitoring result is lower than the limits.  
2. For turbidity and SS, non-compliance of the water quality limits occurs when monitoring result is higher than the limits.  
3. All the figures given in the table are used for reference only and the EPD may amend the figures whenever it is considered as necessary.

**Table 2.6 Derived Action and Limit Levels for Water Quality at GB3 (Wet Season)**

Parameters	Action Level	Limit Level
DO in mg/L	5.5	5.3
SS in mg/L	4.5	4.5
Turbidity in NTU	2.1	2.4

Notes: 1. For DO, non-compliance of the water quality limits occurs when monitoring result is lower than the limits.  
2. For turbidity and SS, non-compliance of the water quality limits occurs when monitoring result is higher than the limits.

## 2.8 Recommendation for Dry Season Impact Monitoring

- 2.8.1 In case the temporary marine works at Shek O Casting Basin would be conducted during dry season, seasonal fluctuation will be taken into account for compliance checking with Action and Limit Level in dry season.
- 2.8.2 With respect to the location of impact monitoring station (i.e. GB3), the closest EPD routine monitoring station is SM1 as shown in **Figure No. C11033B/C/SCL/ACM/M62/160**. The monthly DO, SS and turbidity results between 2011 and 2012 obtained from the selected EPD routine monitoring stations were used to review the seasonal fluctuation. A summary of EPD monitoring data between 2011 and 2012 is provided in **Appendix 2.5** whilst the background conditions within this period during the wet season (April-September) and dry season (October-March) is presented in **Appendix 2.6**.
- 2.8.3 According to the EPD monitoring results, the DO, SS and Turbidity levels in the dry season were generally higher than those in the wet season. The variation percentage between two seasons is applied to the baseline monitoring data taken for the wet season to derive the AL levels for impact monitoring in the dry season as shown in **Table 2.7**.

**Table 2.7 Derived Action and Limit Levels for Water Quality at GB3 (Dry Season)**

Parameters	Action Level	Limit Level
DO in mg/L	6.8	6.5
SS in mg/L	9.3	9.3
Turbidity in NTU	5.0	5.6

- Notes:
1. For DO, non-compliance of the water quality limits occurs when monitoring result is lower than the limits.
  2. For turbidity and SS, non-compliance of the water quality limits occurs when monitoring result is higher than the limits.

### **3 CONCLUSION**

- 3.1.1 Baseline water quality monitoring was conducted between 10 May 2014 and 5 June 2014 at one monitoring and two control stations. Action and Limit Levels were derived based on the baseline monitoring results.
- 3.1.2 In the event that the temporary marine works would be conducted during dry season, dry season Action and Limit Levels with consideration of seasonal fluctuation should be adopted for compliance checking.

---







**FIGURE**

---

Maps reproduced with permission of the Director of Lands, © Hong Kong Government

PLOT DRY: V:\us\inset\MTR\PI\DRIVER\WINDOWS\_V3\C01016.dgn  
 MODEL NAME: C:\Program Files\AutoCAD 2008\acad.dwg  
 FILE NAME: P:\proj\113\1130223\DRAWING\1000\K\ENR\C11033B\C\_SCL\_ACM\_M62\_160A.dgn

**LEGEND:**



-  WATER QUALITY MONITORING STATION  
GB3 - TURTLE COVE
-  EPD MARINE WATER QUALITY MONITORING STATION  
SM1
-  WATER QUALITY MONITORING CONTROL STATIONS  
C3 - CONTROL STATION FOR EBB TIDE  
C4 - CONTROL STATION FOR FLOOD TIDE
-  EXTENT OF WORKS FOR THE CONSTRUCTION OF EARTH BUNDS OR SIMILAR
-  EXTENT OF SITE LEVELING WORKS FOR SAFE TOWING OF IMMERSED TUBE TUNNEL ELEMENTS
-  CAPE D'AGUILAR MARINE RESERVE

**ABBREVIATION:**

SCL (HUH - ADM)      SHATIN TO CENTRAL LINK - HUNG  
 HOM TO ADMIRALTY SECTION



REV	DESCRIPTION	BY	DATE	APPROVED	REV	DESCRIPTION	BY	DATE	APPROVED

DRAWN	YJP	 <b>SHATIN TO CENTRAL LINK</b> 
DESIGNED	AH	
CHECKED	CKT	
APPROVED	HL	
DATE	06/JUN/2013	
<small>DO NOT SCALE DRAWINGS. ALL DIMENSIONS SHALL BE VERIFIED ON SITE.        © MTR CORPORATION LIMITED 2008 COPYRIGHT IN RESPECT OF THIS DRAWING / DOCUMENT IS OWNED BY THE MTR CORPORATION LIMITED OF HONG KONG. NO REPRODUCTION OF THE DRAWING / DOCUMENT OR ANY PART BY WHATEVER MEANS IS PERMITTED WITHOUT THE PRIOR WRITTEN CONSENT OF THE MTR CORPORATION LIMITED.</small>		ORIGINATOR
CADD REF.		C11033B_C_SCL_ACM_M62_160A.dgn

<b>TITLE</b> <b>C11033B</b> <b>BASELINE WATER QUALITY MONITORING REPORT</b> <b>LOCATIONS OF WATER QUALITY MONITORING STATIONS</b>	
SCALE	FIGURE NO.
1 : 20000 (A3)	C11033B/C/SCL/ACM/M62/160
REV.	A

---

**APPENDIX 2.1**

**CALIBRATION CERTIFICATES OF MONITORING  
EQUIPMENTS**

---





ALS Technichem (HK) Pty Ltd  
11/F, Chung Shun Knitting Centre  
1-3 Wing Yip Street  
Kwai Chung, N.T., Hong Kong  
T: +852 2610 1044  
F: +852 2610 2021  
www.alsglobal.com

## REPORT OF EQUIPMENT PERFORMANCE CHECK/CALIBRATION

**CONTACT:** MR MIKE SHEK  
**CLIENT:** AECOM ASIA COMPANY LIMITED  
**ADDRESS:** 11/F, TOWER 2, GRAND CENTRAL PLAZA,  
138 SHATIN RURAL COMMITTEE ROAD,  
SHATIN, N.T.,  
HONG KONG.

**WORK ORDER:** HK1404435  
**LABORATORY:** HONG KONG  
**DATE RECEIVED:** 12/02/2014  
**DATE OF ISSUE:** 20/02/2014

**PROJECT:** --

### COMMENTS

It is certified that the item under calibration/checking has been calibrated/checked by corresponding calibrated equipment in the laboratory.

Maximum Tolerance and calibration frequency stated in the report, unless otherwise stated, the internal acceptance criteria of ALS will be followed.

Scope of Test: Conductivity, Dissolved Oxygen, pH, Salinity, Temperature and Turbidity  
Equipment Type: Sonde Environmental Monitoring System  
Brand Name: YSI  
Model No.: 6820 V2  
Serial No.: 12A101545  
Equipment No.: W.026.35  
Date of Calibration: 13 February, 2014

### NOTES

This is the Final Report and supersedes any preliminary report with this batch number.

Results apply to sample(s) as submitted. All pages of this report have been checked and approved for release.

  
Mr. Fung Lim Chee, Richard  
General Manager -  
Greater China & Hong Kong

# REPORT OF EQUIPMENT PERFORMANCE CHECK/CALIBRATION



**Work Order:** HK1404435  
**Date of Issue:** 20/02/2014  
**Client:** AECOM ASIA COMPANY LIMITED

**Equipment Type:** Sonde Environmental Monitoring System  
**Brand Name:** YSI  
**Model No.:** 6820 V2  
**Serial No.:** 12A101545  
**Equipment No.:** W.026.35  
**Date of Calibration:** 13 February, 2014      **Date of next Calibration:** 13 May, 2014

**Parameters:**

**Conductivity**

**Method Ref: APHA (21st edition), 2510B**

Expected Reading (uS/cm)	Displayed Reading (uS/cm )	Tolerance (%)
146.9	151.0	2.8
6667	6558	-1.6
12890	12670	-1.7
58670	58020	-1.1
Tolerance Limit (±%)		10.0

**Dissolved Oxygen**

**Method Ref: APHA (21st edition), 4500O: G**

Expected Reading (mg/L)	Displayed Reading (mg/L)	Tolerance (mg/L)
3.40	3.42	0.02
5.50	5.54	0.04
7.65	7.60	-0.05
Tolerance Limit (±mg/L)		0.20

**pH Value**

**Method Ref: APHA 21st Ed. 4500H:B**

Expected Reading (pH Unit)	Displayed Reading (pH Unit)	Tolerance (pH unit)
4.0	4.02	0.02
7.0	7.05	0.05
10.0	9.97	-0.03
Tolerance Limit (±pH unit)		0.20

**Salinity**

**Method Ref: APHA (21st edition), 2520B**

Expected Reading (ppt)	Displayed Reading (ppt)	Tolerance (%)
0	0.03	--
10	9.88	-1.2
20	19.62	-1.9
30	29.50	-1.7
Tolerance Limit (±%)		10.0

Remark: "Displayed Reading" presents the figures shown on item under calibration / checking regardless of equipment precision or significant figures.

Mr. Fung Lim Chee, Richard  
 General Manager -  
 Greater China & Hong Kong



# REPORT OF EQUIPMENT PERFORMANCE CHECK/CALIBRATION



**Work Order:** HK1404435  
**Date of Issue:** 20/02/2014  
**Client:** AECOM ASIA COMPANY LIMITED

**Equipment Type:** Sonde Environmental Monitoring System  
**Brand Name:** YSI  
**Model No.:** 6820 V2  
**Serial No.:** 12A101545  
**Equipment No.:** W.026.35  
**Date of Calibration:** 13 February, 2014      **Date of next Calibration:** 13 May, 2014

**Parameters:**

**Temperature**

**Method Ref: Section 6 of International Accreditation New Zealand Technical Guide No. 3 Second edition March 2008: Working Thermometer Calibration Procedure.**

Expected Reading (°C)	Displayed Reading (°C)	Tolerance (°C)
14.0	13.92	-0.1
26.0	25.91	-0.1
38.5	38.40	-0.1
Tolerance Limit (±°C)		2.0

**Turbidity**

**Method Ref: APHA (21st edition), 2130B**

Expected Reading (NTU)	Displayed Reading (NTU)	Tolerance (%)
0	0.0	--
4	3.9	-2.5
10	9.7	-3.0
20	19.6	-2.0
50	49.3	-1.4
100	99.2	-0.8
Tolerance Limit (±%)		10.0

Remark: "Displayed Reading" presents the figures shown on item under calibration / checking regardless of equipment precision or significant figures.



ALS Technichem (HK) Pty Ltd  
11/F, Chung Shun Knitting Centre  
1-3 Wing Yip Street  
Kwai Chung, N.T., Hong Kong  
T: +852 2610 1044  
F: +852 2610 2021  
www.alsglobal.com

## REPORT OF EQUIPMENT PERFORMANCE CHECK/CALIBRATION

**CONTACT:** MR MIKE SHEK  
**CLIENT:** AECOM ASIA COMPANY LIMITED  
**ADDRESS:** 11/F, TOWER 2, GRAND CENTRAL PLAZA,  
138 SHATIN RURAL COMMITTEE ROAD,  
SHATIN, N.T.,  
HONG KONG.

**WORK ORDER:** HK1414464  
**LABORATORY:** HONG KONG  
**DATE RECEIVED:** 13/05/2014  
**DATE OF ISSUE:** 19/05/2014

### COMMENTS

The performance of the equipment stated in this report is checked with independent reference material and results compared against a calibrated secondary source.  
The "Tolerance Limit" quoted is the acceptance criteria applicable for similar equipment used by the ALS Hong Kong laboratory or quoted from relevant international standards.  
The "Next Calibration Date" is recommended according to best practice principals as practised by the ALS Hong Kong laboratory or quoted from relevant international standards.

Scope of Test: pH, Salinity, Conductivity, Temperature, Dissolved Oxygen and Turbidity  
Description: Sonde  
Brand Name: YSI  
Model No.: 6820 V2  
Serial No.: 12A101545  
Equipment No.: W.026.35  
Date of Calibration: 13 May, 2014

### NOTES

This is the Final Report and supersedes any preliminary report with this batch number.  
Results apply to sample(s) as submitted. All pages of this report have been checked and approved for release.

  
Mr Fung Lim Chee, Richard  
General Manager -  
Greater China & Hong Kong

# REPORT OF EQUIPMENT PERFORMANCE CHECK / CALIBRATION

**Work Order:** HK1414464  
**Date of Issue:** 19/05/2014  
**Client:** AECOM ASIA COMPANY LIMITED



**Description:** Sonde  
**Brand Name:** YSI  
**Model No.:** 6820 V2  
**Serial No.:** 12A101545  
**Equipment No.:** W.026.35  
**Date of Calibration:** 13 May, 2014

**Date of next Calibration:** 13 August, 2014

**Parameters:**

**Conductivity**

**Method Ref:** APHA (20th edition), 2510B

Expected Reading (uS/cm)	Displayed Reading (uS/cm )	Tolerance (%)
146.9	147.2	+0.2
6667	6710	+0.6
12890	12710	-1.4
58670	58520	-0.3
Tolerance Limit (%)		±10.0

**Dissolved Oxygen** **Method Ref:** APHA (21st edition), 4500: G

Expected Reading (mg/L)	Displayed Reading (mg/L)	Tolerance (mg/L)
3.66	3.70	+0.04
5.85	5.89	+0.04
7.65	7.70	+0.05
Tolerance Limit (mg/L)		±0.20

**pH Value**

**Method Ref:** APHA (21st edition), 4500H:B

Expected Reading (pH Unit)	Displayed Reading (pH Unit)	Tolerance (pH unit)
4.0	4.01	+0.01
7.0	7.05	+0.05
10.0	9.94	-0.06
Tolerance Limit (pH Unit)		±0.20

Remark: "Displayed Reading" presents the figures shown on item under calibration / checking regardless of equipment precision or significant figures.

  
 \_\_\_\_\_  
 Mr Fung Lim Chee, Richard  
 General Manager -  
 Greater China & Hong Kong



# REPORT OF EQUIPMENT PERFORMANCE CHECK / CALIBRATION

**Work Order:** HK1414464  
**Date of Issue:** 19/05/2014  
**Client:** AECOM ASIA COMPANY LIMITED



**Description:** Sonde  
**Brand Name:** YSI  
**Model No.:** 6820 V2  
**Serial No.:** 12A101545  
**Equipment No.:** W.026.35  
**Date of Calibration:** 13 May, 2014

**Date of next Calibration:** 13 August, 2014

**Parameters:**

**Salinity**

**Method Ref:** APHA (21st edition), 2520B

Expected Reading (g/L)	Displayed Reading (g/L)	Tolerance (%)
0	0.00	--
10	9.68	-3.2
20	19.86	-0.7
30	29.72	-0.9
Tolerance Limit (%)		±10.0

**Temperature**

**Method Ref:** Section 6 of International Accreditation New Zealand Technical

**Guide No. 3 Second edition March 2008: Working Thermometer Calibration Procedure.**

Reading of Ref. thermometer (°C)	Displayed Reading (°C)	Tolerance (°C)
13.5	13.42	-0.1
25.5	24.40	-1.1
38.0	37.66	-0.3
Tolerance Limit (°C)		±2.0

**Turbidity**

**Method Ref:** APHA (21st edition), 2130B

Expected Reading (NTU)	Displayed Reading (NTU)	Tolerance (%)
0	0.0	--
4	4.1	+2.5
10	10.0	0.0
20	19.8	-1.0
50	49.5	-1.0
100	99.6	-0.4
Tolerance Limit (%)		±10.0

Remark: "Displayed Reading" presents the figures shown on item under calibration / checking regardless of equipment precision or significant figures.

---

 Mr Fung Lim Chee, Richard  
 General Manager  
 Greater China & Hong Kong

---

**APPENDIX 2.2**

**BASELINE WATER QUALITY MONITORING SCHEDULES**

---

**Consultancy Agreement No. C11033B SCL (MKK-HUH & HUH-ADM)  
Baseline Water Quality Monitoring Schedule at Shek O (May 2014)**

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
				1-May		3-May
		6-May		8-May		10-May
						Mid-Ebb 9:34 Mid-Flood 15:15  Day 1
		13-May		15-May		17-May
		Mid-Ebb 11:14 Mid-Flood 17:52  Day 2		Mid-Ebb 12:32 Mid-Flood 19:23  Day 3		Mid-Flood 7:13 Mid-Ebb 14:02  Day 4
		20-May		22-May		24-May
		Mid-Flood 9:40 Mid-Ebb 16:42  Day 5		Mid-Flood 12:14 Mid-Ebb 18:57  Day 6		Mid-Ebb 9:07 Mid-Flood 15:02  Day 7
		27-May		29-May		31-May
		Mid-Ebb 11:25 Mid-Flood 17:59  Day 8		Mid-Ebb 12:43 Mid-Flood 19:30  Day 9		Mid-Flood 6:57 Mid-Ebb 13:59  Day 10

Note:

Reference Tidal Station: Tai Miu Wan (Hong Kong Observatory)

**Consultancy Agreement No. C11033B SCL (MKK-HUH & HUH-ADM)  
Baseline Water Quality Monitoring Schedule at Shek O (Jun 2014)**

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
1-Jun	2-Jun	3-Jun	4-Jun	5-Jun	6-Jun	7-Jun
		Mid-Flood 7:52 Mid-Ebb 15:08		Mid-Flood 9:33 Mid-Ebb 16:36		
		Day 11		Day 12		
8-Jun	9-Jun	10-Jun	11-Jun	12-Jun	13-Jun	14-Jun
15-Jun	16-Jun	17-Jun	18-Jun	19-Jun	20-Jun	21-Jun
22-Jun	23-Jun	24-Jun	25-Jun	26-Jun	27-Jun	28-Jun
29-Jun	30-Jun	1-Jul		3-Jul		5-Jul

Note:

Reference Tidal Station: Tai Miu Wan (Hong Kong Observatory)

---

**APPENDIX 2.3**

**LABORATORY RESULTS**

---





## CERTIFICATE OF ANALYSIS

<i>Client</i>	: AECOM ASIA COMPANY LIMITED	<i>Laboratory</i>	: ALS Technichem HK Pty Ltd	<i>Page</i>	: 1 of 3
<i>Contact</i>	: MS ANGELA TONG	<i>Contact</i>	: Fung Lim Chee, Richard	<i>Work Order</i>	: <b>HK1414000</b>
<i>Address</i>	: 11/F, TOWER 2, GRAND CENTRAL PLAZA, 138 SHATIN RURAL COMMITTEE ROAD, SHATIN, N.T. HONG KONG	<i>Address</i>	: 11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong		
<i>E-mail</i>	: angela.tong@aecom.com	<i>E-mail</i>	: Richard.Fung@alsglobal.com		
<i>Telephone</i>	: +852 3922 9418	<i>Telephone</i>	: +852 2610 1044		
<i>Facsimile</i>	: ----	<i>Facsimile</i>	: +852 2610 2021		
<i>Project</i>	: SCL-BASELINE WQM	<i>Quote number</i>	: ----	<i>Date received</i>	: 10-MAY-2014
<i>Order number</i>	: 60280233			<i>Date of issue</i>	: 20-MAY-2014
<i>C-O-C number</i>	: ----			<i>No. of samples</i>	- Received : 24
<i>Site</i>	: ----				- Analysed : 24

### Report Comments

This report for ALS Technichem (HK) Pty Ltd work order reference HK1414000 supersedes any previous reports with this reference. The completion date of analysis is 14-MAY-2014. Results apply to sample(s) as submitted. All pages of this report have been checked and approved for release. When date(s) and/or time(s) are shown bracketed, these have been assumed by the laboratory for process purposes. Abbreviations: CAS number = Chemical Abstract Services number. LOR = Limit of reporting.

Specific comments for Work Order HK1414000 : Sample(s) were picked up from client by ALS Technichem (HK) staff in a chilled condition.  
Water sample(s) analysed and reported on an as received basis.

**This report may not be reproduced except with prior written approval from ALS Technichem (HK) Pty Ltd.**

This document has been electronically signed by those names that appear on this report and are the authorised signatories. Electronic signing has been carried out in compliance with procedures specified in the 'Electronic Transactions Ordinance' of Hong Kong, Chapter 553, Section 6.

*Signatory*  
**Fung Lim Chee, Richard**

*Position*  
**General Manager**

*Authorised results for:-*  
**Inorganics**



**Analytical Results**

Sub-Matrix: SEAWATER

			Compound				
			EA025: Suspended Solids (SS)				
			LOR Unit				
Client sample ID	Client sampling date / time	Laboratory sample ID	EA/ED: Physical and Aggregate Properties				
GB3 (SURFACE) MID-EBB	[10-MAY-2014]	HK1414000-001	4				
GB3 (SURFACE) MID-EBB	[10-MAY-2014]	HK1414000-002	4				
GB3 (MIDDLE) MID-EBB	[10-MAY-2014]	HK1414000-003	4				
GB3 (MIDDLE) MID-EBB	[10-MAY-2014]	HK1414000-004	4				
GB3 (BOTTOM) MID-EBB	[10-MAY-2014]	HK1414000-005	5				
GB3 (BOTTOM) MID-EBB	[10-MAY-2014]	HK1414000-006	5				
C3 (SURFACE) MID-EBB	[10-MAY-2014]	HK1414000-007	3				
C3 (SURFACE) MID-EBB	[10-MAY-2014]	HK1414000-008	4				
C3 (MIDDLE) MID-EBB	[10-MAY-2014]	HK1414000-009	5				
C3 (MIDDLE) MID-EBB	[10-MAY-2014]	HK1414000-010	5				
C3 (BOTTOM) MID-EBB	[10-MAY-2014]	HK1414000-011	5				
C3 (BOTTOM) MID-EBB	[10-MAY-2014]	HK1414000-012	5				
GB3 (SURFACE) MID-FLOOD	[10-MAY-2014]	HK1414000-013	4				
GB3 (SURFACE) MID-FLOOD	[10-MAY-2014]	HK1414000-014	4				
GB3 (MIDDLE) MID-FLOOD	[10-MAY-2014]	HK1414000-015	4				
GB3 (MIDDLE) MID-FLOOD	[10-MAY-2014]	HK1414000-016	4				
GB3 (BOTTOM) MID-FLOOD	[10-MAY-2014]	HK1414000-017	5				
GB3 (BOTTOM) MID-FLOOD	[10-MAY-2014]	HK1414000-018	5				
C4 (SURFACE) MID-FLOOD	[10-MAY-2014]	HK1414000-019	5				
C4 (SURFACE) MID-FLOOD	[10-MAY-2014]	HK1414000-020	4				
C4 (MIDDLE) MID-FLOOD	[10-MAY-2014]	HK1414000-021	5				
C4 (MIDDLE) MID-FLOOD	[10-MAY-2014]	HK1414000-022	5				
C4 (BOTTOM) MID-FLOOD	[10-MAY-2014]	HK1414000-023	6				
C4 (BOTTOM) MID-FLOOD	[10-MAY-2014]	HK1414000-024	5				



**Laboratory Duplicate (DUP) Report**

Matrix: WATER				Laboratory Duplicate (DUP) Report				
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)
<b>EA/ED: Physical and Aggregate Properties (QC Lot: 3437381)</b>								
HK1414000-001	GB3 (SURFACE) MID-EBB	EA025: Suspended Solids (SS)	----	2	mg/L	4	4	0.0
HK1414000-011	C3 (BOTTOM) MID-EBB	EA025: Suspended Solids (SS)	----	2	mg/L	5	5	0.0
<b>EA/ED: Physical and Aggregate Properties (QC Lot: 3437382)</b>								
HK1414000-021	C4 (MIDDLE) MID-FLOOD	EA025: Suspended Solids (SS)	----	2	mg/L	5	5	0.0

**Method Blank (MB), Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report**

Matrix: WATER			Method Blank (MB) Report			Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report					
Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
						LCS	DCS	Low	High	Value	Control Limit
<b>EA/ED: Physical and Aggregate Properties (QCLot: 3437381)</b>											
EA025: Suspended Solids (SS)	----	2	mg/L	<2	20 mg/L	100	----	85	115	----	----
<b>EA/ED: Physical and Aggregate Properties (QCLot: 3437382)</b>											
EA025: Suspended Solids (SS)	----	2	mg/L	<2	20 mg/L	100	----	85	115	----	----

**Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report**

- No Matrix Spike (MS) or Matrix Spike Duplicate (MSD) Results are required to be reported.



## CERTIFICATE OF ANALYSIS

<i>Client</i>	: AECOM ASIA COMPANY LIMITED	<i>Laboratory</i>	: ALS Technichem HK Pty Ltd	<i>Page</i>	: 1 of 3
<i>Contact</i>	: MS ANGELA TONG	<i>Contact</i>	: Fung Lim Chee, Richard	<i>Work Order</i>	: <b>HK1414279</b>
<i>Address</i>	: 11/F, TOWER 2, GRAND CENTRAL PLAZA, 138 SHATIN RURAL COMMITTEE ROAD, SHATIN, N.T. HONG KONG	<i>Address</i>	: 11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong		
<i>E-mail</i>	: angela.tong@aecom.com	<i>E-mail</i>	: Richard.Fung@alsglobal.com		
<i>Telephone</i>	: +852 3922 9418	<i>Telephone</i>	: +852 2610 1044		
<i>Facsimile</i>	: ----	<i>Facsimile</i>	: +852 2610 2021		
<i>Project</i>	: SCL-BASELINE WQM	<i>Quote number</i>	: ----	<i>Date received</i>	: 14-MAY-2014
<i>Order number</i>	: 60280233			<i>Date of issue</i>	: 26-MAY-2014
<i>C-O-C number</i>	: ----			<i>No. of samples</i>	- Received : 24
<i>Site</i>	: ----				- Analysed : 24

### Report Comments

This report for ALS Technichem (HK) Pty Ltd work order reference HK1414279 supersedes any previous reports with this reference. The completion date of analysis is 19-MAY-2014. Results apply to sample(s) as submitted. All pages of this report have been checked and approved for release. When date(s) and/or time(s) are shown bracketed, these have been assumed by the laboratory for process purposes. Abbreviations: CAS number = Chemical Abstract Services number. LOR = Limit of reporting.

Specific comments for Work Order HK1414279 :      Sample(s) were picked up from client by ALS Technichem (HK) staff in a chilled condition.  
Water sample(s) analysed and reported on an as received basis.

**This report may not be reproduced except with prior written approval from ALS Technichem (HK) Pty Ltd.**

This document has been electronically signed by those names that appear on this report and are the authorised signatories. Electronic signing has been carried out in compliance with procedures specified in the 'Electronic Transactions Ordinance' of Hong Kong, Chapter 553, Section 6.

<i>Signatory</i>	<i>Position</i>	<i>Authorised results for:-</i>
<b>Fung Lim Chee, Richard</b>	<b>General Manager</b>	<b>Inorganics</b>



**Analytical Results**

Sub-Matrix: SEAWATER

			Compound				
			EA025: Suspended Solids (SS)				
			LOR Unit	2 mg/L			
Client sample ID	Client sampling date / time	Laboratory sample ID	EA/ED: Physical and Aggregate Properties				
GB3 (SURFACE) MID-EBB	[13-MAY-2014]	HK1414279-001	4				
GB3 (SURFACE) MID-EBB	[13-MAY-2014]	HK1414279-002	4				
GB3 (MIDDLE) MID-EBB	[13-MAY-2014]	HK1414279-003	4				
GB3 (MIDDLE) MID-EBB	[13-MAY-2014]	HK1414279-004	3				
GB3 (BOTTOM) MID-EBB	[13-MAY-2014]	HK1414279-005	4				
GB3 (BOTTOM) MID-EBB	[13-MAY-2014]	HK1414279-006	5				
C3 (SURFACE) MID-EBB	[13-MAY-2014]	HK1414279-007	2				
C3 (SURFACE) MID-EBB	[13-MAY-2014]	HK1414279-008	3				
C3 (MIDDLE) MID-EBB	[13-MAY-2014]	HK1414279-009	5				
C3 (MIDDLE) MID-EBB	[13-MAY-2014]	HK1414279-010	4				
C3 (BOTTOM) MID-EBB	[13-MAY-2014]	HK1414279-011	4				
C3 (BOTTOM) MID-EBB	[13-MAY-2014]	HK1414279-012	6				
GB3 (SURFACE) MID-FLOOD	[13-MAY-2014]	HK1414279-013	3				
GB3 (SURFACE) MID-FLOOD	[13-MAY-2014]	HK1414279-014	4				
GB3 (MIDDLE) MID-FLOOD	[13-MAY-2014]	HK1414279-015	4				
GB3 (MIDDLE) MID-FLOOD	[13-MAY-2014]	HK1414279-016	5				
GB3 (BOTTOM) MID-FLOOD	[13-MAY-2014]	HK1414279-017	6				
GB3 (BOTTOM) MID-FLOOD	[13-MAY-2014]	HK1414279-018	5				
C4 (SURFACE) MID-FLOOD	[13-MAY-2014]	HK1414279-019	3				
C4 (SURFACE) MID-FLOOD	[13-MAY-2014]	HK1414279-020	3				
C4 (MIDDLE) MID-FLOOD	[13-MAY-2014]	HK1414279-021	4				
C4 (MIDDLE) MID-FLOOD	[13-MAY-2014]	HK1414279-022	3				
C4 (BOTTOM) MID-FLOOD	[13-MAY-2014]	HK1414279-023	4				
C4 (BOTTOM) MID-FLOOD	[13-MAY-2014]	HK1414279-024	3				



**Laboratory Duplicate (DUP) Report**

Matrix: WATER				Laboratory Duplicate (DUP) Report				
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)
<b>EA/ED: Physical and Aggregate Properties (QC Lot: 3445137)</b>								
HK1414279-001	GB3 (SURFACE) MID-EBB	EA025: Suspended Solids (SS)	----	2	mg/L	4	4	0.0
HK1414279-011	C3 (BOTTOM) MID-EBB	EA025: Suspended Solids (SS)	----	2	mg/L	4	4	0.0
<b>EA/ED: Physical and Aggregate Properties (QC Lot: 3445138)</b>								
HK1414279-021	C4 (MIDDLE) MID-FLOOD	EA025: Suspended Solids (SS)	----	2	mg/L	4	4	0.0

**Method Blank (MB), Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report**

Matrix: WATER			Method Blank (MB) Report			Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report					
Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
						LCS	DCS	Low	High	Value	Control Limit
<b>EA/ED: Physical and Aggregate Properties (QCLot: 3445137)</b>											
EA025: Suspended Solids (SS)	----	2	mg/L	<2	20 mg/L	102	----	85	115	----	----
<b>EA/ED: Physical and Aggregate Properties (QCLot: 3445138)</b>											
EA025: Suspended Solids (SS)	----	2	mg/L	<2	20 mg/L	98.0	----	85	115	----	----

**Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report**

- No Matrix Spike (MS) or Matrix Spike Duplicate (MSD) Results are required to be reported.





**Analytical Results**

Sub-Matrix: SEAWATER

			Compound				
			EA025: Suspended Solids (SS)				
			LOR Unit				
Client sample ID	Client sampling date / time	Laboratory sample ID	EA/ED: Physical and Aggregate Properties				
GB3 (SURFACE) MID-EBB	[15-MAY-2014]	HK1414280-001	3				
GB3 (SURFACE) MID-EBB	[15-MAY-2014]	HK1414280-002	2				
GB3 (MIDDLE) MID-EBB	[15-MAY-2014]	HK1414280-003	2				
GB3 (MIDDLE) MID-EBB	[15-MAY-2014]	HK1414280-004	2				
GB3 (BOTTOM) MID-EBB	[15-MAY-2014]	HK1414280-005	3				
GB3 (BOTTOM) MID-EBB	[15-MAY-2014]	HK1414280-006	2				
C3 (SURFACE) MID-EBB	[15-MAY-2014]	HK1414280-007	4				
C3 (SURFACE) MID-EBB	[15-MAY-2014]	HK1414280-008	4				
C3 (MIDDLE) MID-EBB	[15-MAY-2014]	HK1414280-009	2				
C3 (MIDDLE) MID-EBB	[15-MAY-2014]	HK1414280-010	2				
C3 (BOTTOM) MID-EBB	[15-MAY-2014]	HK1414280-011	3				
C3 (BOTTOM) MID-EBB	[15-MAY-2014]	HK1414280-012	2				
GB3 (SURFACE) MID-FLOOD	[15-MAY-2014]	HK1414280-013	3				
GB3 (SURFACE) MID-FLOOD	[15-MAY-2014]	HK1414280-014	2				
GB3 (MIDDLE) MID-FLOOD	[15-MAY-2014]	HK1414280-015	2				
GB3 (MIDDLE) MID-FLOOD	[15-MAY-2014]	HK1414280-016	2				
GB3 (BOTTOM) MID-FLOOD	[15-MAY-2014]	HK1414280-017	2				
GB3 (BOTTOM) MID-FLOOD	[15-MAY-2014]	HK1414280-018	2				
C4 (SURFACE) MID-FLOOD	[15-MAY-2014]	HK1414280-019	2				
C4 (SURFACE) MID-FLOOD	[15-MAY-2014]	HK1414280-020	2				
C4 (MIDDLE) MID-FLOOD	[15-MAY-2014]	HK1414280-021	2				
C4 (MIDDLE) MID-FLOOD	[15-MAY-2014]	HK1414280-022	3				
C4 (BOTTOM) MID-FLOOD	[15-MAY-2014]	HK1414280-023	2				
C4 (BOTTOM) MID-FLOOD	[15-MAY-2014]	HK1414280-024	2				





**Laboratory Duplicate (DUP) Report**

Matrix: WATER				Laboratory Duplicate (DUP) Report				
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)
<b>EA/ED: Physical and Aggregate Properties (QC Lot: 3447852)</b>								
HK1414280-001	GB3 (SURFACE) MID-EBB	EA025: Suspended Solids (SS)	----	2	mg/L	3	3	0.0
HK1414280-011	C3 (BOTTOM) MID-EBB	EA025: Suspended Solids (SS)	----	2	mg/L	3	3	0.0
<b>EA/ED: Physical and Aggregate Properties (QC Lot: 3447853)</b>								
HK1414280-021	C4 (MIDDLE) MID-FLOOD	EA025: Suspended Solids (SS)	----	2	mg/L	2	2	0.0

**Method Blank (MB), Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report**

Matrix: WATER			Method Blank (MB) Report			Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report					
Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
						LCS	DCS	Low	High	Value	Control Limit
<b>EA/ED: Physical and Aggregate Properties (QCLot: 3447852)</b>											
EA025: Suspended Solids (SS)	----	2	mg/L	<2	20 mg/L	102	----	85	115	----	----
<b>EA/ED: Physical and Aggregate Properties (QCLot: 3447853)</b>											
EA025: Suspended Solids (SS)	----	2	mg/L	<2	20 mg/L	98.0	----	85	115	----	----

**Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report**

- No Matrix Spike (MS) or Matrix Spike Duplicate (MSD) Results are required to be reported.



## CERTIFICATE OF ANALYSIS

<i>Client</i>	: AECOM ASIA COMPANY LIMITED	<i>Laboratory</i>	: ALS Technichem HK Pty Ltd	<i>Page</i>	: 1 of 3
<i>Contact</i>	: MS ANGELA TONG	<i>Contact</i>	: Fung Lim Chee, Richard	<i>Work Order</i>	: <b>HK1409741</b>
<i>Address</i>	: 11/F, TOWER 2, GRAND CENTRAL PLAZA, 138 SHATIN RURAL COMMITTEE ROAD, SHATIN, N.T. HONG KONG	<i>Address</i>	: 11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong		
<i>E-mail</i>	: angela.tong@aecom.com	<i>E-mail</i>	: Richard.Fung@alsglobal.com		
<i>Telephone</i>	: +852 3922 9418	<i>Telephone</i>	: +852 2610 1044		
<i>Facsimile</i>	: ----	<i>Facsimile</i>	: +852 2610 2021		
<i>Project</i>	: SCL-BASELINE WQM	<i>Quote number</i>	: ----	<i>Date received</i>	: 17-MAY-2014
<i>Order number</i>	: 60280233			<i>Date of issue</i>	: 27-MAY-2014
<i>C-O-C number</i>	: ----			<i>No. of samples</i>	- Received : 24
<i>Site</i>	: ----				- Analysed : 24

### Report Comments

This report for ALS Technichem (HK) Pty Ltd work order reference HK1409741 supersedes any previous reports with this reference. The completion date of analysis is 20-MAY-2014. Results apply to sample(s) as submitted. All pages of this report have been checked and approved for release. When date(s) and/or time(s) are shown bracketed, these have been assumed by the laboratory for process purposes. Abbreviations: CAS number = Chemical Abstract Services number. LOR = Limit of reporting.

Specific comments for Work Order HK1409741 :      Sample(s) were picked up from client by ALS Technichem (HK) staff in a chilled condition.  
Water sample(s) analysed and reported on an as received basis.

**This report may not be reproduced except with prior written approval from ALS Technichem (HK) Pty Ltd.**

This document has been electronically signed by those names that appear on this report and are the authorised signatories. Electronic signing has been carried out in compliance with procedures specified in the 'Electronic Transactions Ordinance' of Hong Kong, Chapter 553, Section 6.

<i>Signatory</i>	<i>Position</i>	<i>Authorised results for:-</i>
Fung Lim Chee, Richard	General Manager	Inorganics



**Analytical Results**

Sub-Matrix: WATER

			Compound				
			EA025: Suspended Solids (SS)				
			LOR Unit				
Client sample ID	Client sampling date / time	Laboratory sample ID	EA/ED: Physical and Aggregate Properties				
GB3 (SURFACE) MID-EBB	[17-MAY-2014]	HK1409741-001	3				
GB3 (SURFACE) MID-EBB	[17-MAY-2014]	HK1409741-002	4				
GB3 (MIDDLE) MID-EBB	[17-MAY-2014]	HK1409741-003	4				
GB3 (MIDDLE) MID-EBB	[17-MAY-2014]	HK1409741-004	3				
GB3 (BOTTOM) MID-EBB	[17-MAY-2014]	HK1409741-005	4				
GB3 (BOTTOM) MID-EBB	[17-MAY-2014]	HK1409741-006	4				
C3 (SURFACE) MID-EBB	[17-MAY-2014]	HK1409741-007	4				
C3 (SURFACE) MID-EBB	[17-MAY-2014]	HK1409741-008	5				
C3 (MIDDLE) MID-EBB	[17-MAY-2014]	HK1409741-009	4				
C3 (MIDDLE) MID-EBB	[17-MAY-2014]	HK1409741-010	5				
C3 (BOTTOM) MID-EBB	[17-MAY-2014]	HK1409741-011	4				
C3 (BOTTOM) MID-EBB	[17-MAY-2014]	HK1409741-012	4				
GB3 (SURFACE) MID-FLOOD	[17-MAY-2014]	HK1409741-013	5				
GB3 (SURFACE) MID-FLOOD	[17-MAY-2014]	HK1409741-014	4				
GB3 (MIDDLE) MID-FLOOD	[17-MAY-2014]	HK1409741-015	5				
GB3 (MIDDLE) MID-FLOOD	[17-MAY-2014]	HK1409741-016	4				
GB3 (BOTTOM) MID-FLOOD	[17-MAY-2014]	HK1409741-017	5				
GB3 (BOTTOM) MID-FLOOD	[17-MAY-2014]	HK1409741-018	4				
C4 (SURFACE) MID-FLOOD	[17-MAY-2014]	HK1409741-019	5				
C4 (SURFACE) MID-FLOOD	[17-MAY-2014]	HK1409741-020	5				
C4 (MIDDLE) MID-FLOOD	[17-MAY-2014]	HK1409741-021	6				
C4 (MIDDLE) MID-FLOOD	[17-MAY-2014]	HK1409741-022	6				
C4 (BOTTOM) MID-FLOOD	[17-MAY-2014]	HK1409741-023	5				
C4 (BOTTOM) MID-FLOOD	[17-MAY-2014]	HK1409741-024	6				



**Laboratory Duplicate (DUP) Report**

Matrix: WATER				Laboratory Duplicate (DUP) Report				
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)
<b>EA/ED: Physical and Aggregate Properties (QC Lot: 3447830)</b>								
HK1409741-001	GB3 (SURFACE) MID-EBB	EA025: Suspended Solids (SS)	----	2	mg/L	3	3	0.0
HK1409741-011	C3 (BOTTOM) MID-EBB	EA025: Suspended Solids (SS)	----	2	mg/L	4	4	0.0
<b>EA/ED: Physical and Aggregate Properties (QC Lot: 3447831)</b>								
HK1409741-021	C4 (MIDDLE) MID-FLOOD	EA025: Suspended Solids (SS)	----	2	mg/L	6	6	0.0

**Method Blank (MB), Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report**

Matrix: WATER			Method Blank (MB) Report			Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report					
Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
						LCS	DCS	Low	High	Value	Control Limit
<b>EA/ED: Physical and Aggregate Properties (QCLot: 3447830)</b>											
EA025: Suspended Solids (SS)	----	2	mg/L	<2	20 mg/L	98.5	----	85	115	----	----
<b>EA/ED: Physical and Aggregate Properties (QCLot: 3447831)</b>											
EA025: Suspended Solids (SS)	----	2	mg/L	<2	20 mg/L	100	----	85	115	----	----

**Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report**

- No Matrix Spike (MS) or Matrix Spike Duplicate (MSD) Results are required to be reported.



## CERTIFICATE OF ANALYSIS

<i>Client</i>	: AECOM ASIA COMPANY LIMITED	<i>Laboratory</i>	: ALS Technichem HK Pty Ltd	<i>Page</i>	: 1 of 3
<i>Contact</i>	: MS ANGELA TONG	<i>Contact</i>	: Fung Lim Chee, Richard	<i>Work Order</i>	: <b>HK1415091</b>
<i>Address</i>	: 11/F, TOWER 2, GRAND CENTRAL PLAZA, 138 SHATIN RURAL COMMITTEE ROAD, SHATIN, N.T. HONG KONG	<i>Address</i>	: 11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong		
<i>E-mail</i>	: angela.tong@aecom.com	<i>E-mail</i>	: Richard.Fung@alsglobal.com		
<i>Telephone</i>	: +852 3922 9418	<i>Telephone</i>	: +852 2610 1044		
<i>Facsimile</i>	: ----	<i>Facsimile</i>	: +852 2610 2021		
<i>Project</i>	: SCL-BASELINE WQM	<i>Quote number</i>	: ----	<i>Date received</i>	: 21-MAY-2014
<i>Order number</i>	: 60280233			<i>Date of issue</i>	: 30-MAY-2014
<i>C-O-C number</i>	: ----			<i>No. of samples</i>	- Received : 24
<i>Site</i>	: ----				- Analysed : 24

### Report Comments

This report for ALS Technichem (HK) Pty Ltd work order reference HK1415091 supersedes any previous reports with this reference. The completion date of analysis is 26-MAY-2014. Results apply to sample(s) as submitted. All pages of this report have been checked and approved for release. When date(s) and/or time(s) are shown bracketed, these have been assumed by the laboratory for process purposes. Abbreviations: CAS number = Chemical Abstract Services number. LOR = Limit of reporting.

Specific comments for Work Order HK1415091 :      Sample(s) were picked up from client by ALS Technichem (HK) staff in a chilled condition.  
Water sample(s) analysed and reported on an as received basis.

**This report may not be reproduced except with prior written approval from ALS Technichem (HK) Pty Ltd.**

This document has been electronically signed by those names that appear on this report and are the authorised signatories. Electronic signing has been carried out in compliance with procedures specified in the 'Electronic Transactions Ordinance' of Hong Kong, Chapter 553, Section 6.

<i>Signatory</i>	<i>Position</i>	<i>Authorised results for:-</i>
<b>Fung Lim Chee, Richard</b>	<b>General Manager</b>	<b>Inorganics</b>



**Analytical Results**

Sub-Matrix: WATER

			Compound				
			EA025: Suspended Solids (SS)				
			LOR Unit				
Client sample ID	Client sampling date / time	Laboratory sample ID	EA/ED: Physical and Aggregate Properties				
GB3 (SURFACE) MID-EBB	[20-MAY-2014]	HK1415091-001	3				
GB3 (SURFACE) MID-EBB	[20-MAY-2014]	HK1415091-002	3				
GB3 (MIDDLE) MID-EBB	[20-MAY-2014]	HK1415091-003	3				
GB3 (MIDDLE) MID-EBB	[20-MAY-2014]	HK1415091-004	2				
GB3 (BOTTOM) MID-EBB	[20-MAY-2014]	HK1415091-005	3				
GB3 (BOTTOM) MID-EBB	[20-MAY-2014]	HK1415091-006	3				
C3 (SURFACE) MID-EBB	[20-MAY-2014]	HK1415091-007	4				
C3 (SURFACE) MID-EBB	[20-MAY-2014]	HK1415091-008	2				
C3 (MIDDLE) MID-EBB	[20-MAY-2014]	HK1415091-009	2				
C3 (MIDDLE) MID-EBB	[20-MAY-2014]	HK1415091-010	3				
C3 (BOTTOM) MID-EBB	[20-MAY-2014]	HK1415091-011	2				
C3 (BOTTOM) MID-EBB	[20-MAY-2014]	HK1415091-012	2				
GB3 (SURFACE) MID-FLOOD	[20-MAY-2014]	HK1415091-013	3				
GB3 (SURFACE) MID-FLOOD	[20-MAY-2014]	HK1415091-014	3				
GB3 (MIDDLE) MID-FLOOD	[20-MAY-2014]	HK1415091-015	2				
GB3 (MIDDLE) MID-FLOOD	[20-MAY-2014]	HK1415091-016	2				
GB3 (BOTTOM) MID-FLOOD	[20-MAY-2014]	HK1415091-017	2				
GB3 (BOTTOM) MID-FLOOD	[20-MAY-2014]	HK1415091-018	3				
C4 (SURFACE) MID-FLOOD	[20-MAY-2014]	HK1415091-019	3				
C4 (SURFACE) MID-FLOOD	[20-MAY-2014]	HK1415091-020	2				
C4 (MIDDLE) MID-FLOOD	[20-MAY-2014]	HK1415091-021	4				
C4 (MIDDLE) MID-FLOOD	[20-MAY-2014]	HK1415091-022	4				
C4 (BOTTOM) MID-FLOOD	[20-MAY-2014]	HK1415091-023	4				
C4 (BOTTOM) MID-FLOOD	[20-MAY-2014]	HK1415091-024	2				



**Laboratory Duplicate (DUP) Report**

Matrix: WATER				Laboratory Duplicate (DUP) Report				
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)
<b>EA/ED: Physical and Aggregate Properties (QC Lot: 3458005)</b>								
HK1415091-001	GB3 (SURFACE) MID-EBB	EA025: Suspended Solids (SS)	----	2	mg/L	3	4	0.0
HK1415091-011	C3 (BOTTOM) MID-EBB	EA025: Suspended Solids (SS)	----	2	mg/L	2	3	0.0
<b>EA/ED: Physical and Aggregate Properties (QC Lot: 3458006)</b>								
HK1415091-021	C4 (MIDDLE) MID-FLOOD	EA025: Suspended Solids (SS)	----	2	mg/L	4	4	0.0

**Method Blank (MB), Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report**

Matrix: WATER			Method Blank (MB) Report			Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report					
Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
						LCS	DCS	Low	High	Value	Control Limit
<b>EA/ED: Physical and Aggregate Properties (QCLot: 3458005)</b>											
EA025: Suspended Solids (SS)	----	2	mg/L	<2	20 mg/L	101	----	85	115	----	----
<b>EA/ED: Physical and Aggregate Properties (QCLot: 3458006)</b>											
EA025: Suspended Solids (SS)	----	2	mg/L	<2	20 mg/L	100	----	85	115	----	----

**Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report**

- No Matrix Spike (MS) or Matrix Spike Duplicate (MSD) Results are required to be reported.



## CERTIFICATE OF ANALYSIS

<i>Client</i>	: AECOM ASIA COMPANY LIMITED	<i>Laboratory</i>	: ALS Technichem HK Pty Ltd	<i>Page</i>	: 1 of 3
<i>Contact</i>	: MS ANGELA TONG	<i>Contact</i>	: Fung Lim Chee, Richard	<i>Work Order</i>	: <b>HK1415092</b>
<i>Address</i>	: 11/F, TOWER 2, GRAND CENTRAL PLAZA, 138 SHATIN RURAL COMMITTEE ROAD, SHATIN, N.T. HONG KONG	<i>Address</i>	: 11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong		
<i>E-mail</i>	: angela.tong@aecom.com	<i>E-mail</i>	: Richard.Fung@alsglobal.com		
<i>Telephone</i>	: +852 3922 9418	<i>Telephone</i>	: +852 2610 1044		
<i>Facsimile</i>	: ----	<i>Facsimile</i>	: +852 2610 2021		
<i>Project</i>	: SCL-BASELINE WQM	<i>Quote number</i>	: ----	<i>Date received</i>	: 23-MAY-2014
<i>Order number</i>	: 60280233			<i>Date of issue</i>	: 03-JUN-2014
<i>C-O-C number</i>	: ----			<i>No. of samples</i>	- Received : 24
<i>Site</i>	: ----				- Analysed : 24

### Report Comments

This report for ALS Technichem (HK) Pty Ltd work order reference HK1415092 supersedes any previous reports with this reference. The completion date of analysis is 26-MAY-2014. Results apply to sample(s) as submitted. All pages of this report have been checked and approved for release. When date(s) and/or time(s) are shown bracketed, these have been assumed by the laboratory for process purposes. Abbreviations: CAS number = Chemical Abstract Services number. LOR = Limit of reporting.

Specific comments for Work Order HK1415092 :      Sample(s) were picked up from client by ALS Technichem (HK) staff in a chilled condition.  
Water sample(s) analysed and reported on an as received basis.

**This report may not be reproduced except with prior written approval from ALS Technichem (HK) Pty Ltd.**

This document has been electronically signed by those names that appear on this report and are the authorised signatories. Electronic signing has been carried out in compliance with procedures specified in the 'Electronic Transactions Ordinance' of Hong Kong, Chapter 553, Section 6.

<i>Signatory</i>	<i>Position</i>	<i>Authorised results for:-</i>
Fung Lim Chee, Richard	General Manager	Inorganics





**Analytical Results**

Sub-Matrix: WATER

			Compound				
			EA025: Suspended Solids (SS)				
			LOR Unit	2 mg/L			
Client sample ID	Client sampling date / time	Laboratory sample ID	EA/ED: Physical and Aggregate Properties				
GB3 (SURFACE) MID-EBB	[22-MAY-2014]	HK1415092-001	3				
GB3 (SURFACE) MID-EBB	[22-MAY-2014]	HK1415092-002	2				
GB3 (MIDDLE) MID-EBB	[22-MAY-2014]	HK1415092-003	3				
GB3 (MIDDLE) MID-EBB	[22-MAY-2014]	HK1415092-004	3				
GB3 (BOTTOM) MID-EBB	[22-MAY-2014]	HK1415092-005	3				
GB3 (BOTTOM) MID-EBB	[22-MAY-2014]	HK1415092-006	2				
C3 (SURFACE) MID-EBB	[22-MAY-2014]	HK1415092-007	4				
C3 (SURFACE) MID-EBB	[22-MAY-2014]	HK1415092-008	2				
C3 (MIDDLE) MID-EBB	[22-MAY-2014]	HK1415092-009	4				
C3 (MIDDLE) MID-EBB	[22-MAY-2014]	HK1415092-010	2				
C3 (BOTTOM) MID-EBB	[22-MAY-2014]	HK1415092-011	3				
C3 (BOTTOM) MID-EBB	[22-MAY-2014]	HK1415092-012	3				
GB3 (SURFACE) MID-FLOOD	[22-MAY-2014]	HK1415092-013	4				
GB3 (SURFACE) MID-FLOOD	[22-MAY-2014]	HK1415092-014	3				
GB3 (MIDDLE) MID-FLOOD	[22-MAY-2014]	HK1415092-015	2				
GB3 (MIDDLE) MID-FLOOD	[22-MAY-2014]	HK1415092-016	3				
GB3 (BOTTOM) MID-FLOOD	[22-MAY-2014]	HK1415092-017	3				
GB3 (BOTTOM) MID-FLOOD	[22-MAY-2014]	HK1415092-018	2				
C4 (SURFACE) MID-FLOOD	[22-MAY-2014]	HK1415092-019	2				
C4 (SURFACE) MID-FLOOD	[22-MAY-2014]	HK1415092-020	3				
C4 (MIDDLE) MID-FLOOD	[22-MAY-2014]	HK1415092-021	3				
C4 (MIDDLE) MID-FLOOD	[22-MAY-2014]	HK1415092-022	3				
C4 (BOTTOM) MID-FLOOD	[22-MAY-2014]	HK1415092-023	3				
C4 (BOTTOM) MID-FLOOD	[22-MAY-2014]	HK1415092-024	4				



**Laboratory Duplicate (DUP) Report**

Matrix: WATER				Laboratory Duplicate (DUP) Report				
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)
<b>EA/ED: Physical and Aggregate Properties (QC Lot: 3458014)</b>								
HK1415092-001	GB3 (SURFACE) MID-EBB	EA025: Suspended Solids (SS)	----	2	mg/L	3	3	0.0
HK1415092-011	C3 (BOTTOM) MID-EBB	EA025: Suspended Solids (SS)	----	2	mg/L	3	3	0.0
<b>EA/ED: Physical and Aggregate Properties (QC Lot: 3458015)</b>								
HK1415092-021	C4 (MIDDLE) MID-FLOOD	EA025: Suspended Solids (SS)	----	2	mg/L	3	3	0.0

**Method Blank (MB), Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report**

Matrix: WATER			Method Blank (MB) Report			Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report					
Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
						LCS	DCS	Low	High	Value	Control Limit
<b>EA/ED: Physical and Aggregate Properties (QCLot: 3458014)</b>											
EA025: Suspended Solids (SS)	----	2	mg/L	<2	20 mg/L	99.0	----	85	115	----	----
<b>EA/ED: Physical and Aggregate Properties (QCLot: 3458015)</b>											
EA025: Suspended Solids (SS)	----	2	mg/L	<2	20 mg/L	101	----	85	115	----	----

**Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report**

- No Matrix Spike (MS) or Matrix Spike Duplicate (MSD) Results are required to be reported.



## CERTIFICATE OF ANALYSIS

<i>Client</i>	: AECOM ASIA COMPANY LIMITED	<i>Laboratory</i>	: ALS Technichem HK Pty Ltd	<i>Page</i>	: 1 of 3
<i>Contact</i>	: MS ANGELA TONG	<i>Contact</i>	: Fung Lim Chee, Richard	<i>Work Order</i>	: <b>HK1415272</b>
<i>Address</i>	: 11/F, TOWER 2, GRAND CENTRAL PLAZA, 138 SHATIN RURAL COMMITTEE ROAD, SHATIN, N.T. HONG KONG	<i>Address</i>	: 11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong		
<i>E-mail</i>	: angela.tong@aecom.com	<i>E-mail</i>	: Richard.Fung@alsglobal.com		
<i>Telephone</i>	: +852 3922 9418	<i>Telephone</i>	: +852 2610 1044		
<i>Facsimile</i>	: ----	<i>Facsimile</i>	: +852 2610 2021		
<i>Project</i>	: SCL-BASELINE WQM	<i>Quote number</i>	: ----	<i>Date received</i>	: 24-MAY-2014
<i>Order number</i>	: 60280233			<i>Date of issue</i>	: 03-JUN-2014
<i>C-O-C number</i>	: ----			<i>No. of samples</i>	- Received : 24
<i>Site</i>	: ----				- Analysed : 24

### Report Comments

This report for ALS Technichem (HK) Pty Ltd work order reference HK1415272 supersedes any previous reports with this reference. The completion date of analysis is 26-MAY-2014. Results apply to sample(s) as submitted. All pages of this report have been checked and approved for release. When date(s) and/or time(s) are shown bracketed, these have been assumed by the laboratory for process purposes. Abbreviations: CAS number = Chemical Abstract Services number. LOR = Limit of reporting.

Specific comments for Work Order HK1415272 : Sample(s) were picked up from client by ALS Technichem (HK) staff in a chilled condition.  
Water sample(s) analysed and reported on an as received basis.

**This report may not be reproduced except with prior written approval from ALS Technichem (HK) Pty Ltd.**

This document has been electronically signed by those names that appear on this report and are the authorised signatories. Electronic signing has been carried out in compliance with procedures specified in the 'Electronic Transactions Ordinance' of Hong Kong, Chapter 553, Section 6.

*Signatory*  
**Fung Lim Chee, Richard**

*Position*  
**General Manager**

*Authorised results for:-*  
**Inorganics**



**Analytical Results**

Sub-Matrix: WATER

			Compound				
			EA025: Suspended Solids (SS)				
			LOR Unit				
Client sample ID	Client sampling date / time	Laboratory sample ID	EA/ED: Physical and Aggregate Properties				
GB3 (SURFACE) MID-EBB	[24-MAY-2014]	HK1415272-001	4				
GB3 (SURFACE) MID-EBB	[24-MAY-2014]	HK1415272-002	3				
GB3 (MIDDLE) MID-EBB	[24-MAY-2014]	HK1415272-003	4				
GB3 (MIDDLE) MID-EBB	[24-MAY-2014]	HK1415272-004	4				
GB3 (BOTTOM) MID-EBB	[24-MAY-2014]	HK1415272-005	4				
GB3 (BOTTOM) MID-EBB	[24-MAY-2014]	HK1415272-006	3				
C3 (SURFACE) MID-EBB	[24-MAY-2014]	HK1415272-007	4				
C3 (SURFACE) MID-EBB	[24-MAY-2014]	HK1415272-008	3				
C3 (MIDDLE) MID-EBB	[24-MAY-2014]	HK1415272-009	5				
C3 (MIDDLE) MID-EBB	[24-MAY-2014]	HK1415272-010	3				
C3 (BOTTOM) MID-EBB	[24-MAY-2014]	HK1415272-011	4				
C3 (BOTTOM) MID-EBB	[24-MAY-2014]	HK1415272-012	4				
GB3 (SURFACE) MID-FLOOD	[24-MAY-2014]	HK1415272-013	5				
GB3 (SURFACE) MID-FLOOD	[24-MAY-2014]	HK1415272-014	4				
GB3 (MIDDLE) MID-FLOOD	[24-MAY-2014]	HK1415272-015	3				
GB3 (MIDDLE) MID-FLOOD	[24-MAY-2014]	HK1415272-016	4				
GB3 (BOTTOM) MID-FLOOD	[24-MAY-2014]	HK1415272-017	4				
GB3 (BOTTOM) MID-FLOOD	[24-MAY-2014]	HK1415272-018	3				
C4 (SURFACE) MID-FLOOD	[24-MAY-2014]	HK1415272-019	3				
C4 (SURFACE) MID-FLOOD	[24-MAY-2014]	HK1415272-020	4				
C4 (MIDDLE) MID-FLOOD	[24-MAY-2014]	HK1415272-021	4				
C4 (MIDDLE) MID-FLOOD	[24-MAY-2014]	HK1415272-022	4				
C4 (BOTTOM) MID-FLOOD	[24-MAY-2014]	HK1415272-023	4				
C4 (BOTTOM) MID-FLOOD	[24-MAY-2014]	HK1415272-024	5				



**Laboratory Duplicate (DUP) Report**

Matrix: WATER				Laboratory Duplicate (DUP) Report				
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)
<b>EA/ED: Physical and Aggregate Properties (QC Lot: 3458017)</b>								
HK1415272-001	GB3 (SURFACE) MID-EBB	EA025: Suspended Solids (SS)	----	2	mg/L	4	4	0.0
HK1415272-011	C3 (BOTTOM) MID-EBB	EA025: Suspended Solids (SS)	----	2	mg/L	4	4	0.0
<b>EA/ED: Physical and Aggregate Properties (QC Lot: 3458018)</b>								
HK1415272-021	C4 (MIDDLE) MID-FLOOD	EA025: Suspended Solids (SS)	----	2	mg/L	4	4	0.0

**Method Blank (MB), Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report**

Matrix: WATER			Method Blank (MB) Report			Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report					
Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
						LCS	DCS	Low	High	Value	Control Limit
<b>EA/ED: Physical and Aggregate Properties (QCLot: 3458017)</b>											
EA025: Suspended Solids (SS)	----	2	mg/L	<2	20 mg/L	99.0	----	85	115	----	----
<b>EA/ED: Physical and Aggregate Properties (QCLot: 3458018)</b>											
EA025: Suspended Solids (SS)	----	2	mg/L	<2	20 mg/L	101	----	85	115	----	----

**Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report**

- No Matrix Spike (MS) or Matrix Spike Duplicate (MSD) Results are required to be reported.





**Analytical Results**

Sub-Matrix: WATER

			Compound				
			EA025: Suspended Solids (SS)				
			LOR Unit	2 mg/L			
Client sample ID	Client sampling date / time	Laboratory sample ID	EA/ED: Physical and Aggregate Properties				
GB3 (SURFACE) MID-EBB	[27-MAY-2014]	HK1415273-001	3				
GB3 (SURFACE) MID-EBB	[27-MAY-2014]	HK1415273-002	3				
GB3 (MIDDLE) MID-EBB	[27-MAY-2014]	HK1415273-003	3				
GB3 (MIDDLE) MID-EBB	[27-MAY-2014]	HK1415273-004	3				
GB3 (BOTTOM) MID-EBB	[27-MAY-2014]	HK1415273-005	3				
GB3 (BOTTOM) MID-EBB	[27-MAY-2014]	HK1415273-006	4				
C3 (SURFACE) MID-EBB	[27-MAY-2014]	HK1415273-007	4				
C3 (SURFACE) MID-EBB	[27-MAY-2014]	HK1415273-008	3				
C3 (MIDDLE) MID-EBB	[27-MAY-2014]	HK1415273-009	3				
C3 (MIDDLE) MID-EBB	[27-MAY-2014]	HK1415273-010	2				
C3 (BOTTOM) MID-EBB	[27-MAY-2014]	HK1415273-011	3				
C3 (BOTTOM) MID-EBB	[27-MAY-2014]	HK1415273-012	3				
GB3 (SURFACE) MID-FLOOD	[27-MAY-2014]	HK1415273-013	4				
GB3 (SURFACE) MID-FLOOD	[27-MAY-2014]	HK1415273-014	2				
GB3 (MIDDLE) MID-FLOOD	[27-MAY-2014]	HK1415273-015	3				
GB3 (MIDDLE) MID-FLOOD	[27-MAY-2014]	HK1415273-016	3				
GB3 (BOTTOM) MID-FLOOD	[27-MAY-2014]	HK1415273-017	3				
GB3 (BOTTOM) MID-FLOOD	[27-MAY-2014]	HK1415273-018	4				
C4 (SURFACE) MID-FLOOD	[27-MAY-2014]	HK1415273-019	3				
C4 (SURFACE) MID-FLOOD	[27-MAY-2014]	HK1415273-020	3				
C4 (MIDDLE) MID-FLOOD	[27-MAY-2014]	HK1415273-021	2				
C4 (MIDDLE) MID-FLOOD	[27-MAY-2014]	HK1415273-022	2				
C4 (BOTTOM) MID-FLOOD	[27-MAY-2014]	HK1415273-023	4				
C4 (BOTTOM) MID-FLOOD	[27-MAY-2014]	HK1415273-024	4				



**Laboratory Duplicate (DUP) Report**

Matrix: WATER				Laboratory Duplicate (DUP) Report				
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)
<b>EA/ED: Physical and Aggregate Properties (QC Lot: 3471215)</b>								
HK1415273-001	GB3 (SURFACE) MID-EBB	EA025: Suspended Solids (SS)	----	2	mg/L	3	3	0.0
HK1415273-011	C3 (BOTTOM) MID-EBB	EA025: Suspended Solids (SS)	----	2	mg/L	3	3	0.0
<b>EA/ED: Physical and Aggregate Properties (QC Lot: 3471216)</b>								
HK1415273-021	C4 (MIDDLE) MID-FLOOD	EA025: Suspended Solids (SS)	----	2	mg/L	2	2	0.0

**Method Blank (MB), Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report**

Matrix: WATER			Method Blank (MB) Report			Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report					
Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
						LCS	DCS	Low	High	Value	Control Limit
<b>EA/ED: Physical and Aggregate Properties (QCLot: 3471215)</b>											
EA025: Suspended Solids (SS)	----	2	mg/L	<2	20 mg/L	101	----	85	115	----	----
<b>EA/ED: Physical and Aggregate Properties (QCLot: 3471216)</b>											
EA025: Suspended Solids (SS)	----	2	mg/L	<2	20 mg/L	100	----	85	115	----	----

**Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report**

- No Matrix Spike (MS) or Matrix Spike Duplicate (MSD) Results are required to be reported.





## CERTIFICATE OF ANALYSIS

<i>Client</i>	: AECOM ASIA COMPANY LIMITED	<i>Laboratory</i>	: ALS Technichem HK Pty Ltd	<i>Page</i>	: 1 of 3
<i>Contact</i>	: MS ANGELA TONG	<i>Contact</i>	: Fung Lim Chee, Richard	<i>Work Order</i>	: <b>HK1415274</b>
<i>Address</i>	: 11/F, TOWER 2, GRAND CENTRAL PLAZA, 138 SHATIN RURAL COMMITTEE ROAD, SHATIN, N.T. HONG KONG	<i>Address</i>	: 11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong		
<i>E-mail</i>	: angela.tong@aecom.com	<i>E-mail</i>	: Richard.Fung@alsglobal.com		
<i>Telephone</i>	: +852 3922 9418	<i>Telephone</i>	: +852 2610 1044		
<i>Facsimile</i>	: ----	<i>Facsimile</i>	: +852 2610 2021		
<i>Project</i>	: SCL-BASELINE WQM	<i>Quote number</i>	: ----	<i>Date received</i>	: 30-MAY-2014
<i>Order number</i>	: 60280233			<i>Date of issue</i>	: 10-JUN-2014
<i>C-O-C number</i>	: ----			<i>No. of samples</i>	- Received : 24
<i>Site</i>	: ----				- Analysed : 24

### Report Comments

This report for ALS Technichem (HK) Pty Ltd work order reference HK1415274 supersedes any previous reports with this reference. The completion date of analysis is 06-JUN-2014. Results apply to sample(s) as submitted. All pages of this report have been checked and approved for release. When date(s) and/or time(s) are shown bracketed, these have been assumed by the laboratory for process purposes. Abbreviations: CAS number = Chemical Abstract Services number. LOR = Limit of reporting.

Specific comments for Work Order HK1415274 :      Sample(s) were picked up from client by ALS Technichem (HK) staff in a chilled condition.  
Water sample(s) analysed and reported on an as received basis.

**This report may not be reproduced except with prior written approval from ALS Technichem (HK) Pty Ltd.**

This document has been electronically signed by those names that appear on this report and are the authorised signatories. Electronic signing has been carried out in compliance with procedures specified in the 'Electronic Transactions Ordinance' of Hong Kong, Chapter 553, Section 6.

<i>Signatory</i>	<i>Position</i>	<i>Authorised results for:-</i>
<b>Fung Lim Chee, Richard</b>	<b>General Manager</b>	<b>Inorganics</b>



**Analytical Results**

Sub-Matrix: WATER

			Compound				
			EA025: Suspended Solids (SS)				
			LOR Unit				
Client sample ID	Client sampling date / time	Laboratory sample ID	EA/ED: Physical and Aggregate Properties				
GB3 (SURFACE) MID-EBB	[29-MAY-2014]	HK1415274-001	3				
GB3 (SURFACE) MID-EBB	[29-MAY-2014]	HK1415274-002	4				
GB3 (MIDDLE) MID-EBB	[29-MAY-2014]	HK1415274-003	3				
GB3 (MIDDLE) MID-EBB	[29-MAY-2014]	HK1415274-004	2				
GB3 (BOTTOM) MID-EBB	[29-MAY-2014]	HK1415274-005	2				
GB3 (BOTTOM) MID-EBB	[29-MAY-2014]	HK1415274-006	3				
C3 (SURFACE) MID-EBB	[29-MAY-2014]	HK1415274-007	3				
C3 (SURFACE) MID-EBB	[29-MAY-2014]	HK1415274-008	2				
C3 (MIDDLE) MID-EBB	[29-MAY-2014]	HK1415274-009	3				
C3 (MIDDLE) MID-EBB	[29-MAY-2014]	HK1415274-010	2				
C3 (BOTTOM) MID-EBB	[29-MAY-2014]	HK1415274-011	4				
C3 (BOTTOM) MID-EBB	[29-MAY-2014]	HK1415274-012	4				
GB3 (SURFACE) MID-FLOOD	[29-MAY-2014]	HK1415274-013	3				
GB3 (SURFACE) MID-FLOOD	[29-MAY-2014]	HK1415274-014	3				
GB3 (MIDDLE) MID-FLOOD	[29-MAY-2014]	HK1415274-015	3				
GB3 (MIDDLE) MID-FLOOD	[29-MAY-2014]	HK1415274-016	3				
GB3 (BOTTOM) MID-FLOOD	[29-MAY-2014]	HK1415274-017	3				
GB3 (BOTTOM) MID-FLOOD	[29-MAY-2014]	HK1415274-018	3				
C4 (SURFACE) MID-FLOOD	[29-MAY-2014]	HK1415274-019	2				
C4 (SURFACE) MID-FLOOD	[29-MAY-2014]	HK1415274-020	2				
C4 (MIDDLE) MID-FLOOD	[29-MAY-2014]	HK1415274-021	3				
C4 (MIDDLE) MID-FLOOD	[29-MAY-2014]	HK1415274-022	3				
C4 (BOTTOM) MID-FLOOD	[29-MAY-2014]	HK1415274-023	3				
C4 (BOTTOM) MID-FLOOD	[29-MAY-2014]	HK1415274-024	3				



**Laboratory Duplicate (DUP) Report**

Matrix: WATER				Laboratory Duplicate (DUP) Report				
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)
<b>EA/ED: Physical and Aggregate Properties (QC Lot: 3476582)</b>								
HK1415274-001	GB3 (SURFACE) MID-EBB	EA025: Suspended Solids (SS)	----	2	mg/L	3	3	0.0
HK1415274-011	C3 (BOTTOM) MID-EBB	EA025: Suspended Solids (SS)	----	2	mg/L	4	4	0.0
<b>EA/ED: Physical and Aggregate Properties (QC Lot: 3476583)</b>								
HK1415274-021	C4 (MIDDLE) MID-FLOOD	EA025: Suspended Solids (SS)	----	2	mg/L	3	3	0.0

**Method Blank (MB), Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report**

Matrix: WATER			Method Blank (MB) Report			Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report					
Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
						LCS	DCS	Low	High	Value	Control Limit
<b>EA/ED: Physical and Aggregate Properties (QCLot: 3476582)</b>											
EA025: Suspended Solids (SS)	----	2	mg/L	<2	20 mg/L	99.0	----	85	115	----	----
<b>EA/ED: Physical and Aggregate Properties (QCLot: 3476583)</b>											
EA025: Suspended Solids (SS)	----	2	mg/L	<2	20 mg/L	99.5	----	85	115	----	----

**Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report**

- No Matrix Spike (MS) or Matrix Spike Duplicate (MSD) Results are required to be reported.



## CERTIFICATE OF ANALYSIS

<i>Client</i>	: AECOM ASIA COMPANY LIMITED	<i>Laboratory</i>	: ALS Technichem HK Pty Ltd	<i>Page</i>	: 1 of 3
<i>Contact</i>	: MS ANGELA TONG	<i>Contact</i>	: Fung Lim Chee, Richard	<i>Work Order</i>	: <b>HK1416783</b>
<i>Address</i>	: 11/F, TOWER 2, GRAND CENTRAL PLAZA, 138 SHATIN RURAL COMMITTEE ROAD, SHATIN, N.T. HONG KONG	<i>Address</i>	: 11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong		
<i>E-mail</i>	: angela.tong@aecom.com	<i>E-mail</i>	: Richard.Fung@alsglobal.com		
<i>Telephone</i>	: +852 3922 9418	<i>Telephone</i>	: +852 2610 1044		
<i>Facsimile</i>	: ----	<i>Facsimile</i>	: +852 2610 2021		
<i>Project</i>	: SCL-BASELINE WQM	<i>Quote number</i>	: ----	<i>Date received</i>	: 31-MAY-2014
<i>Order number</i>	: 60280233			<i>Date of issue</i>	: 11-JUN-2014
<i>C-O-C number</i>	: ----			<i>No. of samples</i>	- <i>Received</i> : 24
<i>Site</i>	: ----				- <i>Analysed</i> : 24

### Report Comments

This report for ALS Technichem (HK) Pty Ltd work order reference HK1416783 supersedes any previous reports with this reference. The completion date of analysis is 06-JUN-2014. Results apply to sample(s) as submitted. All pages of this report have been checked and approved for release. When date(s) and/or time(s) are shown bracketed, these have been assumed by the laboratory for process purposes. Abbreviations: CAS number = Chemical Abstract Services number. LOR = Limit of reporting.

Specific comments for Work Order HK1416783 : Sample(s) were picked up from client by ALS Technichem (HK) staff in a chilled condition.  
Water sample(s) analysed and reported on an as received basis.

**This report may not be reproduced except with prior written approval from ALS Technichem (HK) Pty Ltd.**

This document has been electronically signed by those names that appear on this report and are the authorised signatories. Electronic signing has been carried out in compliance with procedures specified in the 'Electronic Transactions Ordinance' of Hong Kong, Chapter 553, Section 6.

<i>Signatory</i>	<i>Position</i>	<i>Authorised results for:-</i>
Fung Lim Chee, Richard	General Manager	Inorganics



**Analytical Results**

Sub-Matrix: WATER

Compound

LOR Unit

**EA025: Suspended Solids (SS)**

2 mg/L

EA/ED: Physical and Aggregate Properties

Client sample ID	Client sampling date / time	Laboratory sample ID	EA/ED: Physical and Aggregate Properties			
GB3 (SURFACE) MID-EBB	[31-MAY-2014]	HK1416783-001	3			
GB3 (SURFACE) MID-EBB	[31-MAY-2014]	HK1416783-002	2			
GB3 (MIDDLE) MID-EBB	[31-MAY-2014]	HK1416783-003	3			
GB3 (MIDDLE) MID-EBB	[31-MAY-2014]	HK1416783-004	2			
GB3 (BOTTOM) MID-EBB	[31-MAY-2014]	HK1416783-005	3			
GB3 (BOTTOM) MID-EBB	[31-MAY-2014]	HK1416783-006	3			
C3 (SURFACE) MID-EBB	[31-MAY-2014]	HK1416783-007	3			
C3 (SURFACE) MID-EBB	[31-MAY-2014]	HK1416783-008	3			
C3 (MIDDLE) MID-EBB	[31-MAY-2014]	HK1416783-009	3			
C3 (MIDDLE) MID-EBB	[31-MAY-2014]	HK1416783-010	2			
C3 (BOTTOM) MID-EBB	[31-MAY-2014]	HK1416783-011	3			
C3 (BOTTOM) MID-EBB	[31-MAY-2014]	HK1416783-012	3			
GB3 (SURFACE) MID-FLOOD	[31-MAY-2014]	HK1416783-013	2			
GB3 (SURFACE) MID-FLOOD	[31-MAY-2014]	HK1416783-014	3			
GB3 (MIDDLE) MID-FLOOD	[31-MAY-2014]	HK1416783-015	3			
GB3 (MIDDLE) MID-FLOOD	[31-MAY-2014]	HK1416783-016	2			
GB3 (BOTTOM) MID-FLOOD	[31-MAY-2014]	HK1416783-017	3			
GB3 (BOTTOM) MID-FLOOD	[31-MAY-2014]	HK1416783-018	4			
C4 (SURFACE) MID-FLOOD	[31-MAY-2014]	HK1416783-019	3			
C4 (SURFACE) MID-FLOOD	[31-MAY-2014]	HK1416783-020	2			
C4 (MIDDLE) MID-FLOOD	[31-MAY-2014]	HK1416783-021	3			
C4 (MIDDLE) MID-FLOOD	[31-MAY-2014]	HK1416783-022	3			
C4 (BOTTOM) MID-FLOOD	[31-MAY-2014]	HK1416783-023	4			
C4 (BOTTOM) MID-FLOOD	[31-MAY-2014]	HK1416783-024	3			



**Laboratory Duplicate (DUP) Report**

Matrix: WATER				Laboratory Duplicate (DUP) Report				
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)
<b>EA/ED: Physical and Aggregate Properties (QC Lot: 3476640)</b>								
HK1416783-001	GB3 (SURFACE) MID-EBB	EA025: Suspended Solids (SS)	----	2	mg/L	3	3	0.0
HK1416783-011	C3 (BOTTOM) MID-EBB	EA025: Suspended Solids (SS)	----	2	mg/L	3	3	0.0
<b>EA/ED: Physical and Aggregate Properties (QC Lot: 3476641)</b>								
HK1416783-021	C4 (MIDDLE) MID-FLOOD	EA025: Suspended Solids (SS)	----	2	mg/L	3	3	0.0

**Method Blank (MB), Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report**

Matrix: WATER			Method Blank (MB) Report			Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report					
Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
						LCS	DCS	Low	High	Value	Control Limit
<b>EA/ED: Physical and Aggregate Properties (QCLot: 3476640)</b>											
EA025: Suspended Solids (SS)	----	2	mg/L	<2	20 mg/L	104	----	85	115	----	----
<b>EA/ED: Physical and Aggregate Properties (QCLot: 3476641)</b>											
EA025: Suspended Solids (SS)	----	2	mg/L	<2	20 mg/L	101	----	85	115	----	----

**Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report**

- No Matrix Spike (MS) or Matrix Spike Duplicate (MSD) Results are required to be reported.



## CERTIFICATE OF ANALYSIS

<i>Client</i>	: AECOM ASIA COMPANY LIMITED	<i>Laboratory</i>	: ALS Technichem HK Pty Ltd	<i>Page</i>	: 1 of 3
<i>Contact</i>	: MS ANGELA TONG	<i>Contact</i>	: Fung Lim Chee, Richard	<i>Work Order</i>	: <b>HK1416792</b>
<i>Address</i>	: 11/F, TOWER 2, GRAND CENTRAL PLAZA, 138 SHATIN RURAL COMMITTEE ROAD, SHATIN, N.T. HONG KONG	<i>Address</i>	: 11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong		
<i>E-mail</i>	: angela.tong@aecom.com	<i>E-mail</i>	: Richard.Fung@alsglobal.com		
<i>Telephone</i>	: +852 3922 9418	<i>Telephone</i>	: +852 2610 1044		
<i>Facsimile</i>	: ----	<i>Facsimile</i>	: +852 2610 2021		
<i>Project</i>	: SCL-BASELINE WQM	<i>Quote number</i>	: ----	<i>Date received</i>	: 04-JUN-2014
<i>Order number</i>	: 60280233			<i>Date of issue</i>	: 13-JUN-2014
<i>C-O-C number</i>	: ----			<i>No. of samples</i>	- Received : 24
<i>Site</i>	: ----				- Analysed : 24

### Report Comments

This report for ALS Technichem (HK) Pty Ltd work order reference HK1416792 supersedes any previous reports with this reference. The completion date of analysis is 09-JUN-2014. Results apply to sample(s) as submitted. All pages of this report have been checked and approved for release. When date(s) and/or time(s) are shown bracketed, these have been assumed by the laboratory for process purposes. Abbreviations: CAS number = Chemical Abstract Services number. LOR = Limit of reporting.

Specific comments for Work Order HK1416792 :      Sample(s) were picked up from client by ALS Technichem (HK) staff in a chilled condition.  
Water sample(s) analysed and reported on an as received basis.

**This report may not be reproduced except with prior written approval from ALS Technichem (HK) Pty Ltd.**

This document has been electronically signed by those names that appear on this report and are the authorised signatories. Electronic signing has been carried out in compliance with procedures specified in the 'Electronic Transactions Ordinance' of Hong Kong, Chapter 553, Section 6.

<i>Signatory</i>	<i>Position</i>	<i>Authorised results for:-</i>
Fung Lim Chee, Richard	General Manager	Inorganics



**Analytical Results**

Sub-Matrix: WATER

			Compound				
			EA025: Suspended Solids (SS)				
			LOR Unit	2 mg/L			
Client sample ID	Client sampling date / time	Laboratory sample ID	EA/ED: Physical and Aggregate Properties				
GB3 (SURFACE) MID-EBB	[03-JUN-2014]	HK1416792-001	<2				
GB3 (SURFACE) MID-EBB	[03-JUN-2014]	HK1416792-002	<2				
GB3 (MIDDLE) MID-EBB	[03-JUN-2014]	HK1416792-003	<2				
GB3 (MIDDLE) MID-EBB	[03-JUN-2014]	HK1416792-004	<2				
GB3 (BOTTOM) MID-EBB	[03-JUN-2014]	HK1416792-005	<2				
GB3 (BOTTOM) MID-EBB	[03-JUN-2014]	HK1416792-006	<2				
C3 (SURFACE) MID-EBB	[03-JUN-2014]	HK1416792-007	<2				
C3 (SURFACE) MID-EBB	[03-JUN-2014]	HK1416792-008	<2				
C3 (MIDDLE) MID-EBB	[03-JUN-2014]	HK1416792-009	<2				
C3 (MIDDLE) MID-EBB	[03-JUN-2014]	HK1416792-010	<2				
C3 (BOTTOM) MID-EBB	[03-JUN-2014]	HK1416792-011	<2				
C3 (BOTTOM) MID-EBB	[03-JUN-2014]	HK1416792-012	<2				
GB3 (SURFACE) MID-FLOOD	[03-JUN-2014]	HK1416792-013	<2				
GB3 (SURFACE) MID-FLOOD	[03-JUN-2014]	HK1416792-014	<2				
GB3 (MIDDLE) MID-FLOOD	[03-JUN-2014]	HK1416792-015	<2				
GB3 (MIDDLE) MID-FLOOD	[03-JUN-2014]	HK1416792-016	<2				
GB3 (BOTTOM) MID-FLOOD	[03-JUN-2014]	HK1416792-017	<2				
GB3 (BOTTOM) MID-FLOOD	[03-JUN-2014]	HK1416792-018	<2				
C4 (SURFACE) MID-FLOOD	[03-JUN-2014]	HK1416792-019	<2				
C4 (SURFACE) MID-FLOOD	[03-JUN-2014]	HK1416792-020	<2				
C4 (MIDDLE) MID-FLOOD	[03-JUN-2014]	HK1416792-021	<2				
C4 (MIDDLE) MID-FLOOD	[03-JUN-2014]	HK1416792-022	<2				
C4 (BOTTOM) MID-FLOOD	[03-JUN-2014]	HK1416792-023	<2				
C4 (BOTTOM) MID-FLOOD	[03-JUN-2014]	HK1416792-024	<2				





**Laboratory Duplicate (DUP) Report**

Matrix: WATER				Laboratory Duplicate (DUP) Report				
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)
<b>EA/ED: Physical and Aggregate Properties (QC Lot: 3479100)</b>								
HK1416792-001	GB3 (SURFACE) MID-EBB	EA025: Suspended Solids (SS)	----	2	mg/L	<2	<2	0.0
HK1416792-011	C3 (BOTTOM) MID-EBB	EA025: Suspended Solids (SS)	----	2	mg/L	<2	<2	0.0
<b>EA/ED: Physical and Aggregate Properties (QC Lot: 3479101)</b>								
HK1416792-021	C4 (MIDDLE) MID-FLOOD	EA025: Suspended Solids (SS)	----	2	mg/L	<2	<2	0.0

**Method Blank (MB), Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report**

Matrix: WATER			Method Blank (MB) Report			Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report					
Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
						LCS	DCS	Low	High	Value	Control Limit
<b>EA/ED: Physical and Aggregate Properties (QCLot: 3479100)</b>											
EA025: Suspended Solids (SS)	----	2	mg/L	<2	20 mg/L	102	----	85	115	----	----
<b>EA/ED: Physical and Aggregate Properties (QCLot: 3479101)</b>											
EA025: Suspended Solids (SS)	----	2	mg/L	<2	20 mg/L	101	----	85	115	----	----

**Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report**

- No Matrix Spike (MS) or Matrix Spike Duplicate (MSD) Results are required to be reported.



## CERTIFICATE OF ANALYSIS

<i>Client</i>	: AECOM ASIA COMPANY LIMITED	<i>Laboratory</i>	: ALS Technichem HK Pty Ltd	<i>Page</i>	: 1 of 3
<i>Contact</i>	: MS ANGELA TONG	<i>Contact</i>	: Fung Lim Chee, Richard	<i>Work Order</i>	: <b>HK1417042</b>
<i>Address</i>	: 11/F, TOWER 2, GRAND CENTRAL PLAZA, 138 SHATIN RURAL COMMITTEE ROAD, SHATIN, N.T. HONG KONG	<i>Address</i>	: 11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong		
<i>E-mail</i>	: angela.tong@aecom.com	<i>E-mail</i>	: Richard.Fung@alsglobal.com		
<i>Telephone</i>	: +852 3922 9418	<i>Telephone</i>	: +852 2610 1044		
<i>Facsimile</i>	: ----	<i>Facsimile</i>	: +852 2610 2021		
<i>Project</i>	: SCL-BASELINE WQM	<i>Quote number</i>	: ----	<i>Date received</i>	: 06-JUN-2014
<i>Order number</i>	: 60280233			<i>Date of issue</i>	: 17-JUN-2014
<i>C-O-C number</i>	: ----			<i>No. of samples</i>	- Received : 24
<i>Site</i>	: ----				- Analysed : 24

### Report Comments

This report for ALS Technichem (HK) Pty Ltd work order reference HK1417042 supersedes any previous reports with this reference. The completion date of analysis is 10-JUN-2014. Results apply to sample(s) as submitted. All pages of this report have been checked and approved for release. When date(s) and/or time(s) are shown bracketed, these have been assumed by the laboratory for process purposes. Abbreviations: CAS number = Chemical Abstract Services number. LOR = Limit of reporting.

Specific comments for Work Order HK1417042 :  
Sample(s) were picked up from client by ALS Technichem (HK) staff in a chilled condition.  
Water sample(s) analysed and reported on an as received basis.

**This report may not be reproduced except with prior written approval from ALS Technichem (HK) Pty Ltd.**

This document has been electronically signed by those names that appear on this report and are the authorised signatories. Electronic signing has been carried out in compliance with procedures specified in the 'Electronic Transactions Ordinance' of Hong Kong, Chapter 553, Section 6.

*Signatory*  
**Fung Lim Chee, Richard**

*Position*  
**General Manager**

*Authorised results for:-*  
**Inorganics**



**Analytical Results**

Sub-Matrix: WATER

			Compound				
			EA025: Suspended Solids (SS)				
			LOR Unit	2 mg/L			
Client sample ID	Client sampling date / time	Laboratory sample ID	EA/ED: Physical and Aggregate Properties				
GB3 (SURFACE) MID-EBB	[05-JUN-2014]	HK1417042-001	<2				
GB3 (SURFACE) MID-EBB	[05-JUN-2014]	HK1417042-002	<2				
GB3 (MIDDLE) MID-EBB	[05-JUN-2014]	HK1417042-003	<2				
GB3 (MIDDLE) MID-EBB	[05-JUN-2014]	HK1417042-004	<2				
GB3 (BOTTOM) MID-EBB	[05-JUN-2014]	HK1417042-005	<2				
GB3 (BOTTOM) MID-EBB	[05-JUN-2014]	HK1417042-006	<2				
C3 (SURFACE) MID-EBB	[05-JUN-2014]	HK1417042-007	<2				
C3 (SURFACE) MID-EBB	[05-JUN-2014]	HK1417042-008	<2				
C3 (MIDDLE) MID-EBB	[05-JUN-2014]	HK1417042-009	<2				
C3 (MIDDLE) MID-EBB	[05-JUN-2014]	HK1417042-010	<2				
C3 (BOTTOM) MID-EBB	[05-JUN-2014]	HK1417042-011	<2				
C3 (BOTTOM) MID-EBB	[05-JUN-2014]	HK1417042-012	<2				
GB3 (SURFACE) MID-FLOOD	[05-JUN-2014]	HK1417042-013	<2				
GB3 (SURFACE) MID-FLOOD	[05-JUN-2014]	HK1417042-014	<2				
GB3 (MIDDLE) MID-FLOOD	[05-JUN-2014]	HK1417042-015	<2				
GB3 (MIDDLE) MID-FLOOD	[05-JUN-2014]	HK1417042-016	<2				
GB3 (BOTTOM) MID-FLOOD	[05-JUN-2014]	HK1417042-017	<2				
GB3 (BOTTOM) MID-FLOOD	[05-JUN-2014]	HK1417042-018	<2				
C4 (SURFACE) MID-FLOOD	[05-JUN-2014]	HK1417042-019	<2				
C4 (SURFACE) MID-FLOOD	[05-JUN-2014]	HK1417042-020	<2				
C4 (MIDDLE) MID-FLOOD	[05-JUN-2014]	HK1417042-021	<2				
C4 (MIDDLE) MID-FLOOD	[05-JUN-2014]	HK1417042-022	<2				
C4 (BOTTOM) MID-FLOOD	[05-JUN-2014]	HK1417042-023	<2				
C4 (BOTTOM) MID-FLOOD	[05-JUN-2014]	HK1417042-024	<2				



**Laboratory Duplicate (DUP) Report**

Matrix: WATER				Laboratory Duplicate (DUP) Report				
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)
<b>EA/ED: Physical and Aggregate Properties (QC Lot: 3482413)</b>								
HK1417042-001	GB3 (SURFACE) MID-EBB	EA025: Suspended Solids (SS)	----	2	mg/L	<2	<2	0.0
HK1417042-011	C3 (BOTTOM) MID-EBB	EA025: Suspended Solids (SS)	----	2	mg/L	<2	<2	0.0
<b>EA/ED: Physical and Aggregate Properties (QC Lot: 3482414)</b>								
HK1417042-021	C4 (MIDDLE) MID-FLOOD	EA025: Suspended Solids (SS)	----	2	mg/L	<2	<2	0.0

**Method Blank (MB), Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report**

Matrix: WATER			Method Blank (MB) Report			Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report					
Method: Compound	CAS Number	LOR	Unit	Result	Spike Concentration	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
						LCS	DCS	Low	High	Value	Control Limit
<b>EA/ED: Physical and Aggregate Properties (QCLot: 3482413)</b>											
EA025: Suspended Solids (SS)	----	2	mg/L	<2	20 mg/L	100	----	85	115	----	----
<b>EA/ED: Physical and Aggregate Properties (QCLot: 3482414)</b>											
EA025: Suspended Solids (SS)	----	2	mg/L	<2	20 mg/L	100	----	85	115	----	----

**Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report**

- No Matrix Spike (MS) or Matrix Spike Duplicate (MSD) Results are required to be reported.

---

**APPENDIX 2.4**

**BASELINE WATER QUALITY MONITORING RESULTS**

---

### Water Quality Monitoring Results at C3 - Mid-Ebb Tide

Date	Weather Condition	Sea Condition**	Sampling Time	Depth (m)		Temperature (°C)		Salinity (ppt)		pH		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)					
						Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*			
10-May-14	Sunny	Moderate	9:21	Surface	1	22.9	22.9	31.1	31.2	8.47	8.46	95.40	95.30	6.86	6.85	6.75	1.2	1.2	1.2	3.0	3.5	4.5			
						22.9		31.4		8.45		95.20		6.83						1.1				4.0	
				Middle	11.5	23.0	23.0	32.8	32.8	8.46	8.46	93.90	93.70	6.66	6.65			1.2		1.2			5.0	5.0	
				Bottom	22.0	23.1	23.1	32.9	32.9	8.46	8.45	94.40	94.25	6.69	6.68		1.1	1.2		5.0	5.0				
						23.1		32.8		8.44		94.10		6.67											
13-May-14	Cloudy	Moderate	11:14	Surface	1	23.7	23.7	22.8	22.8	8.16	8.15	94.20	94.00	7.04	7.01	6.96	1.1	1.1	1.2	2.0	2.5	4.0			
						23.7		22.9		8.14		93.80		6.97						1.1				3.0	
				Middle	11.1	23.6	23.6	22.7	22.9	8.14	8.15	93.70	92.45	6.98	6.92			1.2		1.2			5.0	4.5	
						23.6		23.0		8.16		91.20		6.86											
				Bottom	21.1	23.3	23.4	22.5	22.5	8.16	8.16	86.70	89.10	6.61	6.73		1.2	1.3		4.0	5.0				
						23.4		22.5		8.16		91.50		6.84											
15-May-14	Sunny	Moderate	12:17	Surface	1	25.1	25.2	30.4	30.4	8.27	8.28	95.60	95.60	6.63	6.63	6.44	3.4	3.3	3.4	4.0	4.0	2.8			
						25.2		30.4		8.29		95.60		6.62											
				Middle	11.5	23.5	23.5	33.7	33.7	8.28	8.27	89.80	89.40	6.29	6.26			3.4		3.4			2.0	2.0	
						23.5		33.7		8.26		89.00		6.23											
				Bottom	22.0	23.5	23.5	33.7	33.7	8.25	8.26	89.70	90.60	6.28	6.34		3.3	3.4		3.0	2.5				
						23.5		33.7		8.27		91.50		6.40											
17-May-14	Cloudy	Moderate	14:12	Surface	1	26.3	26.3	23.5	23.6	8.22	8.21	116.30	117.80	8.23	8.33	7.49	1.9	2.0	2.0	4.0	4.5	4.3			
						26.3		23.7		8.20		119.30		8.42											
				Middle	11.6	24.0	24.0	33.5	33.4	7.84	7.87	95.00	95.70	6.60	6.66			1.9		2.0			4.0	4.5	
						24.1		33.3		7.89		96.40		6.71											
				Bottom	22.1	24.0	24.0	33.6	33.6	7.77	7.84	91.50	91.40	6.36	6.36		2.0	2.1		4.0	4.0				
						24.0		33.5		7.91		91.30		6.35											
20-May-14	Sunny	Moderate	16:54	Surface	1	25.7	25.6	28.1	28.1	7.85	7.87	99.00	100.05	6.90	6.98	6.63	1.1	1.1	1.1	4.0	3.0	2.5			
						25.6		28.1		7.89		101.10		7.05											
				Middle	10.9	24.4	24.4	32.9	32.8	7.78	7.81	89.70	90.60	6.21	6.28			1.1		1.1			2.0	2.5	
						24.4		32.8		7.84		91.50		6.34											
				Bottom	20.8	24.4	24.4	33.0	33.0	7.79	7.81	87.40	88.35	6.06	6.13		1.1	1.2		2.0	2.0				
						24.4		32.9		7.83		89.30		6.19											
22-May-14	Fine	Calm	19:03	Surface	1	25.5	25.5	28.9	28.9	7.78	7.78	84.40	84.00	5.74	5.71	5.73	1.1	1.2	1.1	4.0	3.0	3.0			
						25.5		28.8		7.78		83.60		5.68											
				Middle	11.1	25.4	25.3	29.4	29.8	7.78	7.78	85.20	84.55	5.79	5.74			1.1		1.2			4.0	3.0	
						25.3		30.1		7.78		83.90		5.69											
				Bottom	21.1	24.9	24.9	31.3	31.7	7.81	7.81	80.90	81.20	5.48	5.50		0.9	1.0		3.0	3.0				
						24.8		32.1		7.80		81.50		5.51											
24-May-14	Sunny	Calm	9:13	Surface	1	25.7	25.7	29.7	29.7	7.67	7.68	79.50	80.05	6.03	6.08	6.05	1.4	1.4	1.3	4.0	3.5	3.8			
						25.7		29.7		7.68		80.60		6.12											
				Middle	11.2	25.7	25.7	29.7	29.7	7.68	7.68	79.70	79.50	6.05	6.03			1.2		1.3			5.0	4.0	
						25.7		29.7		7.68		79.30		6.01											
				Bottom	21.3	24.3	24.4	31.3	31.2	7.67	7.68	80.40	80.35	6.06	6.06		1.2	1.2		4.0	4.0				
						24.4		31.2		7.68		80.30		6.05											
27-May-14	Sunny	Moderate	11:11	Surface	1	26.0	26.0	31.1	31.2	8.02	8.03	122.40	121.00	8.33	8.24	6.68	1.6	1.7	2.1	4.0	3.5	3.0			
						25.9		31.3		8.04		119.60		8.14											
				Middle	11.2	24.4	24.4	33.9	33.7	7.79	7.76	75.20	74.20	5.18	5.12			2.2		2.3			3.0	2.5	
						24.4		33.6		7.72		73.20		5.05											
				Bottom	21.4	24.4	24.4	33.8	33.6	7.79	7.75	67.50	65.60	4.65	4.52		2.3	2.3		3.0	3.0				
						24.4		33.4		7.71		63.70		4.39											

Remark: \* DA: Depth-Averaged

\*\* Calm: Small or no wave; Moderate: Between calm and rough; Rough: White capped or rougher

### Water Quality Monitoring Results at C3 - Mid-Ebb Tide

Date	Weather Condition	Sea Condition**	Sampling Time	Depth (m)		Temperature (°C)		Salinity (ppt)		pH		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)		
						Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*
29-May-14	Sunny	Calm	12:49	Surface	1	26.4 26.3	26.4	29.3 29.4	29.3	8.53 8.47	8.50	130.20 128.20	129.20	8.89 8.76	8.83	8.55	1.3 1.3	1.3	1.3	3.0 2.0	2.5	3.0
				Middle	11.4	26.2 26.2	26.2	29.7 29.7	29.7	8.49 8.43	8.46	120.60 121.00	120.80	8.25 8.28	8.27		1.3 1.3	1.3		3.0 2.0	2.5	
				Bottom	21.8	25.4 25.4	25.4	31.8 31.9	31.8	8.25 8.36	8.31	91.60 92.40	92.00	6.28 6.33	6.31		1.4 1.4	1.4		4.0 4.0	4.0	
31-May-14	Fine	Calm	14:05	Surface	1	30.6 30.6	30.6	30.0 30.1	30.0	7.46 7.67	7.57	87.20 84.70	85.95	5.76 5.56	5.66	5.61	1.2 1.3	1.3	1.2	3.0 3.0	3.0	2.8
				Middle	7.0	30.5 30.6	30.5	30.2 30.2	30.2	7.63 7.68	7.66	85.00 84.40	84.70	5.58 5.54	5.56		1.2 1.3	1.3		3.0 2.0	2.5	
				Bottom	13.1	30.5 30.5	30.5	30.3 30.4	30.4	7.65 7.69	7.67	84.50 84.10	84.30	5.54 5.50	5.52		1.0 1.1	1.1		3.0 3.0	3.0	
3-Jun-14	Sunny	Moderate	14:51	Surface	1	27.9 27.8	27.9	30.7 30.7	30.7	8.42 8.39	8.41	110.80 109.50	110.15	7.53 7.45	7.49	7.37	1.1 1.1	1.1	1.2	<2 <2	<2	<2
				Middle	3.5	25.8 25.9	25.8	32.2 32.1	32.1	8.28 8.29	8.29	106.00 113.30	109.65	7.02 7.49	7.26		1.2 1.1	1.2		<2 <2	-	
				Bottom	6.1	25.7 25.7	25.7	32.3 32.2	32.3	8.22 8.31	8.27	100.30 104.00	102.15	6.81 7.06	6.94		1.3 1.3	1.3		<2 <2	<2	
5-Jun-14	Sunny	Moderate	16:47	Surface	1	27.6 27.4	27.5	31.1 31.3	31.2	8.50 8.45	8.48	118.60 128.70	123.65	7.98 8.75	8.37	8.18	0.4 0.4	0.4	0.5	<2 <2	<2	<2
				Middle	11.4	24.8 25.0	24.9	33.4 33.3	33.3	8.36 8.32	8.34	124.20 109.90	117.05	8.49 7.50	8.00		0.4 0.5	0.5		<2 <2	-	
				Bottom	21.9	24.7 25.6	25.2	33.5 32.6	33.1	8.29 8.48	8.39	107.00 122.10	114.55	7.31 8.22	7.77		0.5 0.5	0.5		<2 <2	<2	

Remark: \* DA: Depth-Averaged

\*\* Calm: Small or no wave; Moderate: Between calm and rough; Rough: White capped or rougher

### Water Quality Monitoring Results at C4 - Mid-Flood Tide

Date	Weather Condition	Sea Condition**	Sampling Time	Depth (m)		Temperature (°C)		Salinity (ppt)		pH		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)		
						Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*
10-May-14	Sunny	Moderate	15:26	Surface	1	23.1 23.1	23.1	32.7 32.8	32.7	8.43 8.50	8.47	93.80 93.60	93.70	6.65 6.64	6.65	6.57	1.5 1.6	1.6	1.6	5.0 4.0	4.5	5.0
				Middle	8.9	23.1 23.1	23.1	33.2 33.2	33.2	8.43 8.49	8.46	92.10 91.40	91.75	6.52 6.46	6.49		1.5 1.6	1.6		5.0 5.0	5.0	
				Bottom	16.9	23.1 23.1	23.1	33.4 33.3	33.4	8.46 8.49	8.48	91.10 92.20	91.65	6.44 6.52	6.48		1.6 1.5	1.6		6.0 5.0	5.5	
13-May-14	Cloudy	Moderate	18:12	Surface	1	23.9 23.8	23.8	35.8 35.7	35.8	8.16 8.16	8.16	83.80 85.50	84.65	5.76 5.90	5.83	5.76	0.8 0.8	0.8	0.8	3.0 3.0	3.0	3.3
				Middle	9.5	23.4 23.4	23.4	36.3 36.6	36.5	8.16 8.17	8.17	82.30 82.40	82.35	5.68 5.69	5.69		0.8 0.8	0.8		4.0 3.0	3.5	
				Bottom	18.1	23.5 23.4	23.4	36.3 36.6	36.5	8.17 8.16	8.17	81.80 82.10	81.95	5.63 5.66	5.65		0.9 0.8	0.9		4.0 3.0	3.5	
15-May-14	Sunny	Moderate	19:32	Surface	1	25.3 25.3	25.3	29.8 29.8	29.8	8.32 8.33	8.33	95.10 94.70	94.90	6.60 6.58	6.59	6.43	1.9 1.8	1.9	2.1	2.0 2.0	2.0	2.2
				Middle	9.2	23.5 23.5	23.5	33.6 33.5	33.5	8.33 8.32	8.33	89.10 89.90	89.50	6.24 6.30	6.27		2.2 2.3	2.3		2.0 3.0	2.5	
				Bottom	17.4	23.5 23.5	23.5	33.9 33.9	33.9	8.32 8.32	8.32	89.00 91.30	90.15	6.22 6.38	6.30		2.3 2.3	2.3		2.0 2.0	2.0	
17-May-14	Cloudy	Moderate	7:01	Surface	1	26.3 26.2	26.2	24.0 24.0	24.0	8.21 8.21	8.21	120.50 114.70	117.60	8.50 8.09	8.30	7.60	2.3 2.4	2.4	3.2	5.0 5.0	5.0	5.5
				Middle	8.8	24.0 24.0	24.0	33.6 33.6	33.6	7.88 7.90	7.89	103.40 95.50	99.45	7.17 6.64	6.91		3.7 3.5	3.6		6.0 6.0	6.0	
				Bottom	16.7	24.0 24.0	24.0	33.8 33.7	33.7	7.92 7.86	7.89	91.10 92.60	91.85	6.33 6.43	6.38		3.4 3.6	3.5		5.0 6.0	5.5	
20-May-14	Sunny	Moderate	9:21	Surface	1	25.7 25.7	25.7	28.0 28.0	28.0	7.92 7.95	7.94	107.30 107.60	107.45	7.48 7.49	7.49	7.00	1.5 1.5	1.5	1.7	3.0 2.0	2.5	3.2
				Middle	8.7	24.4 24.3	24.3	33.2 33.4	33.3	7.78 7.82	7.80	89.90 98.70	94.30	6.23 6.81	6.52		1.6 1.5	1.6		4.0 4.0	4.0	
				Bottom	16.4	24.4 24.3	24.3	33.4 33.4	33.4	7.81 7.72	7.77	86.80 86.20	86.50	6.00 5.96	5.98		1.9 1.9	1.9		4.0 2.0	3.0	
22-May-14	Fine	Calm	11:47	Surface	1	25.2 25.3	25.2	29.5 29.4	29.5	7.78 7.74	7.76	83.10 85.30	84.20	5.65 5.81	5.73	5.69	1.5 1.4	1.5	1.4	2.0 3.0	2.5	3.0
				Middle	9.0	25.2 25.1	25.1	29.9 29.9	29.9	7.79 7.76	7.78	82.60 83.20	82.90	5.62 5.66	5.64		1.6 1.7	1.7		3.0 3.0	3.0	
				Bottom	17.1	24.9 24.8	24.9	31.3 31.4	31.3	7.80 7.78	7.79	80.40 81.20	80.80	5.45 5.51	5.48		1.2 1.1	1.2		3.0 4.0	3.5	
24-May-14	Sunny	Calm	14:48	Surface	1	25.6 25.5	25.5	29.7 29.8	29.7	7.69 7.72	7.71	79.70 82.20	80.95	6.08 6.17	6.13	6.09	1.4 1.3	1.4	1.3	3.0 4.0	3.5	4.0
				Middle	9.0	25.7 25.7	25.7	29.7 29.7	29.7	7.69 7.71	7.70	79.60 81.20	80.40	6.05 6.07	6.06		1.5 1.4	1.5		4.0 4.0	4.0	
				Bottom	17.1	24.8 24.8	24.8	30.9 30.9	30.9	7.69 7.70	7.70	79.70 80.90	80.30	6.05 6.03	6.04		1.2 1.1	1.2		4.0 5.0	4.5	
27-May-14	Sunny	Moderate	18:08	Surface	1	26.1 26.6	26.3	31.8 31.4	31.6	7.68 7.66	7.67	124.40 129.00	126.70	8.43 8.68	8.56	6.90	1.2 1.3	1.3	1.4	3.0 3.0	3.0	3.0
				Middle	8.8	24.5 24.5	24.5	34.4 34.3	34.3	7.55 7.57	7.56	75.70 76.90	76.30	5.20 5.28	5.24		1.4 1.4	1.4		2.0 2.0	2.0	
				Bottom	16.7	24.4 24.4	24.4	34.6 34.5	34.6	7.44 7.50	7.47	70.40 72.70	71.55	4.83 4.99	4.91		1.4 1.4	1.4		4.0 4.0	4.0	

Remark: \* DA: Depth-Averaged

\*\* Calm: Small or no wave; Moderate: Between calm and rough; Rough: White capped or rougher



## Water Quality Monitoring Results at C4 - Mid-Flood Tide

Date	Weather Condition	Sea Condition**	Sampling Time	Depth (m)		Temperature (°C)		Salinity (ppt)		pH		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)		
						Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*
29-May-14	Sunny	Calm	20:00	Surface	1	26.1 26.2	26.1	30.1 30.1	30.1	8.46 8.46	8.46	119.30 119.00	119.15	8.15 8.13	8.14	7.61	1.5 1.5	1.5	1.6	2.0 2.0	2.0	2.7
				Middle	9.0	25.7 25.8	25.7	31.0 30.8	30.9	8.40 8.39	8.40	102.90 103.80	103.35	7.05 7.11	7.08		1.6 1.7	1.7		3.0 3.0		
				Bottom	17.0	25.0 25.0	25.0	33.1 33.2	33.2	8.31 8.26	8.29	90.50 82.50	86.50	6.19 5.64	5.92		1.7 1.8	1.8		3.0 3.0		
31-May-14	Fine	Calm	7:12	Surface	1	30.7 30.6	30.6	30.2 30.2	30.2	7.74 7.74	7.74	85.20 85.30	85.25	5.60 5.61	5.61	5.61	1.7 1.6	1.7	1.5	3.0 2.0	2.5	3.0
				Middle	3.5	30.6 30.6	30.6	30.2 30.2	30.2	7.74 7.74	7.74	85.50 85.20	85.35	5.63 5.60	5.62		1.7 1.8	1.8		3.0 3.0		
				Bottom	6.0	30.6 30.6	30.6	30.2 30.2	30.2	7.74 7.74	7.74	85.10 85.40	85.25	5.60 5.61	5.61		1.3 1.1	1.2		4.0 3.0		
3-Jun-14	Sunny	Moderate	7:38	Surface	1	27.0 27.3	27.2	30.5 30.0	30.2	8.42 8.45	8.44	117.00 116.40	116.70	7.85 7.81	7.83	6.48	1.4 1.4	1.4	1.5	<2 <2	<2	<2
				Middle	9.2	24.5 24.2	24.3	33.7 33.9	33.8	8.16 8.15	8.16	72.10 74.40	73.25	4.97 5.27	5.12		1.5 1.4	1.5		<2 <2		
				Bottom	17.4	24.4 22.5	23.4	33.9 34.7	34.3	8.13 8.16	8.15	66.30 69.90	68.10	4.57 4.83	4.70		1.5 1.5	1.5		<2 <2		
5-Jun-14	Sunny	Moderate	9:18	Surface	1	27.9 27.8	27.8	30.7 30.8	30.8	8.46 8.45	8.46	132.10 132.80	132.45	8.87 9.05	8.96	8.71	0.5 0.5	0.5	0.7	<2 <2	<2	<2
				Middle	9.1	25.6 25.6	25.6	32.5 32.5	32.5	8.36 8.32	8.34	131.90 118.10	125.00	8.86 8.04	8.45		0.6 0.7	0.7		<2 <2		
				Bottom	17.2	25.5 25.2	25.3	32.6 32.9	32.7	8.38 8.22	8.30	129.20 113.90	121.55	8.80 7.77	8.29		0.9 0.9	0.9		<2 <2		

Remark: \* DA: Depth-Averaged

\*\* Calm: Small or no wave; Moderate: Between calm and rough; Rough: White capped or rougher

## Water Quality Monitoring Results at GB3 - Mid-Ebb Tide

Date	Weather Condition	Sea Condition**	Sampling Time	Depth (m)		Temperature (°C)		Salinity (ppt)		pH		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)		
						Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*
10-May-14	Sunny	Moderate	9:48	Surface	1	23.0 23.0	23.0	32.2 32.1	32.2	8.33 8.29	8.31	93.90 94.40	94.15	6.69 6.73	6.71	6.66	1.4 1.4	1.4	1.4	4.0 4.0	4.0	4.3
				Middle	3.7	23.0 23.0	23.0	32.7 32.7	32.7	8.27 8.32	8.30	93.80 92.60	93.20	6.66 6.57	6.62		1.4 1.4	1.4		4.0 4.0	4.0	
				Bottom	6.4	23.1 23.1	23.1	33.0 33.0	33.0	8.21 8.30	8.26	94.90 93.50	94.20	6.72 6.62	6.67		1.5 1.5	1.5		5.0 5.0	5.0	
13-May-14	Cloudy	Moderate	11:33	Surface	1	23.7 23.7	23.7	33.6 33.8	33.7	8.15 8.15	8.15	96.40 85.70	91.05	6.73 5.98	6.36	6.18	0.7 0.7	0.7	0.8	4.0 4.0	4.0	4.0
				Middle	3.5	23.4 23.5	23.4	35.0 34.6	34.8	8.15 8.15	8.15	84.70 87.60	86.15	5.89 6.11	6.00		0.8 0.8	0.8		4.0 3.0	3.5	
				Bottom	6.1	23.4 23.5	23.4	34.5 35.0	34.7	8.15 8.15	8.15	86.70 84.10	85.40	6.06 5.85	5.96		0.8 0.8	0.8		4.0 5.0	4.5	
15-May-14	Sunny	Moderate	12:42	Surface	1	25.9 26.3	26.1	29.4 29.2	29.3	8.34 8.33	8.34	100.90 102.80	101.85	6.94 7.04	6.99	6.87	1.1 1.2	1.2	1.2	3.0 2.0	2.5	2.3
				Middle	3.6	24.6 25.2	24.9	30.8 30.0	30.4	8.33 8.34	8.34	97.80 95.80	96.80	6.84 6.65	6.75		1.2 1.2	1.2		2.0 2.0	2.0	
				Bottom	6.3	23.9 23.8	23.8	32.3 32.4	32.3	8.33 8.32	8.33	94.70 96.90	95.80	6.65 6.80	6.73		1.2 1.3	1.3		3.0 2.0	2.5	
17-May-14	Cloudy	Moderate	13:47	Surface	1	26.2 26.2	26.2	24.7 24.8	24.7	8.20 8.20	8.20	126.20 124.40	125.30	8.88 8.75	8.82	8.28	2.1 2.0	2.1	2.2	3.0 4.0	3.5	3.7
				Middle	3.6	25.7 25.8	25.8	27.1 26.8	27.0	8.02 8.07	8.05	109.30 111.90	110.60	7.64 7.83	7.74		2.2 2.2	2.2		4.0 3.0	3.5	
				Bottom	6.2	24.2 24.1	24.1	32.1 32.3	32.2	7.93 7.83	7.88	108.30 104.40	106.35	7.56 7.30	7.43		2.2 2.3	2.3		4.0 4.0	4.0	
20-May-14	Sunny	Moderate	16:32	Surface	1	26.3 26.4	26.4	28.7 28.5	28.6	8.00 7.96	7.98	110.30 109.80	110.05	7.57 7.52	7.55	7.37	1.2 1.3	1.3	1.2	3.0 3.0	3.0	2.8
				Middle	3.6	25.9 25.5	25.7	29.5 29.9	29.7	7.85 7.90	7.88	102.00 106.00	104.00	7.05 7.33	7.19		1.2 1.2	1.2		3.0 2.0	2.5	
				Bottom	6.1	24.8 24.6	24.7	32.0 32.3	32.2	7.85 7.85	7.85	95.30 96.60	95.95	6.56 6.69	6.63		1.2 1.2	1.2		3.0 3.0	3.0	
22-May-14	Fine	Calm	18:40	Surface	1	25.4 25.4	25.4	29.3 29.5	29.4	7.77 7.80	7.79	83.40 83.50	83.45	5.67 5.68	5.68	5.74	1.2 1.2	1.2	1.3	3.0 2.0	2.5	2.7
				Middle	3.0	25.3 25.4	25.4	29.5 29.5	29.5	7.81 7.76	7.79	84.00 86.90	85.45	5.71 5.91	5.81		1.4 1.3	1.4		3.0 3.0	3.0	
				Bottom	5.0	25.3 24.9	25.1	29.7 31.4	30.5	7.78 7.82	7.80	85.60 81.90	83.75	5.82 5.54	5.68		1.4 1.3	1.4		3.0 2.0	2.5	
24-May-14	Sunny	Calm	8:42	Surface	1	25.7 25.7	25.7	29.5 29.6	29.5	7.64 7.63	7.64	79.10 78.70	78.90	5.94 5.90	5.92	5.92	1.4 1.3	1.4	1.3	4.0 3.0	3.5	3.7
				Middle	3.1	25.7 25.7	25.7	29.6 29.5	29.6	7.64 7.63	7.64	78.30 79.70	79.00	5.87 5.95	5.91		1.2 1.2	1.2		4.0 4.0	4.0	
				Bottom	5.2	24.0 24.2	24.1	31.5 31.4	31.4	7.63 7.63	7.63	80.20 79.30	79.75	6.03 5.92	5.98		1.3 1.2	1.3		4.0 3.0	3.5	
27-May-14	Sunny	Moderate	11:36	Surface	1	27.7 27.7	27.7	30.6 30.6	30.6	8.01 8.06	8.04	140.30 140.70	140.50	9.31 9.34	9.33	8.84	1.8 1.8	1.8	1.7	3.0 3.0	3.0	3.2
				Middle	3.6	26.2 26.1	26.2	31.6 31.6	31.6	7.94 7.96	7.95	123.10 123.80	123.45	8.33 8.39	8.36		1.7 1.7	1.7		3.0 3.0	3.0	
				Bottom	6.2	25.0 25.0	25.0	33.3 33.3	33.3	7.71 7.81	7.76	98.40 101.10	99.75	6.73 6.92	6.83		1.6 1.7	1.7		3.0 4.0	3.5	

Remark: \* DA: Depth-Averaged

\*\* Calm: Small or no wave; Moderate: Between calm and rough; Rough: White capped or rougher

### Water Quality Monitoring Results at GB3 - Mid-Ebb Tide

Date	Weather Condition	Sea Condition**	Sampling Time	Depth (m)		Temperature (°C)		Salinity (ppt)		pH		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)		
						Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*
29-May-14	Sunny	Calm	13:16	Surface	1	27.1 26.9	27.0	29.2 28.8	29.0	8.63 8.60	8.62	146.30 144.00	145.15	9.89 9.78	9.84	8.85	1.5 1.5	1.5	1.8	3.0 4.0	3.5	2.8
				Middle	3.4	26.0 26.0	26.0	30.6 30.5	30.5	8.47 8.48	8.48	114.30 116.00	115.15	7.80 7.92	7.86		1.9 1.8	1.9		3.0 2.0	2.5	
				Bottom	5.9	25.7 25.7	25.7	31.3 31.4	31.3	8.41 8.42	8.42	102.40 104.50	103.45	7.00 7.14	7.07		2.2 2.1	2.2		2.0 3.0	2.5	
31-May-14	Fine	Calm	13:36	Surface	1	30.7 30.7	30.7	30.1 30.2	30.2	7.75 7.77	7.76	87.00 84.50	85.75	5.66 5.46	5.56	5.51	1.3 1.3	1.3	1.4	3.0 2.0	2.5	2.7
				Middle	6.0	30.7 30.7	30.7	30.3 30.3	30.3	7.73 7.78	7.76	84.80 84.20	84.50	5.48 5.44	5.46		1.5 1.4	1.5		3.0 2.0	2.5	
				Bottom	11.1	30.6 30.6	30.6	30.4 30.5	30.5	7.75 7.79	7.77	84.30 83.90	84.10	5.44 5.40	5.42		1.4 1.5	1.5		3.0 3.0	3.0	
3-Jun-14	Sunny	Moderate	15:18	Surface	1	26.9 27.0	26.9	30.3 30.0	30.2	8.34 8.37	8.36	110.40 105.50	107.95	7.44 7.11	7.28	6.24	1.4 1.5	1.5	1.5	<2 <2	<2	<2
				Middle	11.3	24.6 25.4	25.0	33.4 32.5	32.9	8.13 8.21	8.17	74.90 75.10	75.00	5.27 5.12	5.20		1.5 1.5	1.5		<2 <2	<2	
				Bottom	21.6	23.4 23.0	23.2	34.1 34.4	34.3	8.07 8.10	8.09	74.70 71.30	73.00	5.10 4.91	5.01		1.5 1.6	1.6		<2 <2	<2	
5-Jun-14	Sunny	Moderate	16:13	Surface	1	26.8 28.8	27.8	31.7 30.5	31.1	8.46 8.55	8.51	134.00 132.70	133.35	9.11 8.84	8.98	8.79	0.6 0.6	0.6	0.7	<2 <2	<2	<2
				Middle	3.5	25.5 25.6	25.5	32.8 32.7	32.7	8.38 8.41	8.40	124.60 127.90	126.25	8.49 8.70	8.60		0.7 0.7	0.7		<2 <2	<2	
				Bottom	6.0	25.4 25.8	25.6	32.9 32.6	32.7	8.32 8.48	8.40	121.50 127.60	124.55	8.27 8.62	8.45		0.7 0.8	0.8		<2 <2	<2	

Remark: \* DA: Depth-Averaged

\*\* Calm: Small or no wave; Moderate: Between calm and rough; Rough: White capped or rougher

## Water Quality Monitoring Results at GB3 - Mid-Flood Tide

Date	Weather Condition	Sea Condition**	Sampling Time	Depth (m)		Temperature (°C)		Salinity (ppt)		pH		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity (NTU)			Suspended Solids (mg/L)			
						Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*	
10-May-14	Sunny	Moderate	14:56	Surface	1	23.0	23.0	32.0	32.1	8.44	8.44	92.60	92.60	6.60	6.60	6.53	1.4	1.5	1.5	4.0	4.0	4.3	
				Middle	3.7	23.1	23.1	32.8	32.8	8.43	8.43	91.10	90.95	6.46	6.44		6.45	1.4		1.4	4.0		4.0
				Bottom	6.4	23.1	23.1	33.0	32.9	8.40	8.42	94.90	93.65	6.72	6.55		6.64	1.6		1.6	5.0		5.0
13-May-14	Cloudy	Moderate	17:51	Surface	1	23.5	23.5	34.6	34.9	8.11	8.11	88.90	88.85	6.17	6.17	6.14	0.5	0.5	0.5	3.0	3.5	4.5	
				Middle	3.6	23.4	23.4	35.5	35.5	8.11	8.11	87.90	87.90	6.13	6.11		6.12	0.5		0.5	4.0		4.5
				Bottom	6.1	23.4	23.4	35.3	35.4	8.11	8.11	86.20	86.65	5.99	6.05		6.02	0.6		0.6	6.0		5.5
15-May-14	Sunny	Moderate	19:06	Surface	1	26.3	26.3	29.1	29.2	8.32	8.32	104.40	103.55	7.15	7.09	6.95	1.3	1.3	1.3	3.0	2.5	2.2	
				Middle	3.6	24.5	24.8	30.6	30.4	8.32	8.32	97.00	97.70	6.80	6.83		6.82	1.4		1.4	2.0		2.0
				Bottom	6.2	23.9	23.9	32.2	32.2	8.31	8.31	99.80	99.05	7.00	6.89		6.95	1.4		1.4	2.0		2.0
17-May-14	Cloudy	Moderate	7:26	Surface	1	26.1	26.1	24.8	24.8	8.16	8.16	120.30	121.65	8.48	8.57	8.05	2.5	2.5	2.4	5.0	4.5	4.5	
				Middle	3.6	25.8	25.8	26.5	26.4	8.03	8.03	107.90	107.55	7.56	7.51		7.54	2.4		2.4	5.0		4.5
				Bottom	6.1	24.2	24.2	32.1	32.0	7.82	7.87	100.90	104.30	7.05	7.52		7.29	2.5		2.5	5.0		4.5
20-May-14	Sunny	Moderate	9:47	Surface	1	26.4	26.4	28.6	28.5	7.84	7.87	111.10	113.05	7.62	7.75	7.59	1.3	1.4	1.4	3.0	3.0	2.5	
				Middle	3.6	25.5	25.5	29.9	30.0	7.81	7.83	103.60	107.25	7.17	7.42		7.42	1.4		1.5	2.0		2.0
				Bottom	6.2	24.7	24.6	32.3	32.4	7.82	7.80	94.50	92.00	6.53	6.21		6.37	1.5		1.5	2.0		2.5
22-May-14	Fine	Calm	12:15	Surface	1	25.3	25.3	29.3	29.3	7.80	7.81	84.40	83.70	5.75	5.70	5.68	1.5	1.6	1.4	4.0	3.5	2.8	
				Middle	3.5	25.3	25.2	29.7	29.8	7.81	7.81	83.60	83.15	5.69	5.62		5.66	1.6		1.7	2.0		2.5
				Bottom	6.1	25.1	25.0	30.3	30.8	7.81	7.82	81.90	81.10	5.57	5.44		5.51	1.2		1.1	3.0		2.5
24-May-14	Sunny	Calm	15:13	Surface	1	25.6	25.7	29.7	29.7	7.67	7.68	78.40	79.45	5.75	5.87	5.87	1.4	1.5	1.4	5.0	4.5	3.8	
				Middle	3.5	25.7	25.7	29.7	29.7	7.66	7.67	79.40	79.90	5.82	5.90		5.86	1.4		1.4	3.0		3.5
				Bottom	6.1	24.8	24.8	31.4	31.4	7.63	7.64	79.60	79.75	5.82	5.84		5.83	1.3		1.4	4.0		3.5
27-May-14	Sunny	Moderate	17:42	Surface	1	27.8	27.7	30.5	30.6	8.11	8.10	141.20	140.45	9.36	9.32	8.71	1.5	1.5	1.5	4.0	3.0	3.2	
				Middle	3.6	27.6	25.8	31.9	32.0	8.00	8.01	120.10	119.15	8.15	8.04		8.10	1.5		1.5	3.0		3.0
				Bottom	6.1	25.0	25.0	33.2	33.3	7.83	7.84	103.20	103.20	7.06	7.06		7.06	1.5		1.6	3.0		3.5

Remark: \* DA: Depth-Averaged

\*\* Calm: Small or no wave; Moderate: Between calm and rough; Rough: White capped or rougher

### Water Quality Monitoring Results at GB3 - Mid-Flood Tide

Date	Weather Condition	Sea Condition**	Sampling Time	Depth (m)		Temperature (°C)		Salinity (ppt)		pH		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity (NTU)			Suspended Solids (mg/L)		
						Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*
29-May-14	Sunny	Calm	19:33	Surface	1	26.5 26.4	26.5	29.4 29.4	29.4	8.52 8.51	8.52	130.80 128.30	129.55	8.92 8.75	8.84	8.11	1.6 1.7	1.7	1.9	3.0 3.0	3.0	3.0
				Middle	4.0	25.9 25.8	25.9	31.0 31.3	31.1	8.43 8.41	8.42	111.00 105.50	108.25	7.57 7.20	7.39		1.8 1.9	1.9		3.0 3.0	3.0	
				Bottom	7.1	25.7 25.6	25.6	31.6 32.2	31.9	8.40 8.39	8.40	102.40 102.80	102.60	6.99 7.00	7.00		2.0 2.2	2.1		3.0 3.0	3.0	
31-May-14	Fine	Calm	6:43	Surface	1	30.7 30.7	30.7	30.3 30.3	30.3	7.73 7.73	7.73	85.20 85.30	85.25	5.60 5.61	5.61	5.60	1.6 1.5	1.6	1.5	2.0 3.0	2.5	2.8
				Middle	9.0	30.6 30.6	30.6	30.2 30.2	30.2	7.73 7.73	7.73	85.00 85.10	85.05	5.58 5.59	5.59		1.7 1.8	1.8		3.0 2.0	2.5	
				Bottom	17.1	30.6 30.6	30.6	30.3 30.3	30.3	7.73 7.73	7.73	84.60 84.50	84.55	5.55 5.54	5.55		1.2 1.3	1.3		3.0 4.0	3.5	
3-Jun-14	Sunny	Moderate	8:02	Surface	1	27.9 27.7	27.8	30.7 30.8	30.8	8.43 8.41	8.42	116.00 112.50	114.25	7.67 7.45	7.56	7.33	1.1 1.1	1.1	1.2	<2 <2	<2	<2
				Middle	3.6	25.8 26.0	25.9	32.1 32.1	32.1	8.27 8.28	8.28	108.90 100.40	104.65	7.40 6.80	7.10		1.1 1.2	1.2		<2 <2	<2	
				Bottom	6.1	25.7 25.7	25.7	32.4 32.3	32.4	8.20 8.25	8.23	100.60 102.80	101.70	6.84 6.98	6.91		1.2 1.2	1.2		<2 <2	<2	
5-Jun-14	Sunny	Moderate	9:37	Surface	1	27.9 28.6	28.2	31.0 30.6	30.8	8.48 8.52	8.50	126.00 131.30	128.65	8.46 8.76	8.61	8.62	0.7 0.7	0.7	0.8	<2 <2	<2	<2
				Middle	3.7	25.6 25.8	25.7	32.6 32.5	32.5	8.42 8.42	8.42	130.40 123.40	126.90	8.87 8.39	8.63		0.7 0.8	0.8		<2 <2	<2	
				Bottom	6.3	25.6 25.7	25.7	32.6 32.6	32.6	8.44 8.47	8.46	123.30 127.90	125.60	8.38 8.70	8.54		0.9 0.8	0.9		<2 <2	<2	

Remark: \* DA: Depth-Averaged

\*\* Calm: Small or no wave; Moderate: Between calm and rough; Rough: White capped or rougher

---

**APPENDIX 2.5**

**SUMMARY OF EPD MONITORING DATA BETWEEN 2011 AND  
2012**

---

**Appendix 2.5 - Summary of EPD monitoring data between 2011 and 2012**

**Summary of EPD monitoring data for 2011 (Wet Season)**

Water Control Zone	Station	Dates	Sample No	Depth	Suspended Solids (mg/L)	Dissolved Oxygen (mg/L)	Turbidity (NTU)
Southern	SM1	4/7/2011	1	Surface Water	1.3	7.2	1.1
Southern	SM1	5/25/2011	1	Surface Water	1.4	6.7	1.2
Southern	SM1	6/27/2011	1	Surface Water	2.4	4.8	1.2
Southern	SM1	7/20/2011	1	Surface Water	1.5	4.5	1.5
Southern	SM1	8/12/2011	1	Surface Water	1.5	7.4	1.6
Southern	SM1	9/9/2011	1	Surface Water	1	7.8	0.7
Southern	SM1	4/7/2011	1	Middle Water	1.5	7.2	1.1
Southern	SM1	5/25/2011	1	Middle Water	0.8	5.9	1
Southern	SM1	6/27/2011	1	Middle Water	2.3	4.8	1.5
Southern	SM1	7/20/2011	1	Middle Water	1.5	3.8	1.7
Southern	SM1	8/12/2011	1	Middle Water	1.9	6.7	1.1
Southern	SM1	9/9/2011	1	Middle Water	1.3	7.7	0.7
Southern	SM1	4/7/2011	1	Bottom Water	1.3	7.2	1.2
Southern	SM1	5/25/2011	1	Bottom Water	2.9	5.5	2.9
Southern	SM1	6/27/2011	1	Bottom Water	2.4	4.1	2.6
Southern	SM1	7/20/2011	1	Bottom Water	5	3.6	4
Southern	SM1	8/12/2011	1	Bottom Water	1.5	2.2	1.7
Southern	SM1	9/9/2011	1	Bottom Water	2.9	2.9	3

**Summary of EPD monitoring data for 2011 (Dry Season)**

Water Control Zone	Station	Dates	Sample No	Depth	Suspended Solids (mg/L)	Dissolved Oxygen (mg/L)	Turbidity (NTU)
Southern	SM1	1/13/2011	1	Surface Water	4.8	7.3	3.7
Southern	SM1	2/17/2011	1	Surface Water	2.4	7.5	3.6
Southern	SM1	3/3/2011	1	Surface Water	1.4	8.1	0.9
Southern	SM1	10/7/2011	1	Surface Water	7.6	6.2	6.2
Southern	SM1	11/9/2011	1	Surface Water	N/A	6.5	3.9
Southern	SM1	12/7/2011	1	Surface Water	2.1	7.1	2.6
Southern	SM1	1/13/2011	1	Middle Water	3.5	7.3	4.1
Southern	SM1	2/17/2011	1	Middle Water	3.1	7.8	4.4
Southern	SM1	3/3/2011	1	Middle Water	2.7	8.1	1.5
Southern	SM1	10/7/2011	1	Middle Water	7.1	6.2	6.2
Southern	SM1	11/9/2011	1	Middle Water	N/A	6.5	4.5
Southern	SM1	12/7/2011	1	Middle Water	2.1	7.1	2.7
Southern	SM1	1/13/2011	1	Bottom Water	3.9	7.4	3.8
Southern	SM1	2/17/2011	1	Bottom Water	4.4	7.7	3.1
Southern	SM1	3/3/2011	1	Bottom Water	13	7.9	6.2
Southern	SM1	10/7/2011	1	Bottom Water	11	6.1	8
Southern	SM1	11/9/2011	1	Bottom Water	N/A	6.6	4
Southern	SM1	12/7/2011	1	Bottom Water	2.7	7.1	3.1

**Summary of EPD monitoring data for 2012 (Wet Season)**

Water Control Zone	Station	Dates	Sample No	Depth	Suspended Solids (mg/L)	Dissolved Oxygen (mg/L)	Turbidity (NTU)
Southern	SM1	4/11/2012	1	Surface Water	0.8	8.8	1.5
Southern	SM1	5/18/2012	1	Surface Water	0.6	8.3	0.7
Southern	SM1	6/20/2012	1	Surface Water	0.8	7.7	1.3
Southern	SM1	7/20/2012	1	Surface Water	3.2	8.3	2.1
Southern	SM1	8/9/2012	1	Surface Water	2.5	7	0.9
Southern	SM1	9/22/2012	1	Surface Water	3.1	6	0.1
Southern	SM1	4/11/2012	1	Middle Water	2	8.5	2.4
Southern	SM1	5/18/2012	1	Middle Water	1	8.4	0.9
Southern	SM1	6/20/2012	1	Middle Water	1.1	7.9	0.9
Southern	SM1	7/20/2012	1	Middle Water	2.1	3.8	1.8
Southern	SM1	8/9/2012	1	Middle Water	2.7	5.2	1
Southern	SM1	9/22/2012	1	Middle Water	1.4	6.3	0.1
Southern	SM1	4/11/2012	1	Bottom Water	2.4	8.3	3
Southern	SM1	5/18/2012	1	Bottom Water	1.9	5.9	2
Southern	SM1	6/20/2012	1	Bottom Water	3.9	7.3	3.1
Southern	SM1	7/20/2012	1	Bottom Water	4.4	4.4	3.8
Southern	SM1	8/9/2012	1	Bottom Water	5	4.1	3.5
Southern	SM1	9/22/2012	1	Bottom Water	1.6	6.3	0.1

**Summary of EPD monitoring data for 2012 (Dry Season)**

Water Control Zone	Station	Dates	Sample No	Depth	Suspended Solids (mg/L)	Dissolved Oxygen (mg/L)	Turbidity (NTU)
Southern	SM1	1/11/2012	1	Surface Water	1.9	8.8	1.6
Southern	SM1	2/22/2012	1	Surface Water	4	8	3.1
Southern	SM1	3/26/2012	1	Surface Water	4.1	8.4	2.4
Southern	SM1	10/25/2012	1	Surface Water	1.5	6.4	5.2
Southern	SM1	11/22/2012	1	Surface Water	1.8	6.3	1.8
Southern	SM1	12/17/2012	1	Surface Water	2	7	2.4
Southern	SM1	1/11/2012	1	Middle Water	2.4	8.6	1.8
Southern	SM1	2/22/2012	1	Middle Water	5.4	8.1	3.5
Southern	SM1	3/26/2012	1	Middle Water	5.2	8.4	2.9
Southern	SM1	10/25/2012	1	Middle Water	1.5	6.8	1.7
Southern	SM1	11/22/2012	1	Middle Water	3	6.7	2.5
Southern	SM1	12/17/2012	1	Middle Water	2.2	7.1	2.6
Southern	SM1	1/11/2012	1	Bottom Water	3	8.5	2
Southern	SM1	2/22/2012	1	Bottom Water	13	8.1	7.7
Southern	SM1	3/26/2012	1	Bottom Water	5.4	8.2	3.6
Southern	SM1	10/25/2012	1	Bottom Water	3.2	6.6	3
Southern	SM1	11/22/2012	1	Bottom Water	5.2	6.6	4.3
Southern	SM1	12/17/2012	1	Bottom Water	3.4	7.1	3.1

---

**APPENDIX 2.6**

**BACKGROUND CONDITIONS IN WET AND DRY SEASONS  
(2011 - 2012)**

---



