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NEC Corporation

Asia Direct Cable System – Hong Kong Segment (ADC-HK) – Chung Hom Kok

Monthly EM&A Report for September 2022

October 2022

	Name	Signature
Prepared & Checked:	Alex Chan	
Reviewed & Approved:	Lemon Lam	

Version:	Rev. 0	Date: 12 October 2022

Disclaimer

The information contained in this report is, to the best of our knowledge, correct at the time of printing. The interpretation and recommendations in the report are based on our experience, using reasonable professional skill and judgment, and based upon the information that was available to us. These interpretations and recommendations are not necessarily relevant to any aspect outside the restricted requirements of our brief. This report has been prepared for the sole and specific use of our client and AECOM Environment accepts no responsibility for its use by others.

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local people
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Our Ref: 7076763/L29119/AB/TSC/PL/rw

13 October 2022

Optic Marine Singapore Pte Ltd
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Seksyen U1, 40150, Shah Alam
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By Email Only
(vincent@opticmarine.com)

Attention: Mr. Vincent CHIA

Dear Sir

Asia Direct Cable System – Hong Kong Segment (ADC-HK) – Chung Hom Kok
Verification of Monthly EM&A Report for September 2022

Reference is made to the *Monthly EM&A Report for September 2022 (Rev. 0)* dated 12 October 2022, submitted by the Environmental Team via e-mail on 12 October 2022.

We hereby verify the said Monthly EM&A Report has complied with the requirement as set out under Condition 3.3 of the Environmental Permit.

Thank you very much for your kind attention. Please do not hesitate to contact the undersigned should you have any queries.

Yours faithfully

Cindy CHUNG
Independent Environmental Checker

cc: AECOM Ms. Lemon LAM (By Email: lemon.lam@aecom.com)

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EXECUTIVE SUMMARY

The impact EM&A programme for the Project commenced on 3 September 2022. The impact environmental monitoring included water quality monitoring, silt curtain monitoring and marine mammal observations.

This report documents the findings of EM&A works conducted in the period from 3 to 16 September 2022.

Breaches of Action and Limit Levels for Water Quality Monitoring

One (1) action level exceedance related to turbidity was recorded in the reporting period. After investigation, the recorded exceedance was considered non-project related.

One (1) action level and three (3) limit level exceedances related to Suspended Solids (SS) were recorded in the reporting period. After investigation, all recorded exceedances were considered non-project related.

Breaches of Limit Level for Silt Curtain Monitoring

No exceedance of Limit Level of silt curtain monitoring was recorded in the reporting period.

Marine Mammal Observation

No cetacean was observed in the exclusion zone for 30 minutes before and during the cable laying works in the reporting period.

Environmental Complaint, Notification of Summons and Successful Prosecution

No notification of environmental compliant, summons and successful prosecution was received in the reporting period.

1 INTRODUCTION

1.1 Background

1.1.1 The Asia Direct Cable (ADC) system is a 38mm diameter submarine telecommunications cable that will feature multiple pairs of high capacity optical fibres and is designed to carry more than 100 Tbps of traffic, enabling high capacity transmission of data across the East and Southeast Asia regions. The ADC system will connect Tuas in Singapore, Chung Hom Kok in Hong Kong, Maruyama in Japan, Sri Racha in Thailand, Qui Nhon in Vietnam, Batangas in the Philippines and Shantou in China. ADC's high capacity allows it to support increasingly bandwidth-intensive applications, driven by technological advancements in 5G, the cloud, the Internet-of-Things and artificial intelligence. This will further enhance the expansion of communications networks in the region. The ADC system provides the highest cable capacity and necessary diversity for Asia's key information hubs, which will enable carriers and service providers to better plan their networks and services for long-term development. Installation is scheduled to be completed and the system is planned to be in service in 2022. The indicative alignment of the ADC-HK Cable is shown in **Figure 1.1**.

1.1.2 The total length of the whole ADC system will be 9,400km, of which this Project – the Hong Kong Segment (ADC-HK) – is about 34.6km in length within Hong Kong waters. Buried below the seabed, the ADC-HK Cable enters the eastern waters of Hong Kong, follows the established "east-west cable corridor (north)" and lands at an existing Beach Manhole (BMH) located at the clifftop at Chung Hom Kok (CHK), which is at the south side of Hong Kong Island. This is the same landing location as the existing two New T&T Domestic Cables, which were installed in 2001.

1.1.3 CHK is an important telecommunications and media hub in Hong Kong. There are currently two teleport substations there; GB21 Cable Station Chung Hom Kok Teleport Substation and Smartone Station Chung Hom Kok Teleport Substation. The ADC-HK Cable will be connected to the latter. It is anticipated that the CHK area will be further developed to cater for more telecommunication infrastructure in the future.

1.1.4 A Project Profile was prepared to assess potential environmental impacts associated with the installation of the submarine telecommunications cable system within Hong Kong. The Project Profile was submitted to the Environmental Protection Department (EPD) under section 5(1)(b) and 5(11) of the Environmental Impact Assessment Ordinance (EIAO) for application for permission to apply directly for an Environmental Permit (EP) (Application No.: AEP-595/2021). Permission granted by EPD via an approval letter dated 21 July 2021 (Ref.: (20) in EP2/H19/C/12) and the Environmental Permit (EP-595/2021) issued by the EPD on 23 August 2021.

1.1.5 The Project Profile recommended carrying out precautionary water quality monitoring to ensure no adverse impacts to the water quality, marine ecology and fisheries.

1.1.6 The impact EM&A programme for the Project commenced on 3 September 2022. The impact environmental monitoring included water quality monitoring, silt curtain monitoring and marine mammal observations.

1.2 Scope of Report

1.2.1 This is the first monthly Environmental Monitoring and Audit (EM&A) report and this report presents a summary of the environmental monitoring and audit works, list of activities and mitigation measures of the Project in September 2022.

1.3 Project Organization

1.3.1 The project organization is shown in **Appendix A**. The key personnel contact names and numbers are summarized in **Table 1.1**.

Table 1.1 Contact Information of Key Personnel

Party	Position	Name	Telephone	Fax
IEC (SMEC Asia Limited)	Independent Environmental Checker	Cindy Chung	3995 8124	3995 8101
Main Contractor (NEC Corporation)	OSP Manager	Vincent Chia	+603 5569 3881 / +6012 670 6588	--
Local Contractor (HONG KONG MARINE CONTRACTORS LIMITED)	Liaison Officer	Kevin Chan	2699 0681 / 6193 4737	2693 5984
ET (AECOM)	ET Leader	Lemon Lam	3922 3981	2371 7609

1.4 Summary of Construction Works

1.4.1 Details of the construction works carried out by the Contractor in this reporting period are listed below:

- Mobilization and preparation for landing
- Cable landing at Chung Hum Kok
- Laying and burying cable with burial tool
- Cable end seal capping and streaming off
- Recovery of burial tool

1.4.2 The EM&A programme required environmental monitoring for water quality monitoring, silt curtain monitoring and marine mammal observations. The EM&A requirements for each parameter described in the following sections include:

- All monitoring parameters;
- Monitoring schedules for the reporting period;
- Action and Limit levels for all environmental parameters;
- Event / Action Plan;
- Environmental mitigation measures, as recommended in the Project Profile; and
- Environmental requirement in contract documents.

2 WATER QUALITY MONITORING

2.1 Monitoring Requirements

2.1.1 In accordance with the Project Profile, the impact water quality monitoring shall be conducted three times each week and the interval between any two sets of monitoring shall not be less than 36 hours. For each set, monitoring should undertake within a 4 hours window of 2 hours before and 2 hours after mid-flood and mid-ebb tides.

2.1.2 Water quality monitoring shall be conducted during the construction works of the Project carrying out within Zone A, as shown in **Figure 2.1**.

2.2 Monitoring Equipment

2.2.1 The brand and model of water quality monitoring equipment is given in **Table 2.1**.

Table 2.1 Water Quality Monitoring Equipment

Equipment	Brand and Model
Dissolved Oxygen Meter	YSI 6820 V2
Water Temperature Meter	
Salinity Meter	
Water Sampler	Kahlsico Water Sampler
Echo Sounder	Lowrance x-4
Global Positioning System	Garmin GPS72H
Air Velocity Meter	TSI 9555-P

2.3 Monitoring Locations

2.3.1 In accordance with the Project Profile, the stations for impact water quality monitoring are presented in **Table 2.2** and shown in **Figure 2.1**.

Table 2.2 Locations of Impact Water Quality Monitoring Stations

Type of Station	Station	Location	Easting	Northing	Closest Distance from Cable Alignment (m)
Water Quality Monitoring Station	C3	Coral Communities at the Coast of Beaufort Island	843 300	805 761	238
	C6/C7	Coral Communities at the Coast of Sung Kong Islet and Sung Kong	846 886	805 960	180
	C8	Coral Communities at the Coast of Waglan Island	849 668	805 842	250
	F1	Po Toi FCZ	842 465	804 899	400
	F2	Spawning Grounds of Commercial Fisheries Resources	842 747	806 278	400
Control Station	CS1	Control Station	847 263	803 165	3,000

2.4 Monitoring Parameters, Frequency and Duration

2.4.1 The monitoring parameters, frequency and duration of water quality monitoring are summarized in **Table 2.3**.

Table 2.3 Water Quality Monitoring Parameters, Frequency and Duration

Parameter	Frequency and Duration
Turbidity, Suspended Solids, Dissolved Oxygen, Salinity and Temperature	Three times each week, at mid-flood and mid-ebb tides

2.5 Monitoring Methodology

2.5.1 The water quality monitoring procedures are presented in the following:

- The water quality monitoring was carried out three times each week and interval between any two sets of monitoring were not less than 36 hours.
- For each set, monitoring was undertaken within a 4 hours window of 2 hours before and 2 hours after mid-flood and mid-ebb tides.
- All monitoring equipment were checked and calibrated before use. Responses of sensors and electrodes were also checked with certified standard solutions before each use.
- Duplicate in-situ measurements and water sampling were carried out in each sampling event.
- Measurements were taken at 3 water depths, namely, 1m below water surface, mid-depth and 1m above sea bed, except where the water depth less than 6m, the mid-depth station may be omitted. Should the water depth be less than 3m, only the mid-depth station was monitored.
- Analysis of suspended solids was carried out by ALS Technichem (HK) Pty Ltd. Sufficient water samples were collected at the monitoring stations for carrying out the laboratory analysis. The analysis followed the standard methods as described in APHA Standard Methods for the Examination of Water and Wastewater, 19th Edition (APHA 2540D for SS).
- Water samples for suspended solids measurements were collected in high density polythene bottles, packed in ice (cooled to 4^{o}C without being frozen), and delivered to a HOKLAS laboratory as soon as possible after collection.
- All monitoring equipment were certified by a laboratory accredited under HOKLAS. Calibration certificates of all monitoring equipment are provided in **Appendix B**.

2.6 Monitoring Schedule for the Reporting Period

2.6.1 The schedule for environmental monitoring in September 2022 is provided in **Appendix C**.

2.7 Action/Limit Levels

2.7.1 A baseline water quality monitoring for 6 locations were carried out 3 days per week for 4 weeks between 3 July 2022 and 30 July 2022. Action and Limit Levels for water quality were established and summarized in **Table 2.4** and **Appendix F**.

2.8 Results and Observations

2.8.1 According to the information from the Contractor, the cable laying work was carried out within Zone A on 4 to 14 September 2022, the water quality monitoring was conducted on 4 to 13 September 2022.

2.8.2 The monitoring results are summarized in **Table 2.4**. Detailed water quality monitoring data and laboratory results are presented in **Appendix D** and **Appendix E** respectively.

2.8.3 The event and action plan is presented in **Appendix G**.

Table 2.4 Summary of Water Quality Monitoring Results in the Reporting Period

Locations		Dissolved Oxygen (mg/L)		Turbidity (NTU)	Suspended Solids (mg/L)
		Result (Surface & Middle)	Result (Bottom)	Result	Result
C8	Avg.	6.33	6.02	2.06	2.69
	Min.	5.72	5.48	1.63	1.58
	Max.	7.59	7.58	2.48	3.42
C6/C7	Avg.	6.35	6.03	2.01	2.56
	Min.	5.75	5.23	1.52	1.52
	Max.	7.61	7.59	2.50	3.53
C3	Avg.	6.27	5.87	2.20	2.62
	Min.	5.59	5.03	1.70	1.75
	Max.	7.57	7.54	2.92	3.62
F2	Avg.	6.28	6.02	2.06	2.58
	Min.	5.42	5.23	1.67	1.22
	Max.	7.59	7.55	2.50	3.33
F1	Avg.	6.30	6.00	2.09	2.58
	Min.	5.51	5.05	1.63	1.47
	Max.	7.58	7.56	2.50	3.43
CS1	Avg.	6.29	6.01	2.08	2.98
	Min.	5.44	5.18	1.70	1.15
	Max.	7.60	7.58	2.48	3.88
Action Level		5.35	4.76	3.50*1	4.47*1
Limit Level		5.00	2.00	3.82*2	5.88*2

*1 According with the Project Profile, the Action Level shall be derived as 95th percentile of baseline date, which listed on the Table 2.4, or 20% exceedance of value at any impact station with the control station.
*2 According with the Project Profile, the Limit Level shall be derived as 99th percentile of baseline date, which listed on the Table 2.4, or 30% exceedance of value at any impact station with the control station.

2.8.4 One (1) action level exceedance related to turbidity was recorded in the reporting period. After investigation, the recorded exceedance was considered non-project related.

2.8.5 One (1) action level and three (3) limit level exceedances related to Suspended Solids (SS) were recorded in the reporting period. After investigation, all recorded exceedances were considered non-project related.

2.8.6 One (1) action level exceedance related to turbidity was recorded at mid-ebb tide on 4 September 2022. The action Level exceedance was recorded at the water quality monitoring station (WQMS) – C3. This exceedance was recorded at 06:13 on 4 September 2022. According to the information from the contractor, there was no cable laying conducted during the monitoring process. Also, the cable laying barge was located near Stanley Barracks during the monitoring process, which was around 4.7km from C3. Considering no cable laying work conducted during the monitoring process and the distance between the cable laying barge and the exceedance recorded WQMS, this exceedance was considered non-project related.

2.8.7 One (1) action level exceedance and three (3) limit level exceedances related to SS were recorded at mid-flood tide on 13 September 2022. The exceedances were recorded at WQMS – C8, C6/C7, C3 (limit level exceedances) and F1 (action level exceedance) around 06:00 to 08:00. According to information from the Contractor, the cable laying started after 08:00 on 13 September 2022, which means there was no cable laying conducted during the monitoring process. Also, after reviewing the exceeding SS levels recorded, the exceeding SS levels were in the range of 1.47 mg/L to 1.75 mg/L, which were lower than the average SS level (3.86 mg/L) recorded in baseline monitoring. Considering no cable laying conducted during the monitoring process and the exceedance SS levels were lower than baseline level, the exceedances were considered non-project related

2.8.8 Proper mitigation measures on water quality (e.g. maximum speed of the Cable Burial Tool shall be limited) have been provided to reduce adverse impacts on water quality during construction activities. The effective implementation of mitigation measures ensured the compliance with action and limit levels of water quality during the reporting period.

3 SILT CURTAIN MONITORING

3.1 Monitoring Requirements

3.1.1 In accordance with the Project Profile, the silt curtain monitoring was conducted on an hourly basis when cable burial tool is operating within 500m from the coral communities along the coast of Sung Kong Islet in order to provide near-real time result so that prompt action can be taken if needed.

3.2 Monitoring Equipment

3.2.1 The brand and model of water quality monitoring equipment is given in **Table 3.1**.

Table 3.1 Silt Curtain Monitoring Equipment

Equipment	Brand and Model
Turbiditimeter	YSI 6820 V2
Echo Sounder	Lowrance x-4
Global Positioning System	Garmin GPS72H

3.3 Monitoring Locations

3.3.1 In accordance with the Project Profile, water quality monitoring “inside” the silt curtain and “outside” of the silt curtain were conducted during cable laying operating within 500m from the coral communities along the coast of Sung Kong Islet. The **Figure 2.2** shown the location of silt curtain.

3.4 Monitoring Parameters, Frequency and Duration

3.4.1 The monitoring parameters, frequency and duration of silt curtain monitoring are summarized in **Table 3.2**.

Table 3.2 Silt Curtain Monitoring Parameters, Frequency and Duration

Parameter	Frequency and Duration
Turbidity	Once per hour

3.5 Monitoring Methodology

3.5.1 The water quality monitoring procedures are presented in the following:

- The silt curtain monitoring was conducted on an hourly basis when cable burial tool is operating within 500m from the coral communities.
- All monitoring equipment were checked and calibrated before use. Responses of sensors and electrodes were also checked with certified standard solutions before each use.
- Duplicate in-situ measurements were carried out in each sampling event.
- Measurements were taken at 1m above seabed.
- All monitoring equipment were certified by a laboratory accredited under HOKLAS. Calibration certificates of all monitoring equipment are provided in **Appendix B**.

3.6 Limit Level

3.6.1 In an increase in turbidity was noticed “outside” the silt curtain compared to “inside” the silt curtain, then additional water quality control measures would be implemented.

3.7 Event and Action

3.7.1 If Limit Level was measured by the ET team, the mitigation measures (including decreasing the speed of cable installation barge, halting the burial works temporarily, increasing monitoring frequency, applying an additional layer of silt curtain, etc.) would be implemented until no further Limit Level measured.

3.8 Results and Observations

3.8.1 The cable burial tool operated within 500m from the coral communities for two days (13 and 14 September 2022). A total of seven (7) times of silt curtain monitoring was conducted during cable burial tool operating within 500m from the coral communities. The monitoring results are summarized in **Table 3.3**.

Table 3.3 Summary of Silt Curtain Monitoring Results in the Reporting Period

Date	Location	Sampling Time	Sampling Depth (m)	Turbidity (NTU)		Average Turbidity (NTU)	Limit Level	
							Outside>Inside	Exceedance
13-Sep-2022	Inside of Silt Curtain	16:36	34.3	6.5	5.8	6.15	No	No
	Outside of Silt Curtain	16:28	34.1	3.0	3.9	3.45		
13-Sep-2022	Inside of Silt Curtain	17:36	33.8	5.5	5.8	5.65	No	No
	Outside of Silt Curtain	17:29	36.4	3.9	3.7	3.80		
13-Sep-2022	Inside of Silt Curtain	18:35	35.3	6.5	6.5	6.50	No	No
	Outside of Silt Curtain	18:28	35.4	4.7	5.2	4.95		
14-Sep-2022	Inside of Silt Curtain	08:46	27.4	15.9	17.2	16.55	No	No
	Outside of Silt Curtain	08:33	28.5	5.9	5.3	5.60		
14-Sep-2022	Inside of Silt Curtain	09:55	22.7	5.8	5.9	5.85	No	No
	Outside of Silt Curtain	09:41	26.5	4.3	4.5	4.40		
14-Sep-2022	Inside of Silt Curtain	11:02	27.2	15.2	15.6	15.40	No	No
	Outside of Silt Curtain	10:56	28.1	8.5	8.8	8.65		
14-Sep-2022	Inside of Silt Curtain	11:49	22.1	13.5	12.0	12.75	No	No
	Outside of Silt Curtain	11:39	20.0	5.0	4.6	4.80		

3.8.2 Since no increase of turbidity was noticed “outside” the silt curtain compared to “inside” the silt curtain, there was no Limit Level exceedance recorded in the silt curtain monitoring.

3.8.3 Proper mitigation measures on water quality (e.g. maximum speed of the Cable Burial Tool shall be limited) have been provided to reduce adverse impacts on water quality during construction activities. The effective implementation of mitigation measures ensured the compliance with limit levels of water quality during the reporting period.

4 MARINE MAMMAL OBSERVATION

4.1 Monitoring Requirements

4.1.1 In accordance with the Project Profile, marine mammal observations shall be conducted each day during the cable laying works in day-time hours.

4.2 Monitoring Equipment

4.2.1 Table 3.1 summarizes the equipment used for the marine mammal observation.

Table 4.1 Marine Mammal Observation Equipment

Equipment	Brand and Model
Binocular	Bushnell 8x32
Camera	Sony RX10 III 24-600mm
Global Positioning System	Garmin GPS MAP 64S

4.3 Monitoring Locations and Frequency

4.3.1 In accordance with the Project Profile, a marine mammal exclusion zone within a radius of 250m from the cable laying works was set up. The mammal observations were performed before 30 minutes and during the cable laying works in day-time hours, as shown in **Figure 2.1**.

4.4 Results and Observations

4.4.1 Marine mammal observations were conducted on 3 – 6 and 8 – 16 September 2022. No marine mammal observation was conducted on 7 September 2022, since no cable laying was carried out on 7 September 2022.

4.4.2 The weather during the observation days was mainly sunny with good visibility. Sea conditions were mainly at a Beaufort Sea State of 2 to 4.

4.4.3 No cetacean was observed in the exclusion zone for 30 minutes before and during the cable laying works on 3 – 6 and 8 – 16 September 2022.

5 ENVIRONMENTAL COMPLAINT, NOTIFICATION OF SUMMONS AND SUCCESSFUL PROSECUTION

5.1 Notification of Environmental Complaint, Summons and Successful Prosecution

5.1.1 No notification of environmental complaint summons and successful prosecution was recorded in the reporting period.

6 CONCLUSIONS AND RECOMMENDATIONS

6.1.1 One (1) action level exceedance related to turbidity was recorded in the reporting period. After investigation, the recorded exceedance was considered non-project related.

6.1.2 One (1) action level and three (3) limit level exceedances related to Suspended Solids (SS) were recorded in the reporting period. After investigation, all recorded exceedances were considered non-project related.

6.1.3 No exceedance of Limit Level of silt curtain monitoring was recorded in the reporting period.

6.1.4 No cetacean was observed in the exclusion zone for 30 minutes before and during the cable laying works in the reporting period.

6.1.5 No notification of environmental complaint summons and successful prosecution was recorded in the reporting period.

6.1.6 No notification of summons and successful prosecution was received in the reporting period.

FIGURES

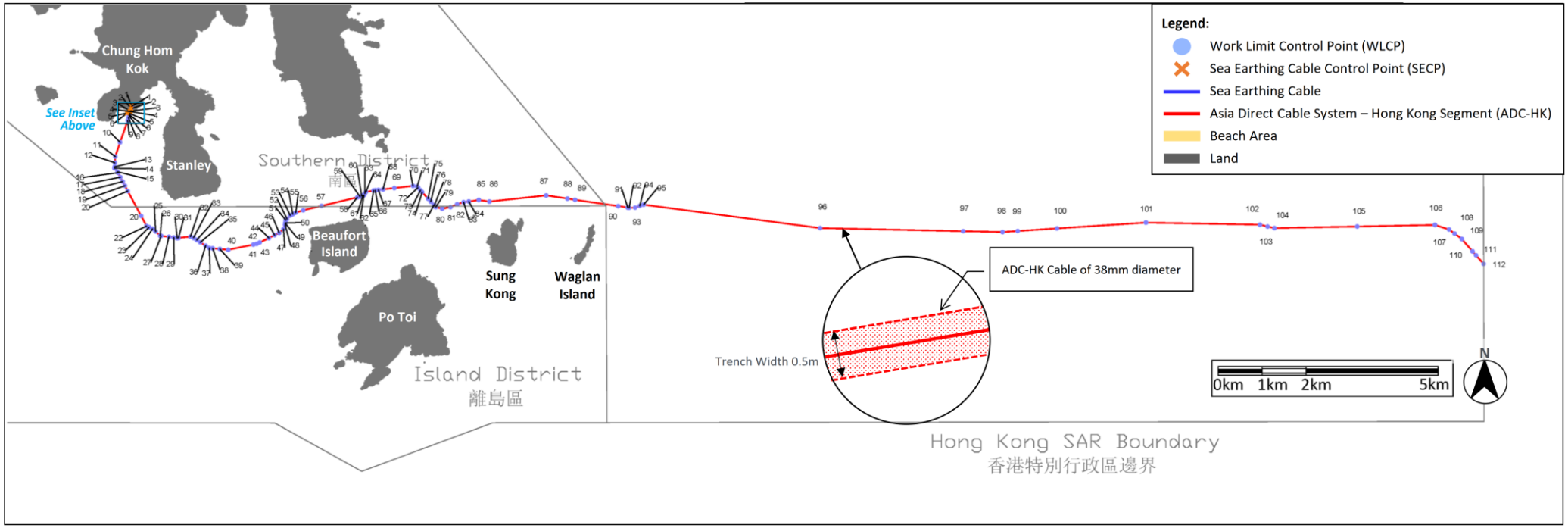


Figure 1.1 Alignment of ADC-HK Cable within Hong Kong (Source: Figure 1-3 of the Project Profile)

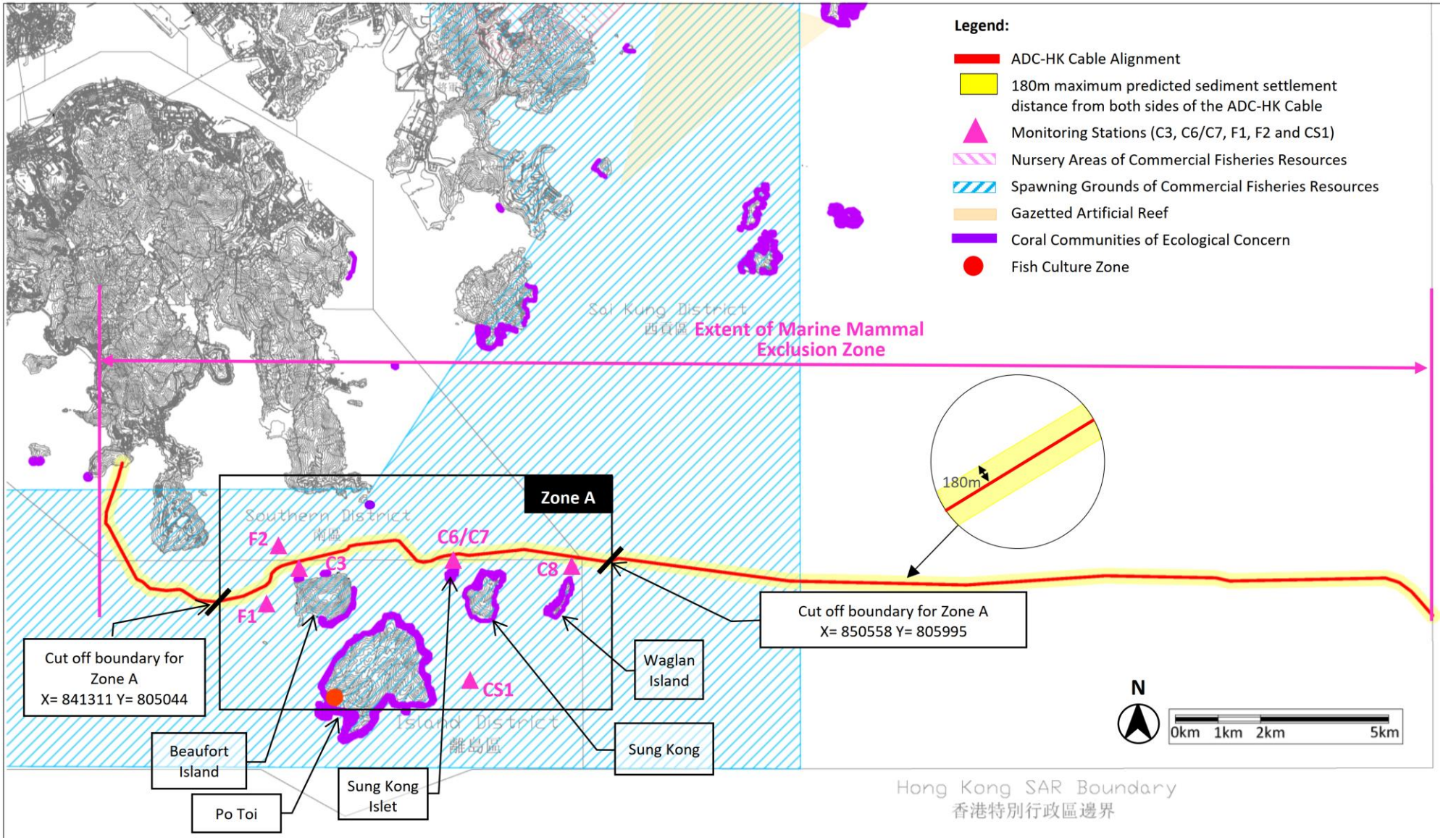


Figure 2.1 Locations of Water Quality Monitoring Station (Source: Figure E1 of the Project profile)

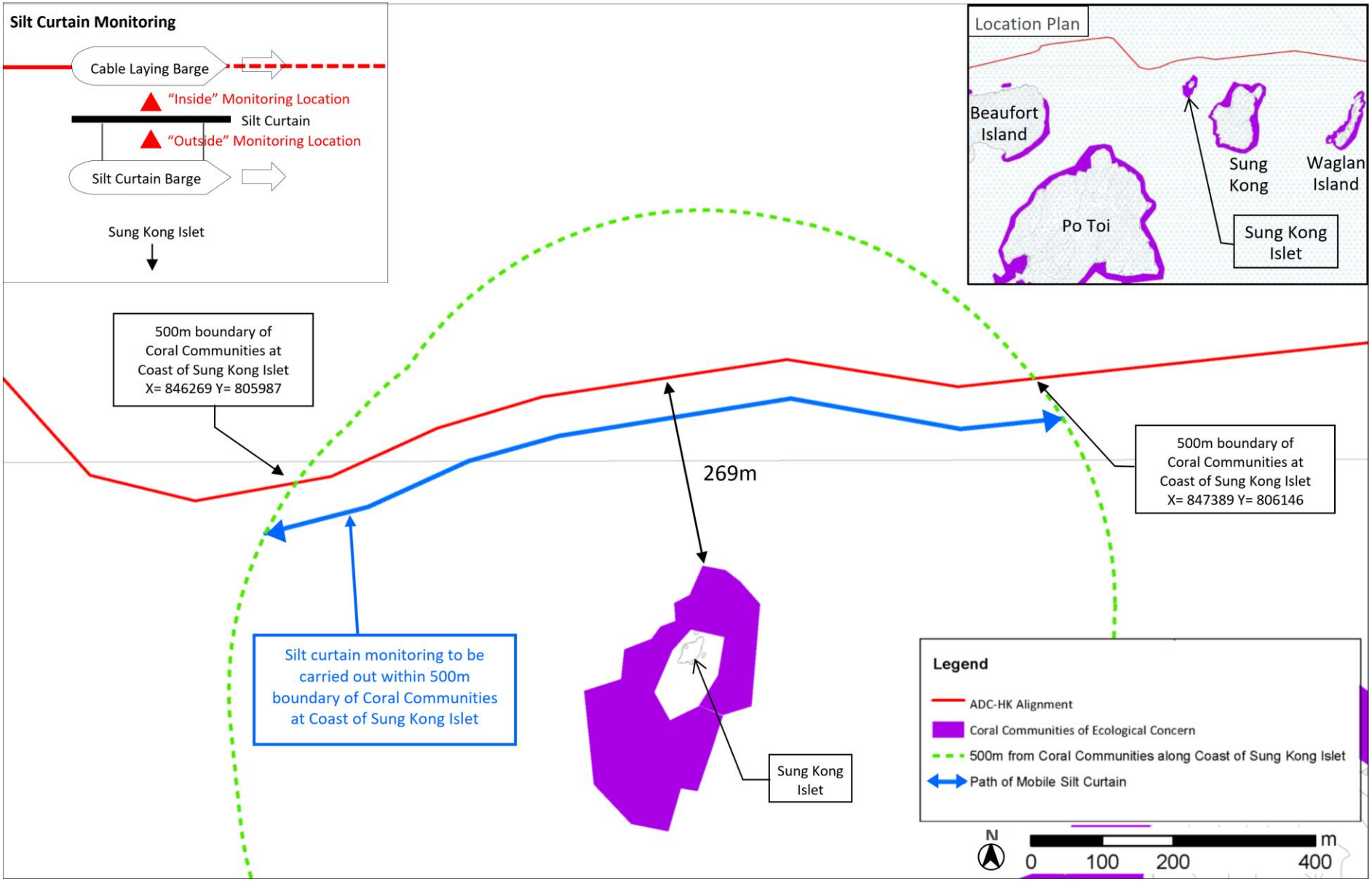
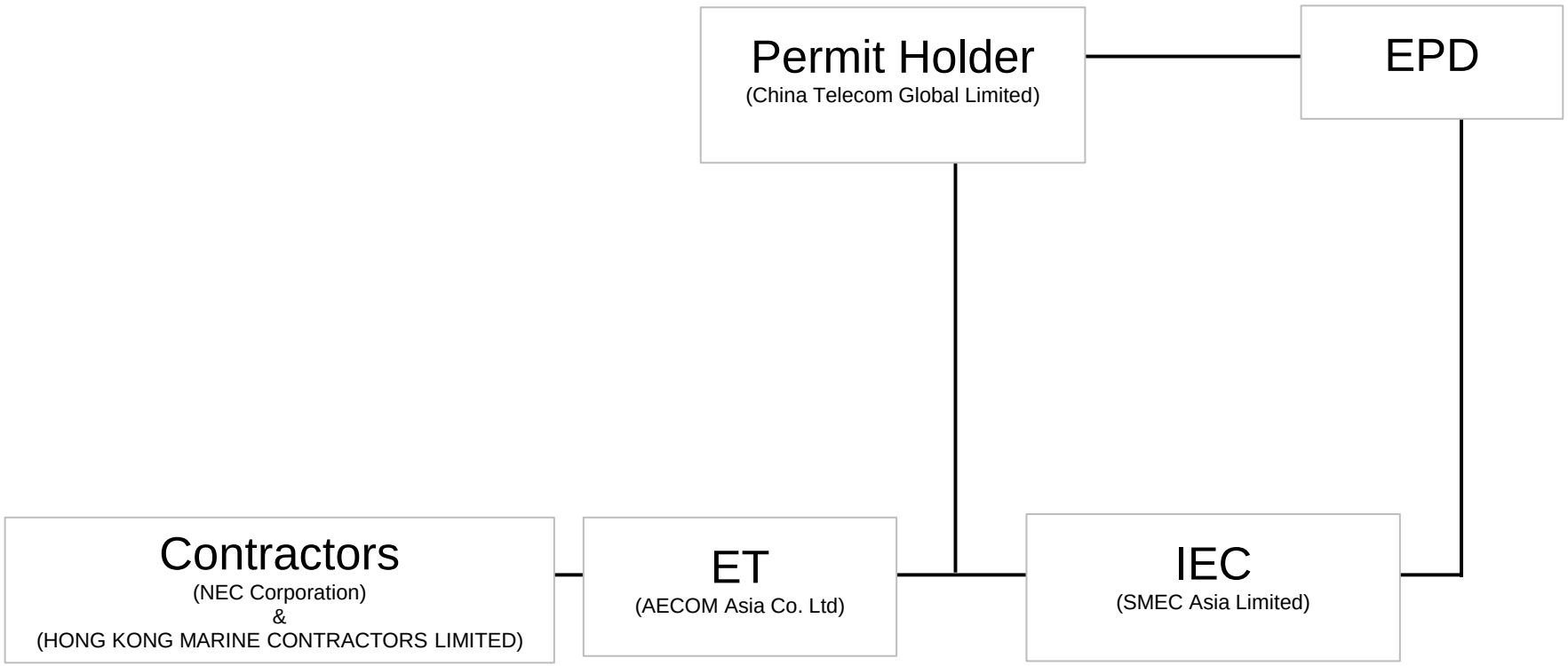


Figure 2.2 Location of Silt Curtain Monitoring (Source: Figure E2 of the Project profile)

APPENDIX A
PROJECT ORGANIZATION STRUCTURE



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Asia Direct Cable System – Hong Kong Segment (ADC-HK) – Chung Hom Kok

Project Organization Structure

Date: October 2022

Appendix A

APPENDIX B
CALIBRATION CERTIFICATES OF MONITORING EQUIPMENT

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

REPORT OF EQUIPMENT PERFORMANCE CHECK/CALIBRATION

CONTACT:	MR W S CHAN	**WORK ORDER:**	HK2232011
CLIENT:	AECOM ASIA COMPANY LIMITED		
ADDRESS:	1501-10, 15/F, TOWER 1, GRAND CENTRAL PLAZA, 138 SHATIN RURAL COMMITTEE ROAD, SHATIN, NEW TERRITORIES, HONG KONG	**SUB- BATCH:** **LABORATORY:** **DATE RECEIVED:** **DATE OF ISSUE:**	0 HONG KONG 15-Aug-2022 16-Aug-2022

SPECIFIC COMMENTS

Equipment information (Brand name, Model No., Serial No. and Equipment No.) is provided by client.
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 laboratory or quoted from relevant international standards.
The "Next Calibration Date" is recommended according to best practice principle as practised by the laboratory or quoted from relevant international standards.
The validity of equipment/ meter performance only applies to the result(s) stated in the report.

Equipment Type:	Multifunctional Meter
Service Nature:	Performance Check
Scope:	Conductivity, Dissolved Oxygen, pH Value, Turbidity, Salinity and Temperature
Brand Name/ Model No.:	[YSI]/ [6820 V2]
Serial No./ Equipment No.:	[00H1019]/ [W.026.09]
Date of Calibration:	15-August-2022

GENERAL COMMENTS

This report superseded any previous report(s) with same work order number.

Mr Chan Siu Ming, Vico
Manager - Inorganics

REPORT OF EQUIPMENT PERFORMANCE CHECK/CALIBRATION

WORK ORDER: HK2232011

SUB- BATCH: 0
DATE OF ISSUE: 16-Aug-2022
CLIENT: AECOM ASIA COMPANY LIMITED

Equipment Type: Multifunctional Meter
Brand Name/ Model No.: [YSI]/ [6820 V2]
Serial No./ Equipment No.: [00H1019]/ [W.026.09]
Date of Calibration: 15-August-2022 Date of Next Calibration: 15-November-2022

PARAMETERS:

Conductivity

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

Expected Reading (µS/cm)	Displayed Reading (µS/cm)	Tolerance (%)
146.9	141.0	-4.0
6667	6981	+4.7
12890	12585	-2.4
58670	58230	-0.7
	Tolerance Limit (%)	±10.0

Dissolved Oxygen

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

Expected Reading (mg/L)	Displayed Reading (mg/L)	Tolerance (mg/L)
3.10	3.18	+0.08
5.50	5.55	+0.05
7.95	8.01	+0.06
	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	3.96	-0.04
7.0	7.00	+0.00
10.0	9.99	-0.01
	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 Chan Siu Ming, Vico
Manager - Inorganics

REPORT OF EQUIPMENT PERFORMANCE CHECK/CALIBRATION

WORK ORDER: HK2232011

SUB- BATCH: 0
DATE OF ISSUE: 16-Aug-2022
CLIENT: AECOM ASIA COMPANY LIMITED

Equipment Type: Multifunctional Meter
Brand Name/ Model No.: [YSI]/ [6820 V2]
Serial No./ Equipment No.: [00H1019]/ [W.026.09]
Date of Calibration: 15-August-2022 Date of Next Calibration: 15-November-2022

PARAMETERS:

Turbidity

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

Expected Reading (NTU)	Displayed Reading (NTU)	Tolerance (%)
0	0.1	--
4	4.1	+2.5
10	9.8	-2.0
20	19.3	-3.5
50	48.5	-3.0
100	96.5	-3.5
	Tolerance Limit (%)	±10.0

Salinity

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

Expected Reading (ppt)	Displayed Reading (ppt)	Tolerance (%)
0	0.01	--
10	10.20	+2.0
20	20.30	+1.5
30	30.69	+2.3
	Tolerance Limit (%)	±10.0

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

Mr Chan Siu Ming, Vico
Manager - Inorganics

REPORT OF EQUIPMENT PERFORMANCE CHECK/CALIBRATION

WORK ORDER: HK2232011

SUB- BATCH: 0
DATE OF ISSUE: 16-Aug-2022
CLIENT: AECOM ASIA COMPANY LIMITED

Equipment Type: Multifunctional Meter
Brand Name/ Model No.: [YSI]/ [6820 V2]
Serial No./ Equipment No.: [00H1019]/ [W.026.09]
Date of Calibration: 15-August-2022 Date of Next Calibration: 15-November-2022

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)
13.0	12.78	-0.2
20.5	20.73	+0.2
38.5	38.53	+0.0
	Tolerance Limit (°C)	±2.0

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

Mr Chan Siu Ming, Vico
Manager - Inorganics

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

REPORT OF EQUIPMENT PERFORMANCE CHECK/CALIBRATION

CONTACT:	MR W S CHAN	**WORK ORDER:**	HK2232015
CLIENT:	AECOM ASIA COMPANY LIMITED		
ADDRESS:	1501-10, 15/F, TOWER 1, GRAND CENTRAL PLAZA, 138 SHATIN RURAL COMMITTEE ROAD, SHATIN, NEW TERRITORIES, HONG KONG	**SUB- BATCH:** **LABORATORY:** **DATE RECEIVED:** **DATE OF ISSUE:**	0 HONG KONG 15-Aug-2022 19-Aug-2022

SPECIFIC COMMENTS

Equipment information (Brand name, Model No., Serial No. and Equipment No.) is provided by client.
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 laboratory or quoted from relevant international standards.
The "Next Calibration Date" is recommended according to best practice principle as practised by the laboratory or quoted from relevant international standards.
The validity of equipment/ meter performance only applies to the result(s) stated in the report.

Equipment Type:	Multifunctional Meter
Service Nature:	Performance Check
Scope:	Conductivity, Dissolved Oxygen, pH Value, Turbidity, Salinity and Temperature
Brand Name/ Model No.:	[YSI]/ [6820 V2]
Serial No./ Equipment No.:	[12A101545]/ [W.026.35]
Date of Calibration:	15-August-2022

GENERAL COMMENTS

This report superseded any previous report(s) with same work order number.

Mr Chan Siu Ming, Vico
Manager - Inorganics

REPORT OF EQUIPMENT PERFORMANCE CHECK/CALIBRATION

WORK ORDER: HK2232015

SUB- BATCH: 0
DATE OF ISSUE: 19-Aug-2022
CLIENT: AECOM ASIA COMPANY LIMITED

Equipment Type: Multifunctional Meter
Brand Name/ Model No.: [YSI]/ [6820 V2]
Serial No./ Equipment No.: [12A101545]/ [W.026.35]
Date of Calibration: 15-August-2022 Date of Next Calibration: 15-November-2022

PARAMETERS:

Conductivity

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

Expected Reading (µS/cm)	Displayed Reading (µS/cm)	Tolerance (%)
146.9	157.0	+6.9
6667	6789	+1.8
12890	13330	+3.4
58670	58701	+0.1
	Tolerance Limit (%)	±10.0

Dissolved Oxygen

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

Expected Reading (mg/L)	Displayed Reading (mg/L)	Tolerance (mg/L)
3.10	3.09	-0.01
5.50	5.52	+0.02
7.95	7.92	-0.03
	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	4.07	+0.07
7.0	7.03	+0.03
10.0	9.85	-0.15
	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 Chan Siu Ming, Vico
Manager - Inorganics

REPORT OF EQUIPMENT PERFORMANCE CHECK/CALIBRATION

WORK ORDER: HK2232015

SUB- BATCH: 0
DATE OF ISSUE: 19-Aug-2022
CLIENT: AECOM ASIA COMPANY LIMITED

Equipment Type: Multifunctional Meter
Brand Name/ Model No.: [YSI]/ [6820 V2]
Serial No./ Equipment No.: [12A101545]/ [W.026.35]
Date of Calibration: 15-August-2022 Date of Next Calibration: 15-November-2022

PARAMETERS:

Turbidity

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

Expected Reading (NTU)	Displayed Reading (NTU)	Tolerance (%)
0	0.0	--
4	4.2	+5.0
10	9.8	-2.0
20	19.1	-4.5
50	48.1	-3.8
100	93.6	-6.4
	Tolerance Limit (%)	±10.0

Salinity

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

Expected Reading (ppt)	Displayed Reading (ppt)	Tolerance (%)
0	0.07	--
10	10.68	+6.8
20	21.48	+7.4
30	32.11	+7.0
	Tolerance Limit (%)	±10.0

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

Mr Chan Siu Ming, Vico
Manager - Inorganics

REPORT OF EQUIPMENT PERFORMANCE CHECK/CALIBRATION

WORK ORDER: HK2232015

SUB- BATCH: 0
DATE OF ISSUE: 19-Aug-2022
CLIENT: AECOM ASIA COMPANY LIMITED

Equipment Type: Multifunctional Meter
Brand Name/ Model No.: [YSI]/ [6820 V2]
Serial No./ Equipment No.: [12A101545]/ [W.026.35]
Date of Calibration: 15-August-2022 Date of Next Calibration: 15-November-2022

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)
13.0	12.73	-0.3
20.5	20.48	-0.0
38.5	38.62	+0.1
	Tolerance Limit (°C)	±2.0

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

Mr Chan Siu Ming, Vico
Manager - Inorganics

輝創工程有限公司
Sun Creation Engineering Limited
Calibration & Testing Laboratory

Certificate of Calibration
校正證書

Certificate No. : C224643
證書編號

ITEM TESTED / 送檢項目 (Job No. / 序引編號 : IC22-1462) Date of Receipt / 收件日期 : 25 July 2022

Description / 儀器名稱 : Air Velocity Meter
Manufacturer / 製造商 : TSI
Model No. / 型號 : 9555-P
Serial No. / 編號 : 9555P0836010
Supplied By / 委託者 : Aecom Asia Co., Ltd.
13/F., Tower 2, Grand Central Plaza,
138 Shatin Rural Committee Road, Shatin, N.T.

TEST CONDITIONS / 測試條件

Temperature / 溫度 : (23 ± 2)°C Relative Humidity / 相對濕度 : (50 ± 25)%
Line Voltage / 電壓 : ---

TEST SPECIFICATIONS / 測試規範

Calibration check

DATE OF TEST / 測試日期 : 13 August 2022

TEST RESULTS / 測試結果

The results apply to the particular unit-under-test only.
The results are detailed in the subsequent page(s).

The test equipment used for calibration are traceable to National Standards via :
- The Government of The Hong Kong Special Administrative Region Standard & Calibration Laboratory
- South China National Centre of Metrology, China
- Agilent Technologies / Keysight Technologies
- Testo Industrial Services GmbH, Germany
- Fluke Everett Service Center, USA

Tested By 測試 : C K Lo
Project Engineer

Certified By 核證 : H C Chan
Engineer

Date of Issue 簽發日期 : 16 August 2022

Certificate of Calibration
校正證書

Certificate No. : C224643
證書編號

1. The unit-under-test (UUT) was allowed to stabilize in the laboratory for over 12 hours before the commencement of the test.

2. Test equipment :

Equipment ID	Description	Certificate No.
CL018	Portable Calibrator	C204749
CL041 & CL041B	Digital Thermometer	C223637
CL042 & CL042B	Digital Thermometer	C223638
CL272 & CL272A	Humidity Control Chamber	C205842 & C205843
CL292	Recorder	C214057
CL316 & CL316A	Precision Multi-function Measuring Instrument	C180363
CL330	Environmental Chamber	C205909
CL360	Portable Air Pressure	RYB201909837
CL410 & CL410D	Multi Functionally Measuring Instrument & Psychrometer	C223429

3. Test procedure : MA006, MA103N, MA109N & MA130N.

4. Results :

4.1 Air Velocity

Applied Value (m/s)	UUT Reading (m/s)	Measured Correction		
		Value (m/s)	Measurement Uncertainty	
			Expanded Uncertainty (m/s)	Coverage Factor
1.99	2.20	-0.21	0.30	2.0
4.01	4.09	-0.08	0.34	2.0
6.00	6.10	-0.10	0.38	2.0
7.99	8.30	-0.31	0.43	2.0
10.00	10.73	-0.73	0.50	2.0

The results presented are the mean of 10 measurements at each calibration point.

4.2 Temperature

Applied Value (°C)	UUT Reading (°C)	Measured Correction		
		Value (°C)	Measurement Uncertainty	
			Expanded Uncertainty (°C)	Coverage Factor
25.0	24.6	+0.4	0.5	2.0

The results presented are the mean of 3 measurements at each calibration point.

Certificate of Calibration
校正證書

Certificate No. : C224643
證書編號

4.3 Relative Humidity (23°C)

Applied Value (%)	UUT Reading (%)	Measured Correction		
		Value (%)	Measurement Uncertainty	
			Expanded Uncertainty (%)	Coverage Factor
60.0	64.3	-4.3	1.5	2.0

The results presented are the mean of 3 measurements at each calibration point.

4.4 Barometric Pressure

Applied Value (hPa)	UUT Reading (hPa)	Measured Correction		
		Value (hPa)	Measurement Uncertainty	
			Expanded Uncertainty (hPa)	Coverage Factor
1 004.2	997.8	+6.4	2.0	2.0

The results presented are the mean of 3 measurements at each calibration point.
Test Medium : Air

Remarks :
- UUT Probe Model : 964
  S/N : P08350010
- UUT Setting : ACTUAL/STANDARD : ACTUAL
  Temperature Source : Probe
- The Measured Corrections are defined as :
  Value = Applied Value - UUT Reading
- The expanded uncertainties are for a level of confidence of 95 %.

Note :
Only the original copy or the laboratory's certified true copy is valid.

The values given in this Certificate only relate to the values measured at the time of the test and any uncertainties quoted will not include allowance for the equipment long term drift, variations with environment changes, vibration and shock during transportation, overloading, mis-handling, or the capability of any other laboratory to repeat the measurement. Sun Creation Engineering Limited shall not be liable for any loss or damage resulting from the use of the equipment.

Sun Creation Engineering Limited – Calibration & Testing Laboratory
c/o 4/F, 1 Hing On Lane, Tuen Mun, New Territories, Hong Kong
輝創工程有限公司 - 校正及檢測實驗所
c/o 香港新界屯門興安里一號四樓
Tel/電話: (852) 2927 2606 Fax/傳真: (852) 2744 8986 E-mail/電郵: callab@suncreation.com Website/網址: www.suncreation.com

APPENDIX C
ENVIRONMENTAL MONITORING SCHEDULE

Environmental Team Services for
Asia Direct Cable System - Hong Kong Segment (ADC-HK) - Chung Hom Kok
Impact Water Quality Monitoring Schedule

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
28-Aug	29-Aug	30-Aug	31-Aug	1-Sep	2-Sep	3-Sep
						MMO
4-Sep	5-Sep	6-Sep	7-Sep	8-Sep	9-Sep	10-Sep
Water Quality Monitoring MMO	MMO	Water Quality Monitoring MMO		Water Quality Monitoring MMO	MMO	MMO
11-Sep	12-Sep	13-Sep	14-Sep	15-Sep	16-Sep	17-Sep
Water Quality Monitoring MMO	MMO	Water Quality Monitoring Silt Curtain Monitoring MMO	Silt Curtain Monitoring MMO	MMO	MMO	
18-Sep	19-Sep	20-Sep	21-Sep	22-Sep	23-Sep	24-Sep

APPENDIX D
WATER QUALITY MONITORING RESULTS

Appendix D - Water Quality Monitoring Result

Water Quality Moniyoring Result on 4 September 2022 - Mid-Ebb Tide

Date	Location	Weather Condition	Sea Condition	Sampling Time	Depth (m)		Temperature (°C) Value	Temperature (°C) Average	Salinity (ppt) Value	Salinity (ppt) Average	pH Value	pH Average	DO Saturation (%) Value	DO Saturation (%) Average	Dissolved Oxygen (mg/L) Value	Dissolved Oxygen (mg/L) Average	Dissolved Oxygen (mg/L) DA*	Turbidity(NTU) Value	Turbidity(NTU) Average	Turbidity(NTU) DA*	Suspended Soild (mg/m3) Value	Suspended Soild (mg/m3) Average	Suspended Soild (mg/m3) DA*	Wind Direction	Wind Speed (m/s)	Remark
4-Sep-22	C8	Fine	Moderate	5:23	Surface	1.0	28.66	28.66	37.88	37.83	8.12	8.12	100.7	99.5	6.72	6.65	6.47	2.30	2.30	2.48	3.50	3.60	3.05	W	1.3	No any influencing factor was observed during monitoring.
							28.65		37.77		8.12		98.2		6.57			2.30			3.70					
					Middle	16.7	28.23	28.24	38.21	38.19	8.03	8.03	92.2	93.1	6.23	6.29		2.40	2.45		3.20	3.05				
							28.24		38.16		8.03		94.0		6.35			2.50			2.90					
					Bottom	32.3	28.21	28.23	38.12	38.06	8.02	8.03	87.9	88.1	5.96	5.97	5.97	2.70	2.70		2.60	2.50				
							28.24		37.99		8.03		88.3		5.98			2.70			2.40					
4-Sep-22	CS1	Fine	Moderate	5:44	Surface	1.0	28.67	28.69	37.98	38.00	8.12	8.12	98.4	98.7	6.58	6.60	6.35	2.20	2.15	2.40	3.80	3.80	3.33	NW	2.8	No any influencing factor was observed during monitoring.
							28.70		38.02		8.12		99.0		6.61			2.10			3.80					
					Middle	16.1	28.30	28.32	38.33	38.36	8.04	8.04	91.8	90.4	6.19	6.11		2.40	2.35		3.50	3.40				
							28.33		38.38		8.04		88.9		6.03			2.30			3.30					
					Bottom	31.2	28.21	28.17	38.32	38.30	8.02	8.02	87.5	88.3	5.92	5.97	5.97	2.70	2.70		2.90	2.80				
							28.12		38.28		8.01		89.1		6.01			2.70			2.70					
4-Sep-22	C6/C7	Fine	Moderate	5:06	Surface	1.0	28.66	28.65	37.63	37.58	8.12	8.10	99.2	97.6	6.64	6.54	6.33	2.20	2.20	2.40	1.90	1.80	2.33	NW	2.0	No any influencing factor was observed during monitoring.
							28.63		37.53		8.07		95.9		6.44			2.20			1.70					
					Middle	17.8	28.31	28.29	38.04	38.00	7.98	8.00	88.0	90.5	5.97	6.13		2.30	2.40		2.50	2.40				
							28.26		37.96		8.02		92.9		6.28			2.50			2.30					
					Bottom	34.5	28.26	28.23	37.77	37.87	8.01	7.98	86.1	85.6	5.84	5.82	5.82	2.60	2.60		3.00	2.80				
							28.20		37.97		7.95		85.1		5.79			2.60			2.60					
4-Sep-22	C3	Fine	Moderate	6:15	Surface	1.0	28.72	28.73	38.12	38.15	8.12	8.12	97.0	97.1	6.47	6.48	6.06	2.60	2.55	**2.92**	1.80	1.80	2.47	W	1.4	No any influencing factor was observed during monitoring.
							28.73		38.18		8.11		97.2		6.48			2.50			1.80					
					Middle	29.8	28.22	28.18	38.51	38.49	8.01	8.01	81.4	82.4	5.54	5.64		2.70	2.75		2.10	2.20				
							28.14		38.47		8.01		83.4		5.73			2.80			2.30					
					Bottom	58.7	27.53	27.49	38.91	38.90	7.88	7.88	76.6	77.9	5.29	5.35	5.35	3.50	3.45		3.30	3.40				
							27.45		38.88		7.87		79.1		5.40			3.40			3.50					
4-Sep-22	F2	Fine	Moderate	6:40	Surface	1.0	28.79	28.77	38.25	38.26	8.10	8.10	98.1	98.4	6.53	6.55	6.37	2.20	2.30	2.48	1.60	1.70	2.32	W	1.3	No any influencing factor was observed during monitoring.
							28.74		38.26		8.10		98.6		6.56			2.40			1.80					
					Middle	10.8	28.28	28.34	38.58	38.55	8.01	8.02	90.4	91.9	6.08	6.19		2.60	2.60		2.20	2.35				
							28.39		38.52		8.03		93.4		6.29			2.60			2.50					
					Bottom	20.5	28.25	28.22	38.55	38.58	8.00	8.00	86.2	86.7	5.83	5.87	5.87	2.60	2.55		2.70	2.90				
							28.19		38.60		7.99		87.2		5.90			2.50			3.10					
4-Sep-22	F1	Fine	Moderate	6:29	Surface	1.0	28.75	28.77	38.23	38.22	8.11	8.11	100.0	99.1	6.65	6.59	6.38	2.20	2.25	2.37	3.50	3.35	2.78	W	0.5	No any influencing factor was observed during monitoring.
							28.78		38.20		8.11		98.1		6.53			2.30			3.20					
					Middle	9.0	28.47	28.44	38.50	38.50	8.05	8.05	90.2	91.7	6.08	6.17		2.30	2.30		2.80	2.70				
							28.41		38.50		8.04		93.1		6.25			2.30			2.60					
					Bottom	17.1	28.29	28.33	38.45	38.48	8.01	8.02	91.7	90.2	6.15	6.06	6.06	2.60	2.55		2.40	2.30				
							28.37		38.51		8.03		88.6		5.97			2.50			2.20					

* Depth Average

Action Level Exceednaces

Limit Level Exceedance

Appendix D - Water Quality Monitoring Result

Water Quality Moniyoring Result on 4 September 2022 - Mid-Flood Tide

Date	Location	Weather Condition	Sea Condition	Sampling Time	Depth (m)		Temperature (^{o}C) Value	Temperature (^{o}C) Average	Salinity (ppt) Value	Salinity (ppt) Average	pH Value	pH Average	DO Saturation (%) Value	DO Saturation (%) Average	Dissolved Oxygen (mg/L) Value	Dissolved Oxygen (mg/L) Average	Dissolved Oxygen (mg/L) DA*	Turbidity(NTU) Value	Turbidity(NTU) Average	Turbidity(NTU) DA*	Suspended Solids (mg/L) Value	Suspended Solids (mg/L) Average	Suspended Solids (mg/L) DA*	Wind Direction	Wind Speed (m/s)	Remark
4-Sep-22	C8	Fine	Moderate	18:36	Surface	1.0	28.69	28.73	38.32	38.32	8.06	8.07	90.9	92.1	6.09	6.16	5.99	2.40	2.35	2.48	3.50	3.35	2.75	NW	2.8	No any influencing factor was observed during monitoring.
							28.76		38.31		8.07		93.2		6.22			2.30			3.20					
					Middle	16.8	28.13	28.12	38.56	38.59	7.97	7.97	85.1	86.0	5.77	5.83		2.50	2.40		2.80	2.70				
							28.11		38.61		7.97		86.8		5.89			2.30			2.60					
					Bottom	32.7	28.13	28.10	38.60	38.59	7.97	7.97	82.9	82.7	5.63	5.62	5.62	2.70	2.70		2.30	2.20				
							28.07		38.58		7.96		82.5		5.61			2.70			2.10					
4-Sep-22	CS1	Fine	Moderate	18:19	Surface	1.0	28.75	28.74	38.26	38.26	8.07	8.07	94.4	93.6	6.30	6.25	6.06	2.30	2.30	2.48	2.40	2.25	3.33	NW	3.5	No any influencing factor was observed during monitoring.
							28.73		38.25		8.06		92.7		6.20			2.30			2.10					
					Middle	16.2	28.13	28.13	38.53	38.51	7.98	7.98	84.2	84.5	5.72	5.87		2.60	2.50		3.60	3.45				
							28.12		38.48		7.97		84.7		6.01			2.40			3.30					
					Bottom	31.5	28.05	28.08	38.58	35.21	7.97	7.97	83.0	82.7	5.65	5.63	5.63	2.60	2.65		4.50	4.30				
							28.11		31.83		7.97		82.3		5.60			2.70			4.10					
4-Sep-22	C6/C7	Fine	Moderate	18:51	Surface	1.0	28.75	28.77	38.35	38.35	8.07	8.07	93.0	92.8	6.21	6.19	5.99	2.30	2.30	2.50	3.10	3.00	2.62	W	1.2	No any influencing factor was observed during monitoring.
							28.79		38.34		8.07		92.5		6.17			2.30			2.90					
					Middle	17.6	28.13	28.13	38.63	38.65	7.97	7.97	83.9	85.3	5.70	5.79		2.40	2.45		2.70	2.60				
							28.13		38.66		7.97		86.7		5.87			2.50			2.50					
					Bottom	34.3	28.12	28.14	38.64	38.64	7.97	7.97	83.1	83.8	5.64	5.69	5.69	2.70	2.75		2.30	2.25				
							28.15		38.64		7.97		84.4		5.73			2.80			2.20					
4-Sep-22	C3	Fine	Moderate	17:46	Surface	1.0	28.83	28.80	38.43	38.49	8.08	8.08	92.9	93.1	6.19	6.21	5.98	2.40	2.45	2.92	1.90	1.75	2.30	W	1.2	No any influencing factor was observed during monitoring.
							28.76		38.54		8.07		93.3		6.22			2.50			1.60					
					Middle	30.0	27.82	27.96	38.87	38.82	7.94	7.96	85.5	85.9	5.72	5.76		3.00	3.00		2.20	2.30				
							28.10		38.77		7.98		86.3		5.79			3.00			2.40					
					Bottom	59.1	27.87	27.67	38.92	39.02	7.95	7.91	77.7	78.7	5.32	5.37	5.37	3.30	3.30		2.70	2.85				
							27.46		39.12		7.86		79.6		5.42			3.30			3.00					
4-Sep-22	F2	Fine	Moderate	17:24	Surface	1.0	28.86	28.87	38.24	38.22	8.07	8.06	95.5	95.4	6.36	6.35	6.07	2.20	2.20	2.35	4.40	4.25	3.33	NW	1.6	No any influencing factor was observed during monitoring.
							28.87		38.20		8.04		95.2		6.34			2.20			4.10					
					Middle	11.1	28.15	28.14	38.46	38.47	7.98	7.96	86.1	85.4	5.84	5.80		2.30	2.25		3.40	3.25				
							28.13		38.47		7.93		84.7		5.75			2.20			3.10					
					Bottom	21.1	28.15	28.16	38.48	38.48	7.91	7.94	86.2	87.7	5.85	5.94	5.94	2.60	2.60		2.30	2.50				
							28.16		38.47		7.97		89.1		6.03			2.60			2.70					
4-Sep-22	F1	Fine	Moderate	17:36	Surface	1.0	28.70	28.73	38.33	38.32	8.06	8.06	93.8	94.0	6.27	6.28	5.98	2.20	2.30	2.50	1.70	1.80	2.45	NW	2.2	No any influencing factor was observed during monitoring.
							28.76		38.31		8.06		94.2		6.29			2.40			1.90					
					Middle	9.1	28.12	28.11	38.55	38.58	7.96	7.97	84.4	83.5	5.90	5.91		2.60	2.55		2.30	2.40				
							28.10		38.61		7.97		82.5		5.92			2.50			2.50					
					Bottom	17.2	28.12	28.11	38.56	38.58	7.95	7.95	87.1	87.3	5.73	5.67	5.67	2.70	2.65		3.00	3.15				
							28.09		38.60		7.95		87.4		5.61			2.60			3.30					

* Depth Average

Action Level Exceednaces

Limit Level Exceedance

Appendix D - Water Quality Monitoring Result

Water Quality Moniyoring Result on 6 September 2022 - Mid-Ebb Tide

Date	Location	Weather Condition	Sea Condition	Sampling Time	Depth (m)		Temperature (^{o}C) Value	Temperature (^{o}C) Average	Salinity (ppt) Value	Salinity (ppt) Average	pH Value	pH Average	DO Saturation (%) Value	DO Saturation (%) Average	Dissolved Oxygen (mg/L) Value	Dissolved Oxygen (mg/L) Average	Dissolved Oxygen (mg/L) DA*	Turbidity(NTU) Value	Turbidity(NTU) Average	Turbidity(NTU) DA*	Suspended Soild (mg/m3) Value	Suspended Soild (mg/m3) Average	Suspended Soild (mg/m3) DA*	Wind Direction	Wind Speed (m/s)	Remark
6-Sep-22	C8	Fine	Moderate	9:07	Surface	1.0	28.89	28.84	38.54	38.53	7.97	7.97	97.6	97.6	7.62	7.62	7.59	2.00	2.10	2.40	3.10	3.20	2.83	W	0.6	No any influencing factor was observed during monitoring.
							28.79		38.51		7.97		97.5		7.61			2.20			3.30					
					Middle	13.8	25.81	26.31	40.18	39.91	7.73	7.77	96.8	96.7	7.56	7.56		2.30	2.35		2.80	2.90				
							26.81		39.63		7.80		96.6		7.55			2.40			3.00					
					Bottom	26.6	25.31	25.50	40.34	40.16	7.70	7.71	96.8	97.0	7.56	7.57	7.57	2.80	2.75		2.50	2.40				
							25.69		39.97		7.71		97.1		7.58			2.70			2.30					
6-Sep-22	CS1	Fine	Moderate	8:40	Surface	1.0	28.73	28.77	38.59	38.55	7.98	7.98	97.5	97.5	7.61	7.61	7.56	2.00	2.05	2.43	4.70	4.55	3.53	SW	1.0	No any influencing factor was observed during monitoring.
							28.80		38.50		7.97		97.4		7.61			2.10			4.40					
					Middle	15.8	24.65	25.85	40.74	40.13	7.65	7.72	96.1	96.2	7.50	7.51		2.60	2.55		3.40	3.45				
							27.05		39.52		7.79		96.3		7.52			2.50			3.50					
					Bottom	30.5	24.19	23.90	40.86	41.00	7.63	7.60	96.4	96.5	7.53	7.54	7.54	2.70	2.70		2.70	2.60				
							23.61		41.14		7.57		96.5		7.54			2.70			2.50					
6-Sep-22	C6/C7	Fine	Moderate	9:30	Surface	1.0	28.92	28.92	38.58	38.61	8.00	8.00	97.6	97.5	7.62	7.62	7.61	2.00	2.00	2.15	1.70	1.80	2.92	SW	0.7	No any influencing factor was observed during monitoring.
							28.91		38.64		8.00		97.4		7.61			2.00			1.90					
					Middle	18.8	27.01	26.92	39.82	39.84	7.80	7.79	96.9	97.2	7.58	7.60		2.10	2.10		2.50	2.65				
							26.83		39.86		7.77		97.4		7.61			2.10			2.80					
					Bottom	36.5	25.37	25.83	40.51	40.26	7.66	7.69	97.2	97.1	7.59	7.59	7.59	2.40	2.35		4.50	4.30				
							26.28		40.00		7.72		97.0		7.58			2.30			4.10					
6-Sep-22	C3	Fine	Moderate	8:08	Surface	1.0	28.79	28.81	38.53	38.54	7.95	7.96	97.7	97.6	7.63	7.62	7.56	2.10	2.05	2.52	2.10	2.20	2.78	W	0.3	No any influencing factor was observed during monitoring.
							28.83		38.54		7.96		97.5		7.61			2.00			2.30					
					Middle	29.6	23.62	23.75	41.18	41.15	7.52	7.53	96.1	95.9	7.51	7.49		2.60	2.55		2.50	2.65				
							23.87		41.12		7.53		95.6		7.47			2.50			2.80					
					Bottom	58.2	23.82	23.82	40.98	41.07	7.54	7.55	96.1	96.0	7.50	7.50	7.50	2.90	2.95		3.40	3.50				
							23.81		41.16		7.56		95.9		7.49			3.00			3.60					
6-Sep-22	F2	Fine	Moderate	7:54	Surface	1.0	28.79	28.78	38.56	38.52	7.95	7.95	97.5	97.6	7.61	7.62	7.58	2.20	2.25	2.50	3.60	3.80	3.22	SW	0.6	No any influencing factor was observed during monitoring.
							28.76		38.48		7.95		97.6		7.63			2.30			4.00					
					Middle	11.9	28.32	28.21	38.83	38.82	7.88	7.87	96.4	96.4	7.54	7.53		2.40	2.35		3.00	3.15				
							28.09		38.81		7.85		96.3		7.52			2.30			3.30					
					Bottom	22.7	28.16	27.91	38.81	38.94	7.84	7.82	96.0	96.2	7.50	7.51	7.51	2.80	2.90		2.60	2.70				
							27.65		39.07		7.80		96.3		7.52			3.00			2.80					
6-Sep-22	F1	Fine	Moderate	7:39	Surface	1.0	28.88	28.90	38.63	38.60	7.93	7.93	97.4	97.5	7.61	7.61	7.56	2.30	2.25	2.42	1.60	1.70	2.42	SW	0.9	No any influencing factor was observed during monitoring.
							28.92		38.56		7.93		97.5		7.61			2.20			1.80					
					Middle	9.6	28.29	28.25	39.05	39.06	7.87	7.87	96.3	96.2	7.52	7.52		2.40	2.40		2.30	2.45				
							28.20		39.07		7.87		96.1		7.51			2.40			2.60					
					Bottom	18.3	28.26	28.33	39.02	38.99	7.87	7.88	96.0	96.0	7.50	7.50	7.50	2.50	2.60		3.30	3.10				
							28.40		38.95		7.88		96.0		7.50			2.70			2.90					

* Depth Average

Action Level Exceednaces

Limit Level Exceedance

Appendix D - Water Quality Monitoring Result

Water Quality Moniyoring Result on 6 September 2022 - Mid-Flood Tide

Date	Location	Weather Condition	Sea Condition	Sampling Time	Depth (m)		Temperature (°C) Value	Temperature (°C) Average	Salinity (ppt) Value	Salinity (ppt) Average	pH Value	pH Average	DO Saturation (%) Value	DO Saturation (%) Average	Dissolved Oxygen (mg/L) Value	Dissolved Oxygen (mg/L) Average	Dissolved Oxygen (mg/L) DA*	Turbidity(NTU) Value	Turbidity(NTU) Average	Turbidity(NTU) DA*	Suspended Solids (mg/L) Value	Suspended Solids (mg/L) Average	Suspended Solids (mg/L) DA*	Wind Direction	Wind Speed (m/s)	Remark
6-Sep-22	C8	Fine	Moderate	20:48	Surface	1.0	28.20 28.09	28.15	38.23 38.20	38.22	7.72 7.72	7.72	97.4 97.4	97.4	7.60 7.60	7.60	7.58	2.00 2.10	2.05	2.20	2.50 2.90	2.70	3.33	S	2.1	No any influencing factor was observed during monitoring.
					Middle	15.6	26.88 26.90	26.89	38.95 38.91	38.93	7.68 7.68	7.68	96.8 96.7	96.8	7.56 7.55	7.56		2.30 2.30	2.30		3.50 3.30	3.40				
					Bottom	30.3	26.28 26.62	26.45	39.45 39.14	39.30	7.67 7.68	7.68	97.0 96.9	97.0	7.58 7.57	7.58	7.58	2.30 2.20	2.25		3.70 4.10	3.90				
6-Sep-22	CS1	Fine	Moderate	21:13	Surface	1.0	28.19 28.20	28.20	38.22 38.28	38.25	7.72 7.72	7.72	97.9 97.7	97.8	7.64 7.62	7.63	7.60	2.10 2.00	2.05	2.22	2.90 2.60	2.75	3.40	S	1.3	No any influencing factor was observed during monitoring.
					Middle	15.8	26.97 26.79	26.88	38.92 39.16	39.04	7.67 7.68	7.68	97.3 96.5	96.9	7.60 7.54	7.57		2.90 2.00	2.45		3.30 3.10	3.20				
					Bottom	30.7	26.25 26.50	26.38	39.60 39.31	39.46	7.66 7.67	7.67	96.6 97.5	97.1	7.55 7.61	7.58	7.58	2.10 2.20	2.15		4.40 4.10	4.25				
6-Sep-22	C6/C7	Fine	Moderate	20:22	Surface	1.0	27.92 27.96	27.94	38.07 38.11	38.09	7.72 7.72	7.72	97.3 97.4	97.4	7.60 7.60	7.60	7.59	1.90 1.90	1.90	1.93	3.00 2.80	2.90	3.53	S	0.6	No any influencing factor was observed during monitoring.
					Middle	18.4	26.86 27.05	26.96	38.90 38.69	38.80	7.67 7.67	7.67	97.1 97.1	97.1	7.58 7.58	7.58		2.10 1.90	2.00		3.30 3.70	3.50				
					Bottom	35.7	26.47 26.31	26.39	39.12 39.34	39.23	7.63 7.66	7.65	96.7 97.1	96.9	7.56 7.58	7.57	7.57	1.90 1.90	1.90		4.00 4.40	4.20				
6-Sep-22	C3	Fine	Moderate	21:42	Surface	1.0	28.11 28.14	28.13	38.37 38.52	38.45	7.72 7.73	7.73	97.6 97.7	97.7	7.62 7.63	7.63	7.57	1.90 2.10	2.00	2.17	2.60 2.90	2.75	3.47	SE	0.7	No any influencing factor was observed during monitoring.
					Middle	30.0	26.50 26.64	26.57	39.49 39.52	39.51	7.67 7.69	7.68	96.3 96.2	96.3	7.52 7.52	7.52		2.20 2.20	2.20		3.50 3.20	3.35				
					Bottom	59.1	25.99 26.35	26.17	39.97 39.56	39.77	7.64 7.66	7.65	96.5 96.3	96.4	7.54 7.53	7.54	7.54	2.40 2.20	2.30		4.20 4.40	4.30				
6-Sep-22	F2	Fine	Moderate	21:54	Surface	1.0	27.93 27.77	27.85	38.65 38.69	38.67	7.71 7.71	7.71	97.6 98.4	98.0	7.61 7.68	7.65	7.59	1.80 1.90	1.85	2.07	2.40 2.10	2.25	2.87	SE	1.2	No any influencing factor was observed during monitoring.
					Middle	11.5	26.47 26.71	26.59	39.75 39.46	39.61	7.66 7.68	7.67	96.2 96.3	96.3	7.52 7.53	7.53		2.20 2.10	2.15		2.70 3.10	2.90				
					Bottom	22.1	26.49 26.61	26.55	39.80 39.62	39.71	7.68 7.67	7.68	96.4 96.6	96.5	7.54 7.56	7.55	7.55	2.20 2.20	2.20		3.50 3.40	3.45				
6-Sep-22	F1	Fine	Moderate	22:12	Surface	1.0	28.01 28.12	28.07	38.65 38.57	38.61	7.71 7.71	7.71	97.6 97.6	97.6	7.62 7.62	7.62	7.58	1.70 1.80	1.75	1.85	3.20 2.90	3.05	3.43	S	0.8	No any influencing factor was observed during monitoring.
					Middle	9.4	27.12 27.27	27.20	39.25 39.19	39.22	7.69 7.70	7.70	96.6 96.3	96.5	7.55 7.52	7.54		1.80 1.90	1.85		3.50 3.30	3.40				
					Bottom	17.9	26.91 26.81	26.86	39.40 39.52	39.46	7.69 7.68	7.69	96.9 96.4	96.7	7.57 7.54	7.56	7.56	2.00 1.90	1.95		3.70 4.00	3.85				

* Depth Average

Action Level Exceednaces

Limit Level Exceedance

Appendix D - Water Quality Monitoring Result

Water Quality Moniyoring Result on 8 September 2022 - Mid-Ebb Tide

Date	Location	Weather Condition	Sea Condition	Sampling Time	Depth (m)		Temperature (^{o}C) Value	Temperature (^{o}C) Average	Salinity (ppt) Value	Salinity (ppt) Average	pH Value	pH Average	DO Saturation (%) Value	DO Saturation (%) Average	Dissolved Oxygen (mg/L) Value	Dissolved Oxygen (mg/L) Average	Dissolved Oxygen (mg/L) DA*	Turbidity(NTU) Value	Turbidity(NTU) Average	Turbidity(NTU) DA*	Suspended Soild (mg/m3) Value	Suspended Soild (mg/m3) Average	Suspended Soild (mg/m3) DA*	Wind Direction	Wind Speed (m/s)	Remark
8-Sep-22	C8	Sunny	Moderate	10:04	Surface	1.0	28.37	28.36	36.68	36.72	7.92	7.91	96.9	95.6	6.14	6.06	5.72	1.50	1.55	1.63	2.20	2.35	2.92	S	0.2	No any influencing factor was observed during monitoring.
							28.35		36.76		7.90		94.3		5.98			1.60			2.50					
					Middle	15.4	27.87	27.88	37.30	37.35	7.90	7.90	82.9	84.2	5.29	5.39		1.70	1.60		2.70	2.90				
							27.89		37.39		7.90		85.5		5.48			1.50			3.10					
					Bottom	29.7	27.56	27.51	37.27	37.36	7.85	7.84	81.4	81.0	5.18	5.18	5.18	1.70	1.75		3.60	3.50				
							27.46		37.45		7.83		80.6		5.17			1.80			3.40					
8-Sep-22	CS1	Sunny	Moderate	10:25	Surface	1.0	28.28	28.29	36.92	36.94	7.90	7.90	89.2	90.1	5.66	5.72	5.44	1.60	1.55	1.75	3.40	3.50	2.98	S	0.1	No any influencing factor was observed during monitoring.
							28.30		36.96		7.90		90.9		5.77			1.50			3.60					
					Middle	15.8	27.91	27.89	37.46	37.51	7.89	7.89	81.2	81.2	5.17	5.17		1.80	1.70		2.90	2.95				
							27.86		37.55		7.88		81.1		5.16			1.60			3.00					
					Bottom	30.5	27.52	27.50	37.72	37.68	7.84	7.84	81.2	80.9	5.19	5.18	5.18	1.90	2.00		2.60	2.50				
							27.48		37.63		7.84		80.6		5.16			2.10			2.40					
8-Sep-22	C6/C7	Sunny	Moderate	9:49	Surface	1.0	28.37	28.38	36.58	36.37	7.92	7.92	94.8	94.8	6.02	6.03	5.75	1.40	1.40	1.52	2.60	2.50	2.95	SE	0.1	No any influencing factor was observed during monitoring.
							28.39		36.15		7.91		94.8		6.03			1.40			2.40					
					Middle	17.3	27.98	27.99	36.65	36.86	7.88	7.89	86.3	85.7	5.52	5.47		1.50	1.45		2.80	2.95				
							27.99		37.07		7.90		85.0		5.41			1.40			3.10					
					Bottom	33.7	27.71	27.64	37.02	37.02	7.86	7.83	83.1	82.3	5.31	5.43	5.43	1.80	1.70		3.50	3.40				
							27.56		37.01		7.80		81.4		5.55			1.60			3.30					
8-Sep-22	C3	Sunny	Moderate	10:57	Surface	1.0	28.30	28.32	37.12	37.06	7.89	7.89	91.3	92.9	5.78	5.88	5.59	1.40	1.45	1.70	3.00	2.90	3.32	SE	0.2	No any influencing factor was observed during monitoring.
							28.34		37.00		7.89		94.4		5.98			1.50			2.80					
					Middle	29.7	27.49	27.46	37.84	37.86	7.83	7.83	83.1	82.9	5.31	5.30		1.70	1.75		3.30	3.35				
							27.43		37.87		7.82		82.7		5.28			1.80			3.40					
					Bottom	58.5	27.54	27.54	37.90	37.88	7.85	7.85	79.7	79.1	5.05	5.03	5.03	2.00	1.90		3.80	3.70				
							27.54		37.86		7.85		78.4		5.01			1.80			3.60					
8-Sep-22	F2	Sunny	Moderate	11:19	Surface	1.0	28.35	28.29	37.24	37.31	7.89	7.89	95.3	94.8	6.03	6.00	5.76	1.40	1.50	1.67	4.00	3.85	3.25	SE	0.4	No any influencing factor was observed during monitoring.
							28.22		37.37		7.88		94.2		5.96			1.60			3.70					
					Middle	10.8	27.66	27.69	37.90	37.88	7.84	7.84	86.4	86.6	5.52	5.53		1.70	1.65		3.30	3.20				
							27.72		37.85		7.84		86.7		5.53			1.60			3.10					
					Bottom	20.6	27.60	27.58	37.93	37.93	7.82	7.82	82.5	82.6	5.26	5.26	5.26	1.90	1.85		2.80	2.70				
							27.55		37.92		7.82		82.6		5.26			1.80			2.60					
8-Sep-22	F1	Sunny	Moderate	11:10	Surface	1.0	28.33	28.33	37.23	37.22	7.89	7.89	91.9	91.9	5.82	5.82	5.51	1.40	1.45	1.82	2.10	2.25	2.78	S	0.5	No any influencing factor was observed during monitoring.
							28.33		37.20		7.89		91.9		5.82			1.50			2.40					
					Middle	8.8	27.54	27.51	37.92	37.91	7.82	7.82	82.5	81.4	5.26	5.20		1.90	1.90		2.90	2.75				
							27.48		37.89		7.81		80.3		5.13			1.90			2.60					
					Bottom	16.7	27.48	27.53	37.98	38.02	7.83	7.84	78.4	79.2	5.01	5.05	5.05	2.10	2.10		3.20	3.35				
							27.58		38.06		7.85		80.0		5.08			2.10			3.50					

* Depth Average

Action Level Exceednaces

Limit Level Exceedance

Appendix D - Water Quality Monitoring Result

Water Quality Moniyoring Result on 8 September 2022 - Mid-Flood Tide

Date	Location	Weather Condition	Sea Condition	Sampling Time	Depth (m)		Temperature (^{o}C) Value	Temperature (^{o}C) Average	Salinity (ppt) Value	Salinity (ppt) Average	pH Value	pH Average	DO Saturation (%) Value	DO Saturation (%) Average	Dissolved Oxygen (mg/L) Value	Dissolved Oxygen (mg/L) Average	Dissolved Oxygen (mg/L) DA*	Turbidity(NTU) Value	Turbidity(NTU) Average	Turbidity(NTU) DA*	Suspended Solids (mg/L) Value	Suspended Solids (mg/L) Average	Suspended Solids (mg/L) DA*	Wind Direction	Wind Speed (m/s)	Remark
8-Sep-22	C8	Sunny	Moderate	18:03	Surface	1.0	28.50	28.50	37.36	37.36	7.90	7.90	96.0	95.6	6.06	6.03	5.76	1.30	1.35	1.65	3.10	2.95	3.42	S	0.3	No any influencing factor was observed during monitoring.
							28.50		37.36		7.90		95.1		6.00			1.40			2.80					
					Middle	14.7	27.77	27.77	38.02	38.03	7.84	7.84	84.0	86.3	5.34	5.49		1.80	1.80		3.40	3.35				
							27.77		38.04		7.83		88.6		5.63			1.80			3.30					
					Bottom	28.5	27.81	27.79	38.02	38.05	7.84	7.84	82.6	83.3	5.25	5.29	5.29	1.80	1.80		4.10	3.95				
							27.77		38.07		7.84		83.9		5.33			1.80			3.80					
8-Sep-22	CS1	Sunny	Moderate	17:43	Surface	1.0	28.48	28.47	37.38	37.38	7.90	7.90	94.4	93.9	5.95	5.92	5.79	1.30	1.40	1.77	4.30	4.50	3.88	E	0.1	No any influencing factor was observed during monitoring.
							28.46		37.37		7.89		93.4		5.89			1.50			4.70					
					Middle	15.6	27.75	27.75	38.04	38.05	7.84	7.84	89.7	89.2	5.70	5.66		2.00	1.90		4.00	3.85				
							27.74		38.06		7.84		88.6		5.61			1.80			3.70					
					Bottom	30.2	27.74	27.77	38.10	38.09	7.84	7.85	81.3	82.5	5.17	5.25	5.25	1.90	2.00		3.40	3.30				
							27.79		38.07		7.85		83.7		5.32			2.10			3.20					
8-Sep-22	C6/C7	Sunny	Moderate	18:17	Surface	1.0	28.58	28.56	37.32	37.35	7.90	7.90	94.6	95.8	5.96	6.04	5.82	1.50	1.40	1.77	3.00	3.10	2.60	E	0.1	No any influencing factor was observed during monitoring.
							28.54		37.38		7.90		96.9		6.11			1.30			3.20					
					Middle	16.9	27.89	27.82	38.00	38.04	7.85	7.84	86.6	88.1	5.51	5.60		1.80	1.90		2.60	2.50				
							27.74		38.07		7.83		89.5		5.69			2.00			2.40					
					Bottom	32.7	27.71	27.71	38.11	38.11	7.83	7.83	82.5	82.2	5.25	5.23	5.23	1.90	2.00		2.10	2.20				
							27.71		38.11		7.83		81.9		5.21			2.10			2.30					
8-Sep-22	C3	Sunny	Moderate	17:12	Surface	1.0	28.42	28.43	37.34	37.36	7.90	7.90	94.5	94.3	5.97	5.96	5.70	1.30	1.35	1.70	4.20	4.35	3.62	S	0.1	No any influencing factor was observed during monitoring.
							28.43		37.37		7.90		94.1		5.94			1.40			4.50					
					Middle	29.9	27.73	27.68	38.16	38.13	7.85	7.84	87.3	85.7	5.55	5.45		1.90	1.90		3.90	3.70				
							27.63		38.09		7.83		84.0		5.35			1.90			3.50					
					Bottom	58.7	27.60	27.69	38.12	38.12	7.83	7.85	79.4	80.5	5.06	5.13	5.13	1.80	1.85		2.60	2.80				
							27.77		38.11		7.86		81.6		5.19			1.90			3.00					
8-Sep-22	F2	Sunny	Moderate	16:46	Surface	1.0	28.30	28.33	37.33	37.33	7.89	7.89	89.9	90.5	5.69	5.72	5.42	1.80	1.70	1.83	2.40	2.30	3.07	S	0.2	No any influencing factor was observed during monitoring.
							28.35		37.32		7.89		91.0		5.75			1.60			2.20					
					Middle	11.0	27.61	27.67	37.98	37.95	7.83	7.84	80.3	80.3	5.12	5.12		1.80	1.80		3.20	3.10				
							27.72		37.92		7.84		80.2		5.11			1.80			3.00					
					Bottom	21.1	27.57	27.58	38.10	38.06	7.83	7.83	83.0	82.0	5.29	5.23	5.23	2.00	2.00		3.60	3.80				
							27.59		38.02		7.82		81.0		5.17			2.00			4.00					
8-Sep-22	F1	Sunny	Moderate	16:57	Surface	1.0	28.37	28.37	37.35	37.34	7.89	7.89	93.7	93.4	5.92	5.91	5.77	1.40	1.45	1.63	4.70	4.50	3.42	S	0.2	No any influencing factor was observed during monitoring.
							28.37		37.33		7.89		93.1		5.89			1.50			4.30					
					Middle	8.8	27.73	27.72	37.95	37.94	7.84	7.84	88.2	88.5	5.61	5.64		1.70	1.70		3.30	3.15				
							27.71		37.93		7.83		88.8		5.66			1.70			3.00					
					Bottom	16.6	27.68	27.71	37.98	38.01	7.84	7.85	82.4	82.8	5.25	5.27	5.27	1.70	1.75		2.70	2.60				
							27.74		38.03		7.85		83.2		5.29			1.80			2.50					

* Depth Average

Action Level Exceednaces

Limit Level Exceedance

Appendix D - Water Quality Monitoring Result

Water Quality Moniyoring Result on 11 September 2022 - Mid-Ebb Tide

Date	Location	Weather Condition	Sea Condition	Sampling Time	Depth (m)		Temperature (^{o}C)		Salinity (ppt)		pH		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Soild (mg/m3)			Wind		Remark
							Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*	Direction	Speed (m/s)	
11-Sep-22	C8	Sunny	Moderate	12:42	Surface	1.0	29.25 29.19	29.22	34.77 34.93	34.85	8.03 8.02	8.03	93.7 93.1	93.4	6.38 6.35	6.37	6.22	1.90 1.90	1.90	2.12	2.40 2.60	2.50	2.32	SW	0.1	No any influencing factor was observed during monitoring.
					Middle	14.7	27.44 27.42	27.43	36.84 36.85	36.85	7.87 7.88	7.88	89.6 87.4	88.5	6.14 6.00	6.07		2.20 2.00	2.10		2.20 2.50	2.35				
					Bottom	28.5	27.39 27.40	27.40	36.88 36.87	36.88	7.89 7.93	7.91	87.5 87.1	87.3	6.00 5.98	5.99	5.99	2.40 2.30	2.35		1.70 2.50	2.10				
11-Sep-22	CS1	Sunny	Moderate	12:16	Surface	1.0	29.25 29.23	29.24	34.77 34.76	34.77	8.01 8.01	8.01	92.9 92.5	92.7	6.32 6.30	6.31	6.23	1.90 1.90	1.90	2.00	1.90 2.80	2.35	2.63	SW	0.1	No any influencing factor was observed during monitoring.
					Middle	15.7	27.40 27.40	27.40	36.87 36.87	36.87	7.85 7.85	7.85	89.6 90.3	90.0	6.13 6.18	6.16		2.00 1.90	1.95		2.10 1.80	1.95				
					Bottom	30.3	27.39 27.41	27.40	36.88 36.85	36.87	7.85 7.91	7.88	86.3 88.6	87.5	5.93 6.08	6.01	6.01	2.20 2.10	2.15		3.80 3.40	3.60				
11-Sep-22	C6/C7	Sunny	Moderate	13:03	Surface	1.0	29.24 29.25	29.25	34.71 34.71	34.71	8.03 8.00	8.02	94.1 93.2	93.7	6.40 6.34	6.37	6.25	1.90 1.70	1.80	1.98	2.10 3.10	2.60	2.75	SW	0.1	No any influencing factor was observed during monitoring.
					Middle	16.2	27.89 27.77	27.83	36.33 36.47	36.40	7.88 7.88	7.88	88.7 90.1	89.4	6.08 6.17	6.13		2.00 2.00	2.00		2.20 2.50	2.35				
					Bottom	31.5	27.39 27.39	27.39	36.90 36.89	36.90	7.90 7.88	7.89	86.6 86.8	86.7	5.95 5.96	5.96	5.96	2.10 2.20	2.15		3.20 3.40	3.30				
11-Sep-22	C3	Sunny	Moderate	11:45	Surface	1.0	29.19 29.18	29.19	34.83 34.85	34.84	7.97 7.98	7.98	93.1 93.2	93.2	6.35 6.36	6.36	6.22	2.00 1.90	1.95	2.13	2.60 2.90	2.75	2.30	E	0.1	No any influencing factor was observed during monitoring.
					Middle	29.4	27.42 27.41	27.42	36.85 36.85	36.85	7.85 7.84	7.85	89.3 88.1	88.7	6.12 6.05	6.09		2.10 2.00	2.05		2.60 1.60	2.10				
					Bottom	57.9	27.40 27.41	27.41	36.88 36.87	36.88	7.88 7.87	7.88	87.1 86.3	86.7	5.98 5.93	5.96	5.96	2.40 2.40	2.40		2.30 1.80	2.05				
11-Sep-22	F2	Sunny	Moderate	11:17	Surface	1.0	29.15 29.14	29.15	34.78 34.80	34.79	7.99 7.97	7.98	91.5 91.1	91.3	6.25 6.22	6.24	6.09	2.00 2.00	2.00	2.05	1.50 1.80	1.65	2.38	E	0.1	No any influencing factor was observed during monitoring.
					Middle	11.5	28.98 28.85	28.92	35.18 35.29	35.24	7.97 7.94	7.96	86.3 86.5	86.4	5.94 5.95	5.95		1.90 2.00	1.95		2.40 2.20	2.30				
					Bottom	22.1	28.78 28.77	28.78	35.35 35.35	35.35	7.94 7.95	7.95	87.6 86.7	87.2	6.02 5.96	5.99	5.99	2.10 2.30	2.20		3.50 2.90	3.20				
11-Sep-22	F1	Sunny	Moderate	11:31	Surface	1.0	29.18 29.07	29.13	34.82 35.06	34.94	7.96 7.91	7.94	92.8 92.5	92.7	6.33 6.31	6.32	6.25	2.10 2.00	2.05	2.23	2.10 2.50	2.30	1.83	SW	0.1	No any influencing factor was observed during monitoring.
					Middle	9.1	28.02 28.05	28.04	36.16 36.13	36.15	7.87 7.87	7.87	90.3 90.0	90.2	6.18 6.17	6.18		2.10 2.10	2.10		2.20 1.60	1.90				
					Bottom	17.2	27.41 27.42	27.42	36.86 36.84	36.85	7.89 7.89	7.89	87.4 87.6	87.5	6.00 6.01	6.01	6.01	2.50 2.60	2.55		1.50 1.10	1.30				

* Depth Average

Action Level Exceednaces

Limit Level Exceedance

Appendix D - Water Quality Monitoring Result

Water Quality Moniyoring Result on 11 September 2022 - Mid-Flood Tide

Date	Location	Weather Condition	Sea Condition	Sampling Time	Depth (m)		Temperature (^{o}C)		Salinity (ppt)		pH		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)			Wind		Remark
							Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*	Direction	Speed (m/s)	
11-Sep-22	C8	Fine	Moderate	5:32	Surface	1.0	29.22 29.22	29.22	35.44 35.44	35.44	7.97 7.96	7.97	92.8 94.2	93.5	6.34 6.43	6.39	6.21	1.80 1.60	1.70	1.88	2.50 1.90	2.20	3.10	S	0.8	No any influencing factor was observed during monitoring.
					Middle	15.1	28.35 28.30	28.33	36.18 36.20	36.19	7.92 7.90	7.91	86.9 88.4	87.7	5.97 6.09	6.03		1.90 1.80	1.85		3.80 3.30	3.55				
					Bottom	29.2	27.38 28.19	27.79	36.87 36.30	36.59	7.90 7.88	7.89	86.2 86.2	86.2	5.93 5.95	5.94	5.94	2.00 2.20	2.10		3.30 3.80	3.55				
11-Sep-22	CS1	Fine	Moderate	5:58	Surface	1.0	29.16 29.21	29.19	35.51 35.46	35.49	7.99 7.98	7.99	91.5 90.7	91.1	6.26 6.21	6.24	6.09	2.00 2.00	2.00	2.17	2.80 3.20	3.00	3.88	S	0.5	No any influencing factor was observed during monitoring.
					Middle	15.7	28.33 28.33	28.33	36.19 36.17	36.18	7.93 7.92	7.93	86.5 86.5	86.5	5.95 5.95	5.95		2.10 2.10	2.10		4.50 3.70	4.10				
					Bottom	30.5	27.20 27.24	27.22	36.95 36.92	36.94	7.88 7.91	7.90	86.2 86.5	86.4	5.94 5.96	5.95	5.95	2.50 2.30	2.40		4.40 4.70	4.55				
11-Sep-22	C6/C7	Fine	Moderate	5:14	Surface	1.0	29.23 29.24	29.24	35.40 35.40	35.40	7.93 7.97	7.95	93.3 93.8	93.6	6.38 6.42	6.40	6.25	1.70 1.80	1.75	2.08	2.40 2.40	2.40	2.83	S	0.6	No any influencing factor was observed during monitoring.
					Middle	16.7	27.76 27.47	27.62	36.58 36.76	36.67	7.84 7.84	7.84	89.1 88.4	88.8	6.12 6.07	6.10		2.00 1.90	1.95		2.40 2.00	2.20				
					Bottom	32.3	27.32 27.24	27.28	36.87 36.94	36.91	7.84 7.84	7.84	87.1 86.6	86.9	5.99 6.13	6.06	6.06	2.60 2.50	2.55		4.00 3.80	3.90				
11-Sep-22	C3	Fine	Moderate	6:29	Surface	1.0	28.61 28.62	28.62	35.84 35.82	35.83	7.96 7.96	7.96	93.2 91.8	92.5	6.37 6.27	6.32	6.16	1.90 2.00	1.95	2.02	1.50 2.00	1.75	2.42	W	0.1	No any influencing factor was observed during monitoring.
					Middle	29.3	28.20 28.33	28.27	36.22 36.17	36.20	7.91 7.93	7.92	87.2 87.5	87.4	5.99 6.02	6.01		2.00 1.90	1.95		2.30 3.10	2.70				
					Bottom	57.7	27.52 27.50	27.51	36.80 36.81	36.81	7.90 7.89	7.90	85.4 86.1	85.8	5.88 5.90	5.89	5.89	2.10 2.20	2.15		3.00 2.60	2.80				
11-Sep-22	F2	Fine	Moderate	6:51	Surface	1.0	28.78 28.80	28.79	35.75 35.74	35.75	7.87 7.91	7.89	93.4 92.9	93.2	6.36 6.33	6.35	6.22	1.90 2.00	1.95	2.07	2.80 2.00	2.40	2.47	S	0.6	No any influencing factor was observed during monitoring.
					Middle	11.3	28.51 28.51	28.51	35.84 35.84	35.84	7.85 7.89	7.87	89.0 88.9	89.0	6.10 6.10	6.10		2.10 2.00	2.05		3.10 2.30	2.70				
					Bottom	21.7	28.55 28.60	28.58	35.83 35.79	35.81	7.86 7.84	7.85	87.1 87.0	87.1	5.98 5.97	5.98	5.98	2.30 2.10	2.20		2.10 2.50	2.30				
11-Sep-22	F1	Fine	Moderate	6:42	Surface	1.0	28.67 28.64	28.66	35.73 35.75	35.74	7.89 7.88	7.89	92.1 92.2	92.2	6.29 6.30	6.30	6.14	2.20 2.30	2.25	2.23	1.90 2.90	2.40	3.43	S	0.5	No any influencing factor was observed during monitoring.
					Middle	9.0	27.84 27.86	27.85	36.46 36.44	36.45	7.83 7.82	7.83	87.4 86.2	86.8	6.01 5.94	5.98		2.10 2.20	2.15		4.10 3.20	3.65				
					Bottom	17.0	27.41 27.39	27.40	36.83 36.83	36.83	7.81 7.82	7.82	85.5 86.2	85.9	5.90 5.92	5.91	5.91	2.30 2.30	2.30		3.60 4.90	4.25				

* Depth Average

Action Level Exceednaces

Limit Level Exceedance

Appendix D - Water Quality Monitoring Result

Water Quality Moniyoring Result on 13 September 2022 - Mid-Ebb Tide

Date	Location	Weather Condition	Sea Condition	Sampling Time	Depth (m)		Temperature (°C) Value	Temperature (°C) Average	Salinity (ppt) Value	Salinity (ppt) Average	pH Value	pH Average	DO Saturation (%) Value	DO Saturation (%) Average	Dissolved Oxygen (mg/L) Value	Dissolved Oxygen (mg/L) Average	Dissolved Oxygen (mg/L) DA*	Turbidity(NTU) Value	Turbidity(NTU) Average	Turbidity(NTU) DA*	Suspended Soild (mg/m3) Value	Suspended Soild (mg/m3) Average	Suspended Soild (mg/m3) DA*	Wind Direction	Wind Speed (m/s)	Remark
13-Sep-22	C8	Rainy	Moderate	14:14	Surface	1.0	29.85	29.88	31.70	31.66	8.00	8.01	88.0	87.9	5.95	5.94	5.79	1.60	1.60	1.75	<1.0	1.30	1.58	SE	0.3	No any influencing factor was observed during monitoring.
							29.90		31.62		8.01		87.8		5.93			1.60			1.60					
					Middle	15.6	28.19	28.26	35.60	35.44	7.88	7.88	82.7	83.5	5.58	5.65		1.60	1.65		2.20	1.95				
							28.32		35.27		7.88		84.3		5.71			1.70			1.70					
					Bottom	30.2	27.41	27.41	35.80	35.71	7.89	7.89	81.6	81.9	5.53	5.55	5.55	2.00	2.00		1.40	1.50				
							27.40		35.62		7.88		82.1		5.56			2.00			1.60					
13-Sep-22	CS1	Rainy	Moderate	13:45	Surface	1.0	29.88	29.88	31.63	31.63	8.00	8.00	87.2	87.3	5.89	5.90	5.82	1.50	1.55	1.70	1.60	1.50	1.62	S	0.3	No any influencing factor was observed during monitoring.
							29.88		31.63		8.00		87.3		5.90			1.60			1.40					
					Middle	15.7	27.89	27.90	35.10	35.07	7.87	7.87	84.9	84.9	5.75	5.74		1.70	1.65		1.80	1.80				
							27.90		35.03		7.87		84.8		5.73			1.60			1.80					
					Bottom	30.4	27.40	27.40	35.49	35.40	7.85	7.88	80.1	81.0	5.43	5.49	5.49	1.90	1.90		1.70	1.55				
							27.40		35.30		7.90		81.8		5.55			1.90			1.40					
13-Sep-22	C6/C7	Rainy	Moderate	14:33	Surface	1.0	29.90	29.90	31.60	31.61	7.99	8.00	88.4	88.8	5.96	5.99	5.85	1.50	1.50	1.67	1.50	1.60	1.57	S	0.5	No any influencing factor was observed during monitoring.
							29.90		31.61		8.01		89.1		6.01			1.50			1.70					
					Middle	16.9	28.20	28.18	34.90	34.95	7.89	7.89	84.3	84.4	5.69	5.71		1.70	1.75		1.60	1.50				
							28.15		34.99		7.89		84.5		5.73			1.80			1.40					
					Bottom	32.9	27.40	27.41	35.67	35.75	7.88	7.87	80.3	80.7	5.45	5.48	5.48	1.70	1.75		1.40	1.60				
							27.42		35.82		7.86		81.1		5.51			1.80			1.80					
13-Sep-22	C3	Rainy	Moderate	13:17	Surface	1.0	29.85	29.84	31.68	31.74	7.98	7.99	88.2	88.3	5.96	5.97	5.81	1.80	1.75	2.00	1.60	1.95	1.82	SE	0.6	No any influencing factor was observed during monitoring.
							29.83		31.80		7.99		88.3		5.97			1.70			2.30					
					Middle	29.5	27.54	27.56	35.39	35.78	7.86	7.86	84.2	83.5	5.70	5.65		2.00	2.00		1.70	1.65				
							27.58		36.16		7.86		82.7		5.60			2.00			1.60					
					Bottom	58.1	27.46	27.47	36.29	36.34	7.86	7.86	80.6	79.9	5.46	5.42	5.42	2.20	2.25		1.90	1.85				
							27.48		36.39		7.85		79.2		5.37			2.30			1.80					
13-Sep-22	F2	Rainy	Moderate	12:51	Surface	1.0	29.82	29.81	31.93	31.94	8.00	7.99	86.5	86.6	5.85	5.86	5.72	1.60	1.60	1.77	1.90	1.80	1.72	SE	0.2	No any influencing factor was observed during monitoring.
							29.80		31.95		7.98		86.6		5.86			1.60			1.70					
					Middle	11.4	28.34	28.31	34.90	34.91	7.92	7.90	82.2	82.1	5.60	5.59		1.80	1.75		2.00	1.70				
							28.28		34.92		7.88		82.0		5.58			1.70			1.40					
					Bottom	21.7	28.20	28.22	35.33	35.29	7.87	7.88	79.3	79.5	5.37	5.38	5.38	1.90	1.95		1.70	1.65				
							28.23		35.24		7.89		79.6		5.39			2.00			1.60					
13-Sep-22	F1	Rainy	Moderate	13:02	Surface	1.0	29.82	29.80	31.73	31.91	7.98	7.97	88.4	88.3	5.89	5.95	5.87	1.60	1.60	1.83	1.40	1.50	1.78	S	0.9	No any influencing factor was observed during monitoring.
							29.77		32.09		7.95		88.1		6.00			1.60			1.60					
					Middle	9.1	27.96	28.02	35.34	35.39	7.88	7.88	85.8	85.4	5.81	5.79		1.80	1.75		2.00	1.70				
							28.08		35.43		7.88		85.0		5.76			1.70			1.40					
					Bottom	17.1	27.58	27.54	36.38	36.36	7.88	7.88	80.3	80.1	5.44	5.43	5.43	2.20	2.15		1.90	2.15				
							27.50		36.34		7.87		79.9		5.41			2.10			2.40					

* Depth Average

Action Level Exceednaces

Limit Level Exceedance

Appendix D - Water Quality Monitoring Result

Water Quality Moniyoring Result on 13 September 2022 - Mid-Flood Tide

Date	Location	Weather Condition	Sea Condition	Sampling Time	Depth (m)		Temperature (^{o}C)		Salinity (ppt)		pH		DO Saturation (%)		Dissolved Oxygen (mg/L)			Turbidity(NTU)			Suspended Solids (mg/L)			Wind		Remark
							Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	Value	Average	DA*	Direction	Speed (m/s)	
13-Sep-22	C8	Rainy	Moderate	6:44	Surface	1.0	29.89 29.86	29.88	32.13 32.14	32.14	8.02 8.02	8.02	92.2 92.7	92.5	6.22 6.26	6.24	5.98	2.00 1.70	1.85	1.97	<1.0 <1.0	1.00	**<u>1.60</u>**	E	0.1	No any influencing factor was observed during monitoring.
					Middle	15.9	27.78 27.82	27.80	35.16 35.20	35.18	7.90 7.89	7.90	83.3 84.6	84.0	5.66 5.78	5.72		2.00 1.90	1.95		2.00 2.00	2.00				
					Bottom	30.7	27.66 27.03	27.35	35.50 35.72	35.61	7.88 7.89	7.89	80.9 80.4	80.7	5.52 5.46	5.49	5.49	2.20 2.00	2.10		2.00 1.60	1.80				
13-Sep-22	CS1	Rainy	Moderate	7:04	Surface	1.0	29.88 29.83	29.86	32.18 32.14	32.16	8.02 8.02	8.02	89.7 90.8	90.3	6.06 6.14	6.10	5.92	1.80 1.80	1.80	1.88	<1.0 1.20	1.10	1.15	E	0.1	No any influencing factor was observed during monitoring.
					Middle	15.8	28.03 28.20	28.12	34.71 34.78	34.75	7.90 7.91	7.91	85.2 83.8	84.5	5.79 5.69	5.74		1.80 1.90	1.85		1.50 1.20	1.35				
					Bottom	30.6	27.11 26.81	26.96	35.79 35.73	35.76	7.88 7.88	7.88	80.3 82.6	81.5	5.45 5.62	5.54	5.54	2.10 1.90	2.00		1.00 1.00	1.00				
13-Sep-22	C6/C7	Rainy	Moderate	6:28	Surface	1.0	29.90 29.98	29.94	32.17 32.18	32.18	8.02 8.01	8.02	93.6 92.6	93.1	6.32 6.25	6.29	6.04	1.90 1.80	1.85	2.12	1.70 1.50	1.60	**<u>1.52</u>**	E	0.2	No any influencing factor was observed during monitoring.
					Middle	16.9	27.72 27.48	27.60	35.41 35.40	35.41	7.85 7.85	7.85	85.7 84.9	85.3	5.82 5.76	5.79		2.00 2.10	2.05		1.40 1.40	1.40				
					Bottom	32.8	27.19 27.25	27.22	35.72 35.74	35.73	7.85 7.85	7.85	80.9 82.1	81.5	5.50 5.55	5.53	5.53	2.50 2.40	2.45		1.70 1.40	1.55				
13-Sep-22	C3	Rainy	Moderate	7:36	Surface	1.0	29.64 29.67	29.66	32.24 32.21	32.23	8.02 8.02	8.02	93.1 92.0	92.6	6.28 6.20	6.24	6.04	1.80 1.80	1.80	1.90	1.30 1.60	1.45	**<u>1.75</u>**	N	0.1	No any influencing factor was observed during monitoring.
					Middle	29.6	27.71 27.71	27.71	35.34 35.41	35.38	7.89 7.89	7.89	85.9 85.4	85.7	5.86 5.83	5.85		1.80 1.90	1.85		2.00 1.40	1.70				
					Bottom	58.1	26.88 27.06	26.97	36.03 36.14	36.09	7.88 7.87	7.88	80.7 81.8	81.3	5.49 5.55	5.52	5.52	2.00 2.10	2.05		2.40 1.80	2.10				
13-Sep-22	F2	Rainy	Moderate	7:58	Surface	1.0	29.66 29.72	29.69	32.18 32.37	32.28	7.97 8.00	7.99	91.5 91.0	91.3	6.16 6.13	6.15	5.99	1.70 1.70	1.70	1.83	1.10 1.40	1.25	1.22	N	0.1	No any influencing factor was observed during monitoring.
					Middle	11.2	28.03 28.15	28.09	35.24 35.10	35.17	7.88 7.87	7.88	86.7 87.1	86.9	5.80 5.86	5.83		1.80 1.80	1.80		1.60 <1.0	1.30				
					Bottom	21.5	27.50 27.46	27.48	35.28 35.31	35.30	7.85 7.86	7.86	81.7 81.3	81.5	5.55 5.52	5.54	5.54	2.00 2.00	2.00		<1.0 1.20	1.10				
13-Sep-22	F1	Rainy	Moderate	7:49	Surface	1.0	29.67 29.62	29.65	32.23 32.18	32.21	7.99 7.98	7.99	90.8 89.9	90.4	6.13 6.07	6.10	5.96	1.90 1.90	1.90	2.00	1.60 1.30	1.45	**1.47**	E	0.3	No any influencing factor was observed during monitoring.
					Middle	9.0	27.65 27.36	27.51	34.85 35.11	34.98	7.85 7.84	7.85	85.3 85.0	85.2	5.84 5.81	5.83		1.90 1.90	1.90		1.50 1.40	1.45				
					Bottom	16.9	26.93 27.09	27.01	35.48 35.66	35.57	7.84 7.84	7.84	81.6 82.7	82.2	5.54 5.63	5.59	5.59	2.30 2.10	2.20		1.60 1.40	1.50				

* Depth Average

Action Level Exceednaces

<u>Limit Level Exceedance</u>

APPENDIX E
LABORATORY ANALYIS RESULTS

CERTIFICATE OF ANALYSIS

Client	: AECOM ASIA COMPANY LIMITED	Laboratory	: ALS Technichem (HK) Pty Ltd	Page	: 1 of 6
Contact	: MR Y W FUNG	Contact	: Richard Fung	Work Order	: HK2234116
Address	: 12/F, TOWER 2, GRAND CENTRAL PLAZA, NO. 138 SHATIN RURAL COMMITTEE ROAD, SHATIN, N.T.,	Address	: 11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong Kwai Tsing Hong Kong		
E-mail	: yw.fung@aecom.com	E-mail	: richard.fung@alsglobal.com		
Telephone	: +852 3105 8544	Telephone	: +852 2610 1044		
Facsimile	: ----	Facsimile	: +852 2610 2021		
Project	: ASIA DIRECT CABLE SYSTEM - HONG KONG SEGMENT (ADC-HK) - CHUNG HOM KOK			Date received	: 05-Sep-2022
Order number	: 60685660	Quote number	: HKE/1617/2022	Date of issue	: 14-Sep-2022
C-O-C number	: ---			No. of samples	- Received : 72
Site	: ---				- Analysed : 72

This document has been signed by those names that appear on this report and are the authorised signatories.

Signatory	Position	Authorised results for:
Fung Lim Chee, Richard	Managing Director	Inorganics, Kwai Tsing

General Comments

This report supersedes any previous report(s) with this reference. All pages of this report have been checked and approved for release. When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes. Testing period is from 05-Sep-2022 to 14-Sep-2022.

Key: LOR = Limit of reporting; CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.

Specific Comments for Work Order HK2234116 :

Sample(s) was/ were submitted by client. Sample(s) arrived laboratory in chilled condition. The result(s) related only to the item(s) tested.

Sample information (Project name, Sample ID, Sampling date/time, etc.) is provided by client.

Result(s) of sample(s) is/are reported on as received basis, unless otherwise specified.

Analytical Results

Sub-Matrix: WATER		Compound	EA025: Suspended Solids (SS)	---	---	---	---
		LOR Unit	1.0 mg/L	---	---	---	---
Sample ID	Sampling date / time	Laboratory sample ID	EA/ED: Physical and Aggregate Properties	---	---	---	---
C3/S/ Mid-Ebb	04-Sep-2022	HK2234116-001	1.8	---	---	---	---
C3/S/ Mid-Ebb	04-Sep-2022	HK2234116-002	1.8	---	---	---	---
C3/M/ Mid-Ebb	04-Sep-2022	HK2234116-003	2.1	---	---	---	---
C3/M/ Mid-Ebb	04-Sep-2022	HK2234116-004	2.3	---	---	---	---
C3/B/ Mid-Ebb	04-Sep-2022	HK2234116-005	3.3	---	---	---	---
C3/B/ Mid-Ebb	04-Sep-2022	HK2234116-006	3.5	---	---	---	---
C6/C7/S/ Mid-Ebb	04-Sep-2022	HK2234116-007	1.9	---	---	---	---
C6/C7/S/ Mid-Ebb	04-Sep-2022	HK2234116-008	1.7	---	---	---	---
C6/C7/M/ Mid-Ebb	04-Sep-2022	HK2234116-009	2.5	---	---	---	---
C6/C7/M/ Mid-Ebb	04-Sep-2022	HK2234116-010	2.3	---	---	---	---
C6/C7/B/ Mid-Ebb	04-Sep-2022	HK2234116-011	3.0	---	---	---	---
C6/C7/B/ Mid-Ebb	04-Sep-2022	HK2234116-012	2.6	---	---	---	---
C8/S/ Mid-Ebb	04-Sep-2022	HK2234116-013	3.5	---	---	---	---
C8/S/ Mid-Ebb	04-Sep-2022	HK2234116-014	3.7	---	---	---	---
C8/M/ Mid-Ebb	04-Sep-2022	HK2234116-015	3.2	---	---	---	---
C8/M/ Mid-Ebb	04-Sep-2022	HK2234116-016	2.9	---	---	---	---
C8/B/ Mid-Ebb	04-Sep-2022	HK2234116-017	2.6	---	---	---	---
C8/B/ Mid-Ebb	04-Sep-2022	HK2234116-018	2.4	---	---	---	---
F1/S/ Mid-Ebb	04-Sep-2022	HK2234116-019	3.5	---	---	---	---
F1/S/ Mid-Ebb	04-Sep-2022	HK2234116-020	3.2	---	---	---	---
F1/M/ Mid-Ebb	04-Sep-2022	HK2234116-021	2.8	---	---	---	---
F1/M/ Mid-Ebb	04-Sep-2022	HK2234116-022	2.6	---	---	---	---
F1/B/ Mid-Ebb	04-Sep-2022	HK2234116-023	2.4	---	---	---	---
F1/B/ Mid-Ebb	04-Sep-2022	HK2234116-024	2.2	---	---	---	---
F2/S/ Mid-Ebb	04-Sep-2022	HK2234116-025	1.6	---	---	---	---
F2/S/ Mid-Ebb	04-Sep-2022	HK2234116-026	1.8	---	---	---	---
F2/M/ Mid-Ebb	04-Sep-2022	HK2234116-027	2.2	---	---	---	---
F2/M/ Mid-Ebb	04-Sep-2022	HK2234116-028	2.5	---	---	---	---
F2/B/ Mid-Ebb	04-Sep-2022	HK2234116-029	2.7	---	---	---	---
F2/B/ Mid-Ebb	04-Sep-2022	HK2234116-030	3.1	---	---	---	---
CS1/S/ Mid-Ebb	04-Sep-2022	HK2234116-031	3.8	---	---	---	---

Sub-Matrix: WATER		Compound	EA025: Suspended Solids (SS)	---	---	---	---
		LOR Unit	1.0 mg/L	---	---	---	---
Sample ID	Sampling date / time	Laboratory sample ID	EA/ED: Physical and Aggregate Properties	---	---	---	---
CS1/S/ Mid-Ebb	04-Sep-2022	HK2234116-032	3.8	---	---	---	---
CS1/M/ Mid-Ebb	04-Sep-2022	HK2234116-033	3.5	---	---	---	---
CS1/M/ Mid-Ebb	04-Sep-2022	HK2234116-034	3.3	---	---	---	---
CS1/B/ Mid-Ebb	04-Sep-2022	HK2234116-035	2.9	---	---	---	---
CS1/B/ Mid-Ebb	04-Sep-2022	HK2234116-036	2.7	---	---	---	---
C3/S/ Mid-Flood	04-Sep-2022	HK2234116-037	1.9	---	---	---	---
C3/S/ Mid-Flood	04-Sep-2022	HK2234116-038	1.6	---	---	---	---
C3/M/ Mid-Flood	04-Sep-2022	HK2234116-039	2.2	---	---	---	---
C3/M/ Mid-Flood	04-Sep-2022	HK2234116-040	2.4	---	---	---	---
C3/B/ Mid-Flood	04-Sep-2022	HK2234116-041	2.7	---	---	---	---
C3/B/ Mid-Flood	04-Sep-2022	HK2234116-042	3.0	---	---	---	---
C6/C7/S/ Mid-Flood	04-Sep-2022	HK2234116-043	3.1	---	---	---	---
C6/C7/S/ Mid-Flood	04-Sep-2022	HK2234116-044	2.9	---	---	---	---
C6/C7/M/ Mid-Flood	04-Sep-2022	HK2234116-045	2.7	---	---	---	---
C6/C7/M/ Mid-Flood	04-Sep-2022	HK2234116-046	2.5	---	---	---	---
C6/C7/B/ Mid-Flood	04-Sep-2022	HK2234116-047	2.3	---	---	---	---
C6/C7/B/ Mid-Flood	04-Sep-2022	HK2234116-048	2.2	---	---	---	---
C8/S/ Mid-Flood	04-Sep-2022	HK2234116-049	3.5	---	---	---	---
C8/S/ Mid-Flood	04-Sep-2022	HK2234116-050	3.2	---	---	---	---
C8/M/ Mid-Flood	04-Sep-2022	HK2234116-051	2.8	---	---	---	---
C8/M/ Mid-Flood	04-Sep-2022	HK2234116-052	2.6	---	---	---	---
C8/B/ Mid-Flood	04-Sep-2022	HK2234116-053	2.3	---	---	---	---
C8/B/ Mid-Flood	04-Sep-2022	HK2234116-054	2.1	---	---	---	---
F1/S/ Mid-Flood	04-Sep-2022	HK2234116-055	1.7	---	---	---	---
F1/S/ Mid-Flood	04-Sep-2022	HK2234116-056	1.9	---	---	---	---
F1/M/ Mid-Flood	04-Sep-2022	HK2234116-057	2.3	---	---	---	---
F1/M/ Mid-Flood	04-Sep-2022	HK2234116-058	2.5	---	---	---	---
F1/B/ Mid-Flood	04-Sep-2022	HK2234116-059	3.0	---	---	---	---
F1/B/ Mid-Flood	04-Sep-2022	HK2234116-060	3.3	---	---	---	---
F2/S/ Mid-Flood	04-Sep-2022	HK2234116-061	4.4	---	---	---	---
F2/S/ Mid-Flood	04-Sep-2022	HK2234116-062	4.1	---	---	---	---
F2/M/ Mid-Flood	04-Sep-2022	HK2234116-063	3.4	---	---	---	---
F2/M/ Mid-Flood	04-Sep-2022	HK2234116-064	3.1	---	---	---	---

Sub-Matrix: WATER	Compound	EA025: Suspended Solids (SS)	---	---	---	---
	LOR Unit	1.0 mg/L	---	---	---	---
Sample ID	Sampling date / time	Laboratory sample ID	EA/ED: Physical and Aggregate Properties	---	---	---	---
F2/B/ Mid-Flood	04-Sep-2022	HK2234116-065	2.3	---	---	---	---
F2/B/ Mid-Flood	04-Sep-2022	HK2234116-066	2.7	---	---	---	---
CS1/S/ Mid-Flood	04-Sep-2022	HK2234116-067	2.4	---	---	---	---
CS1/S/ Mid-Flood	04-Sep-2022	HK2234116-068	2.1	---	---	---	---
CS1/M/ Mid-Flood	04-Sep-2022	HK2234116-069	3.6	---	---	---	---
CS1/M/ Mid-Flood	04-Sep-2022	HK2234116-070	3.3	---	---	---	---
CS1/B/ Mid-Flood	04-Sep-2022	HK2234116-071	4.5	---	---	---	---
CS1/B/ Mid-Flood	04-Sep-2022	HK2234116-072	4.1	---	---	---	---

Laboratory Duplicate (DUP) Report

Matrix: WATER

				Laboratory Duplicate (DUP) Report				
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)
EA/ED: Physical and Aggregate Properties (QC Lot: 4561317)								
HK2234116-001	C3/S/ Mid-Ebb	EA025: Suspended Solids (SS)	---	0.5	mg/L	1.8	1.9	5.3
HK2234116-011	C6/C7/B/ Mid-Ebb	EA025: Suspended Solids (SS)	---	0.5	mg/L	3.0	2.8	9.4
EA/ED: Physical and Aggregate Properties (QC Lot: 4561318)								
HK2234116-021	F1/M/ Mid-Ebb	EA025: Suspended Solids (SS)	---	0.5	mg/L	2.8	2.8	0.0
HK2234116-031	CS1/S/ Mid-Ebb	EA025: Suspended Solids (SS)	---	0.5	mg/L	3.8	3.6	6.7
EA/ED: Physical and Aggregate Properties (QC Lot: 4561319)								
HK2234116-041	C3/B/ Mid-Flood	EA025: Suspended Solids (SS)	---	0.5	mg/L	2.7	2.5	7.7
HK2234116-051	C8/M/ Mid-Flood	EA025: Suspended Solids (SS)	---	0.5	mg/L	2.8	2.8	0.0
EA/ED: Physical and Aggregate Properties (QC Lot: 4561320)								
HK2234116-061	F2/S/ Mid-Flood	EA025: Suspended Solids (SS)	---	0.5	mg/L	4.4	4.2	6.4
HK2234116-071	CS1/B/ Mid-Flood	EA025: Suspended Solids (SS)	---	0.5	mg/L	4.5	4.3	5.1

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						
					Spike	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	DCS	Low	High	Value	Control Limit
EA/ED: Physical and Aggregate Properties (QCLot: 4561317)											
EA025: Suspended Solids (SS)	---	0.5	mg/L	<0.5	20 mg/L	104	---	85.1	117	---	---
EA/ED: Physical and Aggregate Properties (QCLot: 4561318)											
EA025: Suspended Solids (SS)	---	0.5	mg/L	<0.5	20 mg/L	97.0	---	85.1	117	---	---
EA/ED: Physical and Aggregate Properties (QCLot: 4561319)											
EA025: Suspended Solids (SS)	---	0.5	mg/L	<0.5	20 mg/L	102	---	85.1	117	---	---
EA/ED: Physical and Aggregate Properties (QCLot: 4561320)											
EA025: Suspended Solids (SS)	---	0.5	mg/L	<0.5	20 mg/L	99.0	---	85.1	117	---	---

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

Client	: AECOM ASIA COMPANY LIMITED	Laboratory	: ALS Technichem (HK) Pty Ltd	Page	: 1 of 6
Contact	: MR Y W FUNG	Contact	: Richard Fung	Work Order	: HK2234118
Address	: 12/F, TOWER 2, GRAND CENTRAL PLAZA, NO. 138 SHATIN RURAL COMMITTEE ROAD, SHATIN, N.T.,	Address	: 11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong Kwai Tsing Hong Kong		
E-mail	: yw.fung@aecom.com	E-mail	: richard.fung@alsglobal.com		
Telephone	: +852 3105 8544	Telephone	: +852 2610 1044		
Facsimile	: ----	Facsimile	: +852 2610 2021		
Project	: ASIA DIRECT CABLE SYSTEM - HONG KONG SEGMENT (ADC-HK) - CHUNG HOM KOK			Date received	: 06-Sep-2022
Order number	: 60685660	Quote number	: HKE/1617/2022	Date of issue	: 16-Sep-2022
C-O-C number	: ---			No. of samples	- Received : 72
Site	: ---				- Analysed : 72

This document has been signed by those names that appear on this report and are the authorised signatories.

Signatory	Position	Authorised results for:
Fung Lim Chee, Richard	Managing Director	Inorganics, Kwai Tsing

General Comments

This report supersedes any previous report(s) with this reference. All pages of this report have been checked and approved for release. When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes. Testing period is from 06-Sep-2022 to 16-Sep-2022.

Key: LOR = Limit of reporting; CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.

Specific Comments for Work Order HK2234118 :

Sample(s) was/ were submitted by client. Sample(s) arrived laboratory in chilled condition. The result(s) related only to the item(s) tested.

Sample information (Project name, Sample ID, Sampling date/time, etc.) is provided by client.

Result(s) of sample(s) is/are reported on as received basis, unless otherwise specified.

Analytical Results

Sub-Matrix: **WATER**

Sample ID	Sampling date / time	Laboratory sample ID	Compound	EA025: Suspended Solids (SS)	---	---	---	---
			LOR Unit	1.0 mg/L	---	---	---	---
			EA/ED: Physical and Aggregate Properties	---	---	---	---	---
C3/S/ Mid-Ebb	06-Sep-2022	HK2234118-001		2.1	---	---	---	---
C3/S/ Mid-Ebb	06-Sep-2022	HK2234118-002		2.3	---	---	---	---
C3/M/ Mid-Ebb	06-Sep-2022	HK2234118-003		2.5	---	---	---	---
C3/M/ Mid-Ebb	06-Sep-2022	HK2234118-004		2.8	---	---	---	---
C3/B/ Mid-Ebb	06-Sep-2022	HK2234118-005		3.4	---	---	---	---
C3/B/ Mid-Ebb	06-Sep-2022	HK2234118-006		3.6	---	---	---	---
C6/C7/S/ Mid-Ebb	06-Sep-2022	HK2234118-007		1.7	---	---	---	---
C6/C7/S/ Mid-Ebb	06-Sep-2022	HK2234118-008		1.9	---	---	---	---
C6/C7/M/ Mid-Ebb	06-Sep-2022	HK2234118-009		2.5	---	---	---	---
C6/C7/M/ Mid-Ebb	06-Sep-2022	HK2234118-010		2.8	---	---	---	---
C6/C7/B/ Mid-Ebb	06-Sep-2022	HK2234118-011		4.5	---	---	---	---
C6/C7/B/ Mid-Ebb	06-Sep-2022	HK2234118-012		4.1	---	---	---	---
C8/S/ Mid-Ebb	06-Sep-2022	HK2234118-013		3.1	---	---	---	---
C8/S/ Mid-Ebb	06-Sep-2022	HK2234118-014		3.3	---	---	---	---
C8/M/ Mid-Ebb	06-Sep-2022	HK2234118-015		2.8	---	---	---	---
C8/M/ Mid-Ebb	06-Sep-2022	HK2234118-016		3.0	---	---	---	---
C8/B/ Mid-Ebb	06-Sep-2022	HK2234118-017		2.5	---	---	---	---
C8/B/ Mid-Ebb	06-Sep-2022	HK2234118-018		2.3	---	---	---	---
F1/S/ Mid-Ebb	06-Sep-2022	HK2234118-019		1.6	---	---	---	---
F1/S/ Mid-Ebb	06-Sep-2022	HK2234118-020		1.8	---	---	---	---
F1/M/ Mid-Ebb	06-Sep-2022	HK2234118-021		2.3	---	---	---	---
F1/M/ Mid-Ebb	06-Sep-2022	HK2234118-022		2.6	---	---	---	---
F1/B/ Mid-Ebb	06-Sep-2022	HK2234118-023		3.3	---	---	---	---
F1/B/ Mid-Ebb	06-Sep-2022	HK2234118-024		2.9	---	---	---	---
F2/S/ Mid-Ebb	06-Sep-2022	HK2234118-025		3.6	---	---	---	---
F2/S/ Mid-Ebb	06-Sep-2022	HK2234118-026		4.0	---	---	---	---
F2/M/ Mid-Ebb	06-Sep-2022	HK2234118-027		3.0	---	---	---	---
F2/M/ Mid-Ebb	06-Sep-2022	HK2234118-028		3.3	---	---	---	---
F2/B/ Mid-Ebb	06-Sep-2022	HK2234118-029		2.6	---	---	---	---
F2/B/ Mid-Ebb	06-Sep-2022	HK2234118-030		2.8	---	---	---	---
CS1/S/ Mid-Ebb	06-Sep-2022	HK2234118-031		4.7	---	---	---	---

Sub-Matrix: **WATER**

Sample ID	Sampling date / time	Laboratory sample ID	Compound	EA025: Suspended Solids (SS)	---	---	---	---
			LOR Unit	1.0 mg/L	---	---	---	---
			EA/ED: Physical and Aggregate Properties	---	---	---	---	---
CS1/S/ Mid-Ebb	06-Sep-2022	HK2234118-032		4.4	---	---	---	---
CS1/M/ Mid-Ebb	06-Sep-2022	HK2234118-033		3.4	---	---	---	---
CS1/M/ Mid-Ebb	06-Sep-2022	HK2234118-034		3.5	---	---	---	---
CS1/B/ Mid-Ebb	06-Sep-2022	HK2234118-035		2.7	---	---	---	---
CS1/B/ Mid-Ebb	06-Sep-2022	HK2234118-036		2.5	---	---	---	---
C3/S/ Mid-Flood	06-Sep-2022	HK2234118-037		2.6	---	---	---	---
C3/S/ Mid-Flood	06-Sep-2022	HK2234118-038		2.9	---	---	---	---
C3/M/ Mid-Flood	06-Sep-2022	HK2234118-039		3.5	---	---	---	---
C3/M/ Mid-Flood	06-Sep-2022	HK2234118-040		3.2	---	---	---	---
C3/B/ Mid-Flood	06-Sep-2022	HK2234118-041		4.2	---	---	---	---
C3/B/ Mid-Flood	06-Sep-2022	HK2234118-042		4.4	---	---	---	---
C6/C7/S/ Mid-Flood	06-Sep-2022	HK2234118-043		3.0	---	---	---	---
C6/C7/S/ Mid-Flood	06-Sep-2022	HK2234118-044		2.8	---	---	---	---
C6/C7/M/ Mid-Flood	06-Sep-2022	HK2234118-045		3.3	---	---	---	---
C6/C7/M/ Mid-Flood	06-Sep-2022	HK2234118-046		3.7	---	---	---	---
C6/C7/B/ Mid-Flood	06-Sep-2022	HK2234118-047		4.0	---	---	---	---
C6/C7/B/ Mid-Flood	06-Sep-2022	HK2234118-048		4.4	---	---	---	---
C8/S/ Mid-Flood	06-Sep-2022	HK2234118-049		2.5	---	---	---	---
C8/S/ Mid-Flood	06-Sep-2022	HK2234118-050		2.9	---	---	---	---
C8/M/ Mid-Flood	06-Sep-2022	HK2234118-051		3.5	---	---	---	---
C8/M/ Mid-Flood	06-Sep-2022	HK2234118-052		3.3	---	---	---	---
C8/B/ Mid-Flood	06-Sep-2022	HK2234118-053		3.7	---	---	---	---
C8/B/ Mid-Flood	06-Sep-2022	HK2234118-054		4.1	---	---	---	---
F1/S/ Mid-Flood	06-Sep-2022	HK2234118-055		3.2	---	---	---	---
F1/S/ Mid-Flood	06-Sep-2022	HK2234118-056		2.9	---	---	---	---
F1/M/ Mid-Flood	06-Sep-2022	HK2234118-057		3.5	---	---	---	---
F1/M/ Mid-Flood	06-Sep-2022	HK2234118-058		3.3	---	---	---	---
F1/B/ Mid-Flood	06-Sep-2022	HK2234118-059		3.7	---	---	---	---
F1/B/ Mid-Flood	06-Sep-2022	HK2234118-060		4.0	---	---	---	---
F2/S/ Mid-Flood	06-Sep-2022	HK2234118-061		2.4	---	---	---	---
F2/S/ Mid-Flood	06-Sep-2022	HK2234118-062		2.1	---	---	---	---
F2/M/ Mid-Flood	06-Sep-2022	HK2234118-063		2.7	---	---	---	---
F2/M/ Mid-Flood	06-Sep-2022	HK2234118-064		3.1	---	---	---	---

Sub-Matrix: WATER	Compound	EA025: Suspended Solids (SS)	---	---	---	---
	LOR Unit	1.0 mg/L	---	---	---	---
Sample ID	Sampling date / time	Laboratory sample ID	EA/ED: Physical and Aggregate Properties	---	---	---	---
F2/B/ Mid-Flood	06-Sep-2022	HK2234118-065	3.5	---	---	---	---
F2/B/ Mid-Flood	06-Sep-2022	HK2234118-066	3.4	---	---	---	---
CS1/S/ Mid-Flood	06-Sep-2022	HK2234118-067	2.9	---	---	---	---
CS1/S/ Mid-Flood	06-Sep-2022	HK2234118-068	2.6	---	---	---	---
CS1/M/ Mid-Flood	06-Sep-2022	HK2234118-069	3.3	---	---	---	---
CS1/M/ Mid-Flood	06-Sep-2022	HK2234118-070	3.1	---	---	---	---
CS1/B/ Mid-Flood	06-Sep-2022	HK2234118-071	4.4	---	---	---	---
CS1/B/ Mid-Flood	06-Sep-2022	HK2234118-072	4.1	---	---	---	---

Laboratory Duplicate (DUP) Report

Matrix: WATER

				Laboratory Duplicate (DUP) Report				
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)
EA/ED: Physical and Aggregate Properties (QC Lot: 4565586)								
HK2234118-001	C3/S/ Mid-Ebb	EA025: Suspended Solids (SS)	---	0.5	mg/L	2.1	2.4	14.5
HK2234118-011	C6/C7/B/ Mid-Ebb	EA025: Suspended Solids (SS)	---	0.5	mg/L	4.5	4.3	4.0
EA/ED: Physical and Aggregate Properties (QC Lot: 4565587)								
HK2234118-021	F1/M/ Mid-Ebb	EA025: Suspended Solids (SS)	---	0.5	mg/L	2.3	2.5	9.3
HK2234118-031	CS1/S/ Mid-Ebb	EA025: Suspended Solids (SS)	---	0.5	mg/L	4.7	5.0	5.2
EA/ED: Physical and Aggregate Properties (QC Lot: 4565588)								
HK2234118-041	C3/B/ Mid-Flood	EA025: Suspended Solids (SS)	---	0.5	mg/L	4.2	3.9	6.2
HK2234118-051	C8/M/ Mid-Flood	EA025: Suspended Solids (SS)	---	0.5	mg/L	3.5	3.8	6.2
EA/ED: Physical and Aggregate Properties (QC Lot: 4565589)								
HK2234118-061	F2/S/ Mid-Flood	EA025: Suspended Solids (SS)	---	0.5	mg/L	2.4	2.2	9.9
HK2234118-071	CS1/B/ Mid-Flood	EA025: Suspended Solids (SS)	---	0.5	mg/L	4.4	4.6	5.5

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						
					Spike	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	DCS	Low	High	Value	Control Limit
EA/ED: Physical and Aggregate Properties (QCLot: 4565586)											
EA025: Suspended Solids (SS)	---	0.5	mg/L	<0.5	20 mg/L	97.0	---	85.1	117	---	---
EA/ED: Physical and Aggregate Properties (QCLot: 4565587)											
EA025: Suspended Solids (SS)	---	0.5	mg/L	<0.5	20 mg/L	100	---	85.1	117	---	---
EA/ED: Physical and Aggregate Properties (QCLot: 4565588)											
EA025: Suspended Solids (SS)	---	0.5	mg/L	<0.5	20 mg/L	94.5	---	85.1	117	---	---
EA/ED: Physical and Aggregate Properties (QCLot: 4565589)											
EA025: Suspended Solids (SS)	---	0.5	mg/L	<0.5	20 mg/L	102	---	85.1	117	---	---

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

Client	: AECOM ASIA COMPANY LIMITED	Laboratory	: ALS Technichem (HK) Pty Ltd	Page	: 1 of 6
Contact	: MR Y W FUNG	Contact	: Richard Fung	Work Order	: HK2234121
Address	: 12/F, TOWER 2, GRAND CENTRAL PLAZA, NO. 138 SHATIN RURAL COMMITTEE ROAD, SHATIN, N.T.,	Address	: 11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong Kwai Tsing Hong Kong		
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Telephone	: +852 3105 8544	Telephone	: +852 2610 1044		
Facsimile	: ----	Facsimile	: +852 2610 2021		
Project	: ASIA DIRECT CABLE SYSTEM - HONG KONG SEGMENT (ADC-HK) - CHUNG HOM KOK			Date received	: 08-Sep-2022
Order number	: 60685660	Quote number	: HKE/1617/2022	Date of issue	: 19-Sep-2022
C-O-C number	: ---			No. of samples	- Received : 72
Site	: ---				- Analysed : 72

This document has been signed by those names that appear on this report and are the authorised signatories.

Signatory	Position	Authorised results for:
Fung Lim Chee, Richard	Managing Director	Inorganics, Kwai Tsing

General Comments

This report supersedes any previous report(s) with this reference. All pages of this report have been checked and approved for release. When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes. Testing period is from 08-Sep-2022 to 19-Sep-2022.

Key: LOR = Limit of reporting; CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.

Specific Comments for Work Order HK2234121 :

Sample(s) was/ were submitted by client. Sample(s) arrived laboratory in chilled condition. The result(s) related only to the item(s) tested.

Sample information (Project name, Sample ID, Sampling date/time, etc.) is provided by client.

Result(s) of sample(s) is/are reported on as received basis, unless otherwise specified.

Analytical Results

Sub-Matrix: WATER		Compound	EA025: Suspended Solids (SS)	---	---	---	---
		LOR Unit	1.0 mg/L	---	---	---	---
Sample ID	Sampling date / time	Laboratory sample ID	EA/ED: Physical and Aggregate Properties	---	---	---	---
C3/S/ Mid-Ebb	08-Sep-2022	HK2234121-001	3.0	---	---	---	---
C3/S/ Mid-Ebb	08-Sep-2022	HK2234121-002	2.8	---	---	---	---
C3/M/ Mid-Ebb	08-Sep-2022	HK2234121-003	3.3	---	---	---	---
C3/M/ Mid-Ebb	08-Sep-2022	HK2234121-004	3.4	---	---	---	---
C3/B/ Mid-Ebb	08-Sep-2022	HK2234121-005	3.8	---	---	---	---
C3/B/ Mid-Ebb	08-Sep-2022	HK2234121-006	3.6	---	---	---	---
C6/C7/S/ Mid-Ebb	08-Sep-2022	HK2234121-007	2.6	---	---	---	---
C6/C7/S/ Mid-Ebb	08-Sep-2022	HK2234121-008	2.4	---	---	---	---
C6/C7/M/ Mid-Ebb	08-Sep-2022	HK2234121-009	2.8	---	---	---	---
C6/C7/M/ Mid-Ebb	08-Sep-2022	HK2234121-010	3.1	---	---	---	---
C6/C7/B/ Mid-Ebb	08-Sep-2022	HK2234121-011	3.5	---	---	---	---
C6/C7/B/ Mid-Ebb	08-Sep-2022	HK2234121-012	3.3	---	---	---	---
C8/S/ Mid-Ebb	08-Sep-2022	HK2234121-013	2.2	---	---	---	---
C8/S/ Mid-Ebb	08-Sep-2022	HK2234121-014	2.5	---	---	---	---
C8/M/ Mid-Ebb	08-Sep-2022	HK2234121-015	2.7	---	---	---	---
C8/M/ Mid-Ebb	08-Sep-2022	HK2234121-016	3.1	---	---	---	---
C8/B/ Mid-Ebb	08-Sep-2022	HK2234121-017	3.6	---	---	---	---
C8/B/ Mid-Ebb	08-Sep-2022	HK2234121-018	3.4	---	---	---	---
F1/S/ Mid-Ebb	08-Sep-2022	HK2234121-019	2.1	---	---	---	---
F1/S/ Mid-Ebb	08-Sep-2022	HK2234121-020	2.4	---	---	---	---
F1/M/ Mid-Ebb	08-Sep-2022	HK2234121-021	2.9	---	---	---	---
F1/M/ Mid-Ebb	08-Sep-2022	HK2234121-022	2.6	---	---	---	---
F1/B/ Mid-Ebb	08-Sep-2022	HK2234121-023	3.2	---	---	---	---
F1/B/ Mid-Ebb	08-Sep-2022	HK2234121-024	3.5	---	---	---	---
F2/S/ Mid-Ebb	08-Sep-2022	HK2234121-025	4.0	---	---	---	---
F2/S/ Mid-Ebb	08-Sep-2022	HK2234121-026	3.7	---	---	---	---
F2/M/ Mid-Ebb	08-Sep-2022	HK2234121-027	3.3	---	---	---	---
F2/M/ Mid-Ebb	08-Sep-2022	HK2234121-028	3.1	---	---	---	---
F2/B/ Mid-Ebb	08-Sep-2022	HK2234121-029	2.8	---	---	---	---
F2/B/ Mid-Ebb	08-Sep-2022	HK2234121-030	2.6	---	---	---	---
CS1/S/ Mid-Ebb	08-Sep-2022	HK2234121-031	3.4	---	---	---	---

Sub-Matrix: WATER		Compound	EA025: Suspended Solids (SS)	---	---	---	---
		LOR Unit	1.0 mg/L	---	---	---	---
Sample ID	Sampling date / time	Laboratory sample ID	EA/ED: Physical and Aggregate Properties	---	---	---	---
CS1/S/ Mid-Ebb	08-Sep-2022	HK2234121-032	3.6	---	---	---	---
CS1/M/ Mid-Ebb	08-Sep-2022	HK2234121-033	2.9	---	---	---	---
CS1/M/ Mid-Ebb	08-Sep-2022	HK2234121-034	3.0	---	---	---	---
CS1/B/ Mid-Ebb	08-Sep-2022	HK2234121-035	2.6	---	---	---	---
CS1/B/ Mid-Ebb	08-Sep-2022	HK2234121-036	2.4	---	---	---	---
C3/S/ Mid-Flood	08-Sep-2022	HK2234121-037	4.2	---	---	---	---
C3/S/ Mid-Flood	08-Sep-2022	HK2234121-038	4.5	---	---	---	---
C3/M/ Mid-Flood	08-Sep-2022	HK2234121-039	3.9	---	---	---	---
C3/M/ Mid-Flood	08-Sep-2022	HK2234121-040	3.5	---	---	---	---
C3/B/ Mid-Flood	08-Sep-2022	HK2234121-041	2.6	---	---	---	---
C3/B/ Mid-Flood	08-Sep-2022	HK2234121-042	3.0	---	---	---	---
C6/C7/S/ Mid-Flood	08-Sep-2022	HK2234121-043	3.0	---	---	---	---
C6/C7/S/ Mid-Flood	08-Sep-2022	HK2234121-044	3.2	---	---	---	---
C6/C7/M/ Mid-Flood	08-Sep-2022	HK2234121-045	2.6	---	---	---	---
C6/C7/M/ Mid-Flood	08-Sep-2022	HK2234121-046	2.4	---	---	---	---
C6/C7/B/ Mid-Flood	08-Sep-2022	HK2234121-047	2.1	---	---	---	---
C6/C7/B/ Mid-Flood	08-Sep-2022	HK2234121-048	2.3	---	---	---	---
C8/S/ Mid-Flood	08-Sep-2022	HK2234121-049	3.1	---	---	---	---
C8/S/ Mid-Flood	08-Sep-2022	HK2234121-050	2.8	---	---	---	---
C8/M/ Mid-Flood	08-Sep-2022	HK2234121-051	3.4	---	---	---	---
C8/M/ Mid-Flood	08-Sep-2022	HK2234121-052	3.3	---	---	---	---
C8/B/ Mid-Flood	08-Sep-2022	HK2234121-053	4.1	---	---	---	---
C8/B/ Mid-Flood	08-Sep-2022	HK2234121-054	3.8	---	---	---	---
F1/S/ Mid-Flood	08-Sep-2022	HK2234121-055	4.7	---	---	---	---
F1/S/ Mid-Flood	08-Sep-2022	HK2234121-056	4.3	---	---	---	---
F1/M/ Mid-Flood	08-Sep-2022	HK2234121-057	3.3	---	---	---	---
F1/M/ Mid-Flood	08-Sep-2022	HK2234121-058	3.0	---	---	---	---
F1/B/ Mid-Flood	08-Sep-2022	HK2234121-059	2.7	---	---	---	---
F1/B/ Mid-Flood	08-Sep-2022	HK2234121-060	2.5	---	---	---	---
F2/S/ Mid-Flood	08-Sep-2022	HK2234121-061	2.4	---	---	---	---
F2/S/ Mid-Flood	08-Sep-2022	HK2234121-062	2.2	---	---	---	---
F2/M/ Mid-Flood	08-Sep-2022	HK2234121-063	3.2	---	---	---	---
F2/M/ Mid-Flood	08-Sep-2022	HK2234121-064	3.0	---	---	---	---

Sub-Matrix: **WATER**

Sample ID	*Sampling date / time*	*Laboratory sample ID*	*Compound*	**EA025: Suspended Solids (SS)**	---	---	----	----
			LOR Unit	1.0 mg/L	---	---	---	---
				EA/ED: Physical and Aggregate Properties	---	---	---	---
F2/B/ Mid-Flood	08-Sep-2022	HK2234121-065		**3.6**	---	---	---	---
F2/B/ Mid-Flood	08-Sep-2022	HK2234121-066		**4.0**	---	---	---	---
CS1/S/ Mid-Flood	08-Sep-2022	HK2234121-067		**4.3**	---	---	---	---
CS1/S/ Mid-Flood	08-Sep-2022	HK2234121-068		**4.7**	---	---	---	---
CS1/M/ Mid-Flood	08-Sep-2022	HK2234121-069		**4.0**	---	---	---	---
CS1/M/ Mid-Flood	08-Sep-2022	HK2234121-070		**3.7**	---	---	---	---
CS1/B/ Mid-Flood	08-Sep-2022	HK2234121-071		**3.4**	---	---	---	---
CS1/B/ Mid-Flood	08-Sep-2022	HK2234121-072		**3.2**	---	---	---	---

Laboratory Duplicate (DUP) Report

Matrix: **WATER**

Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*Laboratory Duplicate (DUP) Report*				
				LOR	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*
EA/ED: Physical and Aggregate Properties (QC Lot: 4578068)								
HK2234121-001	C3/S/ Mid-Ebb	EA025: Suspended Solids (SS)	---	0.5	mg/L	3.0	3.3	8.6
HK2234121-011	C6/C7/B/ Mid-Ebb	EA025: Suspended Solids (SS)	---	0.5	mg/L	3.5	3.7	5.6
EA/ED: Physical and Aggregate Properties (QC Lot: 4578069)								
HK2234121-021	F1/M/ Mid-Ebb	EA025: Suspended Solids (SS)	---	0.5	mg/L	2.9	3.1	5.8
HK2234121-031	CS1/S/ Mid-Ebb	EA025: Suspended Solids (SS)	---	0.5	mg/L	3.4	3.7	7.0
EA/ED: Physical and Aggregate Properties (QC Lot: 4578070)								
HK2234121-041	C3/B/ Mid-Flood	EA025: Suspended Solids (SS)	---	0.5	mg/L	2.6	2.9	10.8
HK2234121-051	C8/M/ Mid-Flood	EA025: Suspended Solids (SS)	---	0.5	mg/L	3.4	3.1	10.7
EA/ED: Physical and Aggregate Properties (QC Lot: 4578071)								
HK2234121-061	F2/S/ Mid-Flood	EA025: Suspended Solids (SS)	---	0.5	mg/L	2.4	2.4	0.0
HK2234121-071	CS1/B/ Mid-Flood	EA025: Suspended Solids (SS)	---	0.5	mg/L	3.4	3.6	5.1

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

Matrix: **WATER**

Method: Compound	*CAS Number*	*Method Blank (MB) Report*			*Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report*						
					Spike	*Spike Recovery (%)*		*Recovery Limits (%)*		*RPDs (%)*	
		LOR	*Unit*	*Result*	*Concentration*	*LCS*	*DCS*	*Low*	*High*	*Value*	*Control Limit*
EA/ED: Physical and Aggregate Properties (QCLot: 4578068)											
EA025: Suspended Solids (SS)	---	0.5	mg/L	<0.5	20 mg/L	96.5	---	85.1	117	---	---
EA/ED: Physical and Aggregate Properties (QCLot: 4578069)											
EA025: Suspended Solids (SS)	---	0.5	mg/L	<0.5	20 mg/L	104	---	85.1	117	---	---
EA/ED: Physical and Aggregate Properties (QCLot: 4578070)											
EA025: Suspended Solids (SS)	---	0.5	mg/L	<0.5	20 mg/L	99.0	---	85.1	117	---	---
EA/ED: Physical and Aggregate Properties (QCLot: 4578071)											
EA025: Suspended Solids (SS)	---	0.5	mg/L	<0.5	20 mg/L	103	---	85.1	117	---	---

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

Client	: AECOM ASIA COMPANY LIMITED	Laboratory	: ALS Technichem (HK) Pty Ltd	Page	: 1 of 6
Contact	: MR Y W FUNG	Contact	: Richard Fung	Work Order	: HK2235462
Address	: 12/F, TOWER 2, GRAND CENTRAL PLAZA, NO. 138 SHATIN RURAL COMMITTEE ROAD, SHATIN, N.T.,	Address	: 11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong Kwai Tsing Hong Kong		
E-mail	: yw.fung@aecom.com	E-mail	: richard.fung@alsglobal.com		
Telephone	: +852 3105 8544	Telephone	: +852 2610 1044		
Facsimile	: ----	Facsimile	: +852 2610 2021		
Project	: ASIA DIRECT CABLE SYSTEM - HONG KONG SEGMENT (ADC-HK) - CHUNG HOM KOK			Date received	: 11-Sep-2022
Order number	: 60685660	Quote number	: HKE/1617/2022	Date of issue	: 21-Sep-2022
C-O-C number	: ---			No. of samples	- Received : 72
Site	: ---				- Analysed : 72

This document has been signed by those names that appear on this report and are the authorised signatories.

Signatory	Position	Authorised results for:
Fung Lim Chee, Richard	Managing Director	Inorganics, Kwai Tsing

General Comments

This report supersedes any previous report(s) with this reference. All pages of this report have been checked and approved for release. When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes. Testing period is from 11-Sep-2022 to 21-Sep-2022.

Key: LOR = Limit of reporting; CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.

Specific Comments for Work Order HK2235462 :

Sample(s) was/ were submitted by client. Sample(s) arrived laboratory in chilled condition. The result(s) related only to the item(s) tested.

Sample information (Project name, Sample ID, Sampling date/time, etc.) is provided by client.

Result(s) of sample(s) is/are reported on as received basis, unless otherwise specified.

Analytical Results

Sub-Matrix: WATER		Compound	EA025: Suspended Solids (SS)	---	---	---	---
		LOR Unit	1.0 mg/L	---	---	---	---
Sample ID	Sampling date / time	Laboratory sample ID	EA/ED: Physical and Aggregate Properties	---	---	---	---
C3/S/ Mid-Ebb	11-Sep-2022	HK2235462-001	2.6	---	---	---	---
C3/S/ Mid-Ebb	11-Sep-2022	HK2235462-002	2.9	---	---	---	---
C3/M/ Mid-Ebb	11-Sep-2022	HK2235462-003	2.6	---	---	---	---
C3/M/ Mid-Ebb	11-Sep-2022	HK2235462-004	1.6	---	---	---	---
C3/B/ Mid-Ebb	11-Sep-2022	HK2235462-005	2.3	---	---	---	---
C3/B/ Mid-Ebb	11-Sep-2022	HK2235462-006	1.8	---	---	---	---
C6/C7/S/ Mid-Ebb	11-Sep-2022	HK2235462-007	2.1	---	---	---	---
C6/C7/S/ Mid-Ebb	11-Sep-2022	HK2235462-008	3.1	---	---	---	---
C6/C7/M/ Mid-Ebb	11-Sep-2022	HK2235462-009	2.2	---	---	---	---
C6/C7/M/ Mid-Ebb	11-Sep-2022	HK2235462-010	2.5	---	---	---	---
C6/C7/B/ Mid-Ebb	11-Sep-2022	HK2235462-011	3.2	---	---	---	---
C6/C7/B/ Mid-Ebb	11-Sep-2022	HK2235462-012	3.4	---	---	---	---
C8/S/ Mid-Ebb	11-Sep-2022	HK2235462-013	2.4	---	---	---	---
C8/S/ Mid-Ebb	11-Sep-2022	HK2235462-014	2.6	---	---	---	---
C8/M/ Mid-Ebb	11-Sep-2022	HK2235462-015	2.2	---	---	---	---
C8/M/ Mid-Ebb	11-Sep-2022	HK2235462-016	2.5	---	---	---	---
C8/B/ Mid-Ebb	11-Sep-2022	HK2235462-017	1.7	---	---	---	---
C8/B/ Mid-Ebb	11-Sep-2022	HK2235462-018	2.5	---	---	---	---
F1/S/ Mid-Ebb	11-Sep-2022	HK2235462-019	2.1	---	---	---	---
F1/S/ Mid-Ebb	11-Sep-2022	HK2235462-020	2.5	---	---	---	---
F1/M/ Mid-Ebb	11-Sep-2022	HK2235462-021	2.2	---	---	---	---
F1/M/ Mid-Ebb	11-Sep-2022	HK2235462-022	1.6	---	---	---	---
F1/B/ Mid-Ebb	11-Sep-2022	HK2235462-023	1.5	---	---	---	---
F1/B/ Mid-Ebb	11-Sep-2022	HK2235462-024	1.1	---	---	---	---
F2/S/ Mid-Ebb	11-Sep-2022	HK2235462-025	1.5	---	---	---	---
F2/S/ Mid-Ebb	11-Sep-2022	HK2235462-026	1.8	---	---	---	---
F2/M/ Mid-Ebb	11-Sep-2022	HK2235462-027	2.4	---	---	---	---
F2/M/ Mid-Ebb	11-Sep-2022	HK2235462-028	2.2	---	---	---	---
F2/B/ Mid-Ebb	11-Sep-2022	HK2235462-029	3.5	---	---	---	---
F2/B/ Mid-Ebb	11-Sep-2022	HK2235462-030	2.9	---	---	---	---
CS1/S/ Mid-Ebb	11-Sep-2022	HK2235462-031	1.9	---	---	---	---

Sub-Matrix: WATER		Compound	EA025: Suspended Solids (SS)	---	---	---	---
		LOR Unit	1.0 mg/L	---	---	---	---
Sample ID	Sampling date / time	Laboratory sample ID	EA/ED: Physical and Aggregate Properties	---	---	---	---
CS1/S/ Mid-Ebb	11-Sep-2022	HK2235462-032	2.8	---	---	---	---
CS1/M/ Mid-Ebb	11-Sep-2022	HK2235462-033	2.1	---	---	---	---
CS1/M/ Mid-Ebb	11-Sep-2022	HK2235462-034	1.8	---	---	---	---
CS1/B/ Mid-Ebb	11-Sep-2022	HK2235462-035	3.8	---	---	---	---
CS1/B/ Mid-Ebb	11-Sep-2022	HK2235462-036	3.4	---	---	---	---
C3/S/ Mid-Flood	11-Sep-2022	HK2235462-037	1.5	---	---	---	---
C3/S/ Mid-Flood	11-Sep-2022	HK2235462-038	2.0	---	---	---	---
C3/M/ Mid-Flood	11-Sep-2022	HK2235462-039	2.3	---	---	---	---
C3/M/ Mid-Flood	11-Sep-2022	HK2235462-040	3.1	---	---	---	---
C3/B/ Mid-Flood	11-Sep-2022	HK2235462-041	3.0	---	---	---	---
C3/B/ Mid-Flood	11-Sep-2022	HK2235462-042	2.6	---	---	---	---
C6/C7/S/ Mid-Flood	11-Sep-2022	HK2235462-043	2.4	---	---	---	---
C6/C7/S/ Mid-Flood	11-Sep-2022	HK2235462-044	2.4	---	---	---	---
C6/C7/M/ Mid-Flood	11-Sep-2022	HK2235462-045	2.4	---	---	---	---
C6/C7/M/ Mid-Flood	11-Sep-2022	HK2235462-046	2.0	---	---	---	---
C6/C7/B/ Mid-Flood	11-Sep-2022	HK2235462-047	4.0	---	---	---	---
C6/C7/B/ Mid-Flood	11-Sep-2022	HK2235462-048	3.8	---	---	---	---
C8/S/ Mid-Flood	11-Sep-2022	HK2235462-049	2.5	---	---	---	---
C8/S/ Mid-Flood	11-Sep-2022	HK2235462-050	1.9	---	---	---	---
C8/M/ Mid-Flood	11-Sep-2022	HK2235462-051	3.8	---	---	---	---
C8/M/ Mid-Flood	11-Sep-2022	HK2235462-052	3.3	---	---	---	---
C8/B/ Mid-Flood	11-Sep-2022	HK2235462-053	3.3	---	---	---	---
C8/B/ Mid-Flood	11-Sep-2022	HK2235462-054	3.8	---	---	---	---
F1/S/ Mid-Flood	11-Sep-2022	HK2235462-055	1.9	---	---	---	---
F1/S/ Mid-Flood	11-Sep-2022	HK2235462-056	2.9	---	---	---	---
F1/M/ Mid-Flood	11-Sep-2022	HK2235462-057	4.1	---	---	---	---
F1/M/ Mid-Flood	11-Sep-2022	HK2235462-058	3.2	---	---	---	---
F1/B/ Mid-Flood	11-Sep-2022	HK2235462-059	3.6	---	---	---	---
F1/B/ Mid-Flood	11-Sep-2022	HK2235462-060	4.9	---	---	---	---
F2/S/ Mid-Flood	11-Sep-2022	HK2235462-061	2.8	---	---	---	---
F2/S/ Mid-Flood	11-Sep-2022	HK2235462-062	2.0	---	---	---	---
F2/M/ Mid-Flood	11-Sep-2022	HK2235462-063	3.1	---	---	---	---
F2/M/ Mid-Flood	11-Sep-2022	HK2235462-064	2.3	---	---	---	---

Sub-Matrix: **WATER**

Sample ID	*Sampling date / time*	Laboratory sample ID	*Compound*	**EA025: Suspended Solids (SS)**	---	---	---	---
			LOR Unit	1.0 mg/L	---	---	---	---
				EA/ED: Physical and Aggregate Properties	---	---	---	---
F2/B/ Mid-Flood	11-Sep-2022	HK2235462-065		**2.1**	---	---	---	---
F2/B/ Mid-Flood	11-Sep-2022	HK2235462-066		**2.5**	---	---	---	---
CS1/S/ Mid-Flood	11-Sep-2022	HK2235462-067		**2.8**	---	---	---	---
CS1/S/ Mid-Flood	11-Sep-2022	HK2235462-068		**3.2**	---	---	---	---
CS1/M/ Mid-Flood	11-Sep-2022	HK2235462-069		**4.5**	---	---	---	---
CS1/M/ Mid-Flood	11-Sep-2022	HK2235462-070		**3.7**	---	---	---	---
CS1/B/ Mid-Flood	11-Sep-2022	HK2235462-071		**4.4**	---	---	---	---
CS1/B/ Mid-Flood	11-Sep-2022	HK2235462-072		**4.7**	---	---	---	---

Laboratory Duplicate (DUP) Report

Matrix: **WATER**

Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*Laboratory Duplicate (DUP) Report*			
				LOR	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*
EA/ED: Physical and Aggregate Properties (QC Lot: 4578072)								
HK2235462-002	C3/S/ Mid-Ebb	EA025: Suspended Solids (SS)	---	0.5	mg/L	2.9	3.2	11.4
HK2235462-011	C6/C7/B/ Mid-Ebb	EA025: Suspended Solids (SS)	---	0.5	mg/L	3.2	3.4	6.2
EA/ED: Physical and Aggregate Properties (QC Lot: 4578073)								
HK2235462-021	F1/M/ Mid-Ebb	EA025: Suspended Solids (SS)	---	0.5	mg/L	2.2	2.0	8.2
HK2235462-031	CS1/S/ Mid-Ebb	EA025: Suspended Solids (SS)	---	0.5	mg/L	1.9	1.4	25.6
EA/ED: Physical and Aggregate Properties (QC Lot: 4578074)								
HK2235462-041	C3/B/ Mid-Flood	EA025: Suspended Solids (SS)	---	0.5	mg/L	3.0	2.8	4.3
HK2235462-051	C8/M/ Mid-Flood	EA025: Suspended Solids (SS)	---	0.5	mg/L	3.8	3.2	15.8
EA/ED: Physical and Aggregate Properties (QC Lot: 4578075)								
HK2235462-061	F2/S/ Mid-Flood	EA025: Suspended Solids (SS)	---	0.5	mg/L	2.8	3.4	19.9
HK2235462-071	CS1/B/ Mid-Flood	EA025: Suspended Solids (SS)	---	0.5	mg/L	4.4	4.8	10.9

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

Matrix: **WATER**

Method: Compound	*CAS Number*	*Method Blank (MB) Report*			*Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report*						
					Spike	*Spike Recovery (%)*		*Recovery Limits (%)*		*RPDs (%)*	
		LOR	*Unit*	*Result*	*Concentration*	*LCS*	*DCS*	*Low*	*High*	*Value*	*Control Limit*
EA/ED: Physical and Aggregate Properties (QCLot: 4578072)											
EA025: Suspended Solids (SS)	---	0.5	mg/L	<0.5	20 mg/L	99.0	---	85.1	117	---	---
EA/ED: Physical and Aggregate Properties (QCLot: 4578073)											
EA025: Suspended Solids (SS)	---	0.5	mg/L	<0.5	20 mg/L	100	---	85.1	117	---	---
EA/ED: Physical and Aggregate Properties (QCLot: 4578074)											
EA025: Suspended Solids (SS)	---	0.5	mg/L	<0.5	20 mg/L	104	---	85.1	117	---	---
EA/ED: Physical and Aggregate Properties (QCLot: 4578075)											
EA025: Suspended Solids (SS)	---	0.5	mg/L	<0.5	20 mg/L	95.0	---	85.1	117	---	---

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

Client	: AECOM ASIA COMPANY LIMITED	Laboratory	: ALS Technichem (HK) Pty Ltd	Page	: 1 of 6		
Contact	: MR Y W FUNG	Contact	: Richard Fung	Work Order	: HK2235463		
Address	: 12/F, TOWER 2, GRAND CENTRAL PLAZA, NO. 138 SHATIN RURAL COMMITTEE ROAD, SHATIN, N.T.,	Address	: 11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong Kwai Tsing Hong Kong				
E-mail	: yw.fung@aecom.com	E-mail	: richard.fung@alsglobal.com				
Telephone	: +852 3105 8544	Telephone	: +852 2610 1044				
Facsimile	: ----	Facsimile	: +852 2610 2021				
Project	: ASIA DIRECT CABLE SYSTEM - HONG KONG SEGMENT (ADC-HK) - CHUNG HOM KOK			Date received	: 13-Sep-2022		
Order number	: ---	Quote number	: HKE/1617/2022	Date of issue	: 22-Sep-2022		
C-O-C number	: ---			No. of samples	- Received	:	72
Site	: ---				- Analysed	:	72

This document has been signed by those names that appear on this report and are the authorised signatories.

Signatory	Position	Authorised results for:
Fung Lim Chee, Richard	Managing Director	Inorganics, Kwai Tsing

General Comments

This report supersedes any previous report(s) with this reference. All pages of this report have been checked and approved for release. When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes. Testing period is from 13-Sep-2022 to 22-Sep-2022.

Key: LOR = Limit of reporting; CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.

Specific Comments for Work Order HK2235463 :

Sample(s) was/ were submitted by client. Sample(s) arrived laboratory in chilled condition. The result(s) related only to the item(s) tested.

Sample information (Project name, Sample ID, Sampling date/time, etc.) is provided by client.

Result(s) of sample(s) is/are reported on as received basis, unless otherwise specified.

Analytical Results

Sub-Matrix: WATER		Compound	EA025: Suspended Solids (SS)	---	---	---	---
		LOR Unit	1.0 mg/L	---	---	---	---
Sample ID	Sampling date / time	Laboratory sample ID	EA/ED: Physical and Aggregate Properties	---	---	---	---
C3/S/ Mid-Ebb	13-Sep-2022	HK2235463-001	1.6	---	---	---	---
C3/S/ Mid-Ebb	13-Sep-2022	HK2235463-002	2.3	---	---	---	---
C3/M/ Mid-Ebb	13-Sep-2022	HK2235463-003	1.7	---	---	---	---
C3/M/ Mid-Ebb	13-Sep-2022	HK2235463-004	1.6	---	---	---	---
C3/B/ Mid-Ebb	13-Sep-2022	HK2235463-005	1.9	---	---	---	---
C3/B/ Mid-Ebb	13-Sep-2022	HK2235463-006	1.8	---	---	---	---
C6/C7/S/ Mid-Ebb	13-Sep-2022	HK2235463-007	1.5	---	---	---	---
C6/C7/S/ Mid-Ebb	13-Sep-2022	HK2235463-008	1.7	---	---	---	---
C6/C7/M/ Mid-Ebb	13-Sep-2022	HK2235463-009	1.6	---	---	---	---
C6/C7/M/ Mid-Ebb	13-Sep-2022	HK2235463-010	1.4	---	---	---	---
C6/C7/B/ Mid-Ebb	13-Sep-2022	HK2235463-011	1.4	---	---	---	---
C6/C7/B/ Mid-Ebb	13-Sep-2022	HK2235463-012	1.8	---	---	---	---
C8/S/ Mid-Ebb	13-Sep-2022	HK2235463-013	<1.0	---	---	---	---
C8/S/ Mid-Ebb	13-Sep-2022	HK2235463-014	1.6	---	---	---	---
C8/M/ Mid-Ebb	13-Sep-2022	HK2235463-015	2.2	---	---	---	---
C8/M/ Mid-Ebb	13-Sep-2022	HK2235463-016	1.7	---	---	---	---
C8/B/ Mid-Ebb	13-Sep-2022	HK2235463-017	1.4	---	---	---	---
C8/B/ Mid-Ebb	13-Sep-2022	HK2235463-018	1.6	---	---	---	---
F1/S/ Mid-Ebb	13-Sep-2022	HK2235463-019	1.4	---	---	---	---
F1/S/ Mid-Ebb	13-Sep-2022	HK2235463-020	1.6	---	---	---	---
F1/M/ Mid-Ebb	13-Sep-2022	HK2235463-021	2.0	---	---	---	---
F1/M/ Mid-Ebb	13-Sep-2022	HK2235463-022	1.4	---	---	---	---
F1/B/ Mid-Ebb	13-Sep-2022	HK2235463-023	1.9	---	---	---	---
F1/B/ Mid-Ebb	13-Sep-2022	HK2235463-024	2.4	---	---	---	---
F2/S/ Mid-Ebb	13-Sep-2022	HK2235463-025	1.9	---	---	---	---
F2/S/ Mid-Ebb	13-Sep-2022	HK2235463-026	1.7	---	---	---	---
F2/M/ Mid-Ebb	13-Sep-2022	HK2235463-027	2.0	---	---	---	---
F2/M/ Mid-Ebb	13-Sep-2022	HK2235463-028	1.4	---	---	---	---
F2/B/ Mid-Ebb	13-Sep-2022	HK2235463-029	1.7	---	---	---	---
F2/B/ Mid-Ebb	13-Sep-2022	HK2235463-030	1.6	---	---	---	---
CS1/S/ Mid-Ebb	13-Sep-2022	HK2235463-031	1.6	---	---	---	---

Sub-Matrix: WATER		Compound	EA025: Suspended Solids (SS)	---	---	---	---
		LOR Unit	1.0 mg/L	---	---	---	---
Sample ID	Sampling date / time	Laboratory sample ID	EA/ED: Physical and Aggregate Properties	---	---	---	---
CS1/S/ Mid-Ebb	13-Sep-2022	HK2235463-032	1.4	---	---	---	---
CS1/M/ Mid-Ebb	13-Sep-2022	HK2235463-033	1.8	---	---	---	---
CS1/M/ Mid-Ebb	13-Sep-2022	HK2235463-034	1.8	---	---	---	---
CS1/B/ Mid-Ebb	13-Sep-2022	HK2235463-035	1.7	---	---	---	---
CS1/B/ Mid-Ebb	13-Sep-2022	HK2235463-036	1.4	---	---	---	---
C3/S/ Mid-Flood	13-Sep-2022	HK2235463-037	1.3	---	---	---	---
C3/S/ Mid-Flood	13-Sep-2022	HK2235463-038	1.6	---	---	---	---
C3/M/ Mid-Flood	13-Sep-2022	HK2235463-039	2.0	---	---	---	---
C3/M/ Mid-Flood	13-Sep-2022	HK2235463-040	1.4	---	---	---	---
C3/B/ Mid-Flood	13-Sep-2022	HK2235463-041	2.4	---	---	---	---
C3/B/ Mid-Flood	13-Sep-2022	HK2235463-042	1.8	---	---	---	---
C6/C7/S/ Mid-Flood	13-Sep-2022	HK2235463-043	1.7	---	---	---	---
C6/C7/S/ Mid-Flood	13-Sep-2022	HK2235463-044	1.5	---	---	---	---
C6/C7/M/ Mid-Flood	13-Sep-2022	HK2235463-045	1.4	---	---	---	---
C6/C7/M/ Mid-Flood	13-Sep-2022	HK2235463-046	1.4	---	---	---	---
C6/C7/B/ Mid-Flood	13-Sep-2022	HK2235463-047	1.7	---	---	---	---
C6/C7/B/ Mid-Flood	13-Sep-2022	HK2235463-048	1.4	---	---	---	---
C8/S/ Mid-Flood	13-Sep-2022	HK2235463-049	<1.0	---	---	---	---
C8/S/ Mid-Flood	13-Sep-2022	HK2235463-050	<1.0	---	---	---	---
C8/M/ Mid-Flood	13-Sep-2022	HK2235463-051	2.0	---	---	---	---
C8/M/ Mid-Flood	13-Sep-2022	HK2235463-052	2.0	---	---	---	---
C8/B/ Mid-Flood	13-Sep-2022	HK2235463-053	2.0	---	---	---	---
C8/B/ Mid-Flood	13-Sep-2022	HK2235463-054	1.6	---	---	---	---
F1/S/ Mid-Flood	13-Sep-2022	HK2235463-055	1.6	---	---	---	---
F1/S/ Mid-Flood	13-Sep-2022	HK2235463-056	1.3	---	---	---	---
F1/M/ Mid-Flood	13-Sep-2022	HK2235463-057	1.5	---	---	---	---
F1/M/ Mid-Flood	13-Sep-2022	HK2235463-058	1.4	---	---	---	---
F1/B/ Mid-Flood	13-Sep-2022	HK2235463-059	1.6	---	---	---	---
F1/B/ Mid-Flood	13-Sep-2022	HK2235463-060	1.4	---	---	---	---
F2/S/ Mid-Flood	13-Sep-2022	HK2235463-061	1.1	---	---	---	---
F2/S/ Mid-Flood	13-Sep-2022	HK2235463-062	1.4	---	---	---	---
F2/M/ Mid-Flood	13-Sep-2022	HK2235463-063	1.6	---	---	---	---
F2/M/ Mid-Flood	13-Sep-2022	HK2235463-064	<1.0	---	---	---	---

Sub-Matrix: WATER	Compound	EA025: Suspended Solids (SS)	---	---	---	---
	LOR Unit	1.0 mg/L	---	---	---	---
Sample ID	Sampling date / time	Laboratory sample ID	EA/ED: Physical and Aggregate Properties	---	---	---	---
F2/B/ Mid-Flood	13-Sep-2022	HK2235463-065	<1.0	---	---	---	---
F2/B/ Mid-Flood	13-Sep-2022	HK2235463-066	1.2	---	---	---	---
CS1/S/ Mid-Flood	13-Sep-2022	HK2235463-067	<1.0	---	---	---	---
CS1/S/ Mid-Flood	13-Sep-2022	HK2235463-068	1.2	---	---	---	---
CS1/M/ Mid-Flood	13-Sep-2022	HK2235463-069	1.5	---	---	---	---
CS1/M/ Mid-Flood	13-Sep-2022	HK2235463-070	1.2	---	---	---	---
CS1/B/ Mid-Flood	13-Sep-2022	HK2235463-071	1.0	---	---	---	---
CS1/B/ Mid-Flood	13-Sep-2022	HK2235463-072	1.0	---	---	---	---

Laboratory Duplicate (DUP) Report

Matrix: WATER

				Laboratory Duplicate (DUP) Report				
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)
EA/ED: Physical and Aggregate Properties (QC Lot: 4579528)								
HK2235463-001	C3/S/ Mid-Ebb	EA025: Suspended Solids (SS)	---	0.5	mg/L	1.6	1.7	6.2
HK2235463-011	C6/C7/B/ Mid-Ebb	EA025: Suspended Solids (SS)	---	0.5	mg/L	1.4	1.2	17.8
EA/ED: Physical and Aggregate Properties (QC Lot: 4579529)								
HK2235463-021	F1/M/ Mid-Ebb	EA025: Suspended Solids (SS)	---	0.5	mg/L	2.0	2.4	15.9
HK2235463-031	CS1/S/ Mid-Ebb	EA025: Suspended Solids (SS)	---	0.5	mg/L	1.6	1.3	17.5
EA/ED: Physical and Aggregate Properties (QC Lot: 4579530)								
HK2235463-041	C3/B/ Mid-Flood	EA025: Suspended Solids (SS)	---	0.5	mg/L	2.4	2.2	8.8
HK2235463-051	C8/M/ Mid-Flood	EA025: Suspended Solids (SS)	---	0.5	mg/L	2.0	1.6	25.0
EA/ED: Physical and Aggregate Properties (QC Lot: 4579531)								
HK2235463-061	F2/S/ Mid-Flood	EA025: Suspended Solids (SS)	---	0.5	mg/L	1.1	1.3	12.5
HK2235463-071	CS1/B/ Mid-Flood	EA025: Suspended Solids (SS)	---	0.5	mg/L	1.0	<1.0	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						
					Spike	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	DCS	Low	High	Value	Control Limit
EA/ED: Physical and Aggregate Properties (QCLot: 4579528)											
EA025: Suspended Solids (SS)	---	0.5	mg/L	<0.5	20 mg/L	94.0	---	85.1	117	---	---
EA/ED: Physical and Aggregate Properties (QCLot: 4579529)											
EA025: Suspended Solids (SS)	---	0.5	mg/L	<0.5	20 mg/L	91.0	---	85.1	117	---	---
EA/ED: Physical and Aggregate Properties (QCLot: 4579530)											
EA025: Suspended Solids (SS)	---	0.5	mg/L	<0.5	20 mg/L	90.5	---	85.1	117	---	---
EA/ED: Physical and Aggregate Properties (QCLot: 4579531)											
EA025: Suspended Solids (SS)	---	0.5	mg/L	<0.5	20 mg/L	92.0	---	85.1	117	---	---

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 F
SUMMARY OF ACTION AND LIMIT LEVELS

Appendix F - Summary of Action and Limit Levels

Action and Limit Levels Impact Water Quality Monitoring

Parameters	Action	Limit
DO in mg/L	Surface & Middle: **5.35** (5th percentile of baseline data for surface and middle layers) Bottom: **4.76** (5th percentile of baseline data for bottom layer)	Surface & Middle: **5*** Bottom: **2***
SS in mg/L (depth-averaged)	**4.47**[*1] (95th percentile of baseline data)	**5.88**[*2] (99th percentile of baseline data)
Turbidity in NTU (depth-averaged)	**3.50**[*1] (95th percentile of baseline data)	**3.82**[*2] (99th percentile of baseline data)

*1 According to the Project Profile, the Action Level shall be derived as 95th percentile of baseline date, which listed on the Table, or 20% exceedance of value at any impact station with the control station.

*2 According to the Project Profile, the Limit Level shall be derived as 99th percentile of baseline date, which listed on the Table, or 30% exceedance of value at any impact station with the control station.

APPENDIX G
EVENT AND ACTION PLAN

Appendix G - Event / Action Plan for Water Quality

Event / Action Plan for Water Quality

Event	Environmental Team
Action Level Exceedance	1. Repeat sampling event. 2. Inform EPD and AFCD and confirm notification of the non-compliance in writing. 3. Discuss with cable installation contractor and the IEC/IC the most appropriate method of reducing suspended solids during cable installation and agree with EPD. 4. Repeat measurements after implementation of mitigation for confirmation of compliance. 5. If non-compliance continues, increase measures in Step 3 and repeat measurement in Step 4. If non-compliance occurs a third time, suspend cable laying operations and continue sampling until normal water quality resumes.
Limit Level Exceedance	Suspend cable laying operations and undertake Step 1-4 immediately. Cable laying should only continue when the water quality shows compliance again.