吉寶西格斯－振華聯營公司
KEPPEL SEGHERS - ZHEN HUA JOINT VENTURE

Pilot Test Report

For

Silt Curtain Efficiency Pilot Test (Floating type at Marine Access Opening)

Document No.

KSZHJV	/	312	/	TR	/		/	B
Issuer		Project Code		Type of Document		Sequential No.		Revision Index

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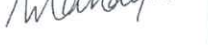
Signature				
Date:	24 September 2021	24 September 2021	24 September 2021	28.9.2021

Revision History

Rev.	DESCRIPTION OF MODIFICATION	DATE
B	Revision based on EPD's comment	24 Sep 2021
A	First Issue for Comments	20 Nov 2020

CONTENTS:

TABLES:

FIGURES:

APPENDICES:

1. INTRODUCTION

1.1. According to the Updated EM&A Manual, the pilot test shall be close to the marine access opening for the reclamation filling works. Pilot tests should be carried out during the early stage of reclamation to confirm whether the silt removal efficiency of the silt curtain systems at marine access opening can achieve at least 80% silt removal efficiency for reclamation filling. The pilot test shall include basic measurements such as turbidity and suspended solids as well as current speed and direction covering both flood and ebb tide.

1.2. Water quality monitoring was conducted on 28 October 2020, 30 October 2020 and 3 November 2020 to test the silt removal efficiency of the floating type silt curtains. **Table 1.1** summarizes the silt curtain type and the respective target of works / site activities:

Table 1.1 Silt curtain types and their respective target of works / site activities

No. of type	
1	Floating type – installed in the marine access opening area during the reclamation period

1.3. This report summarizes the monitoring result of silt curtain pilot test for floating type silt curtain at marine access.

2. MONITORING LOCATIONS

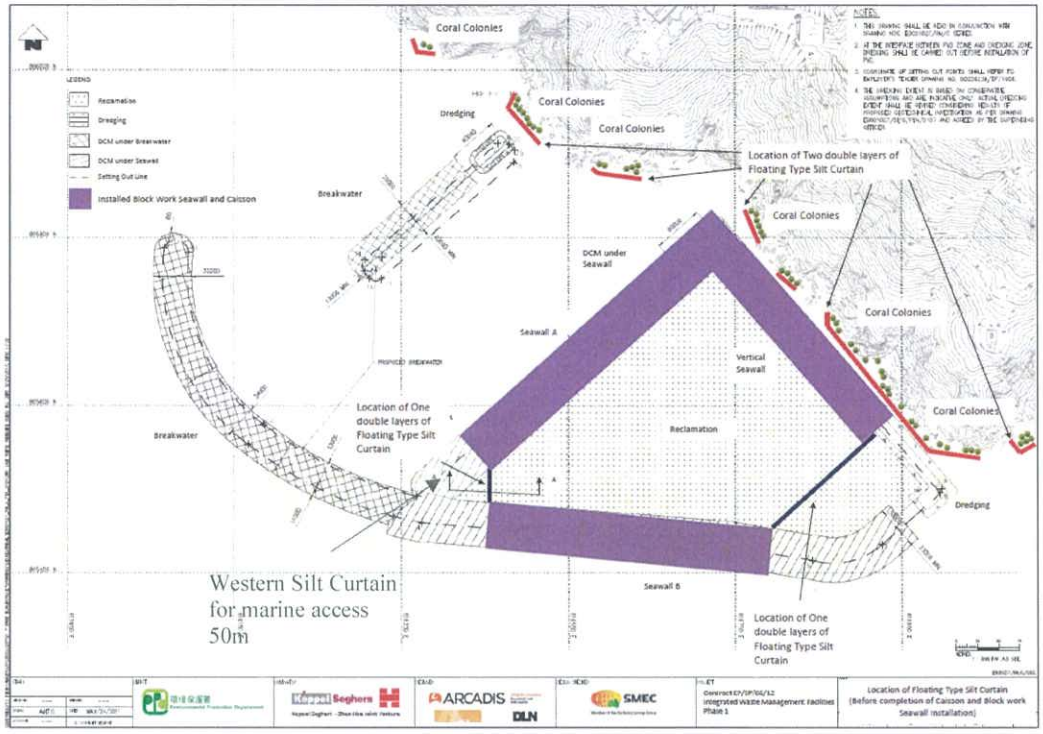
2.1. Floating Type Silt Curtain

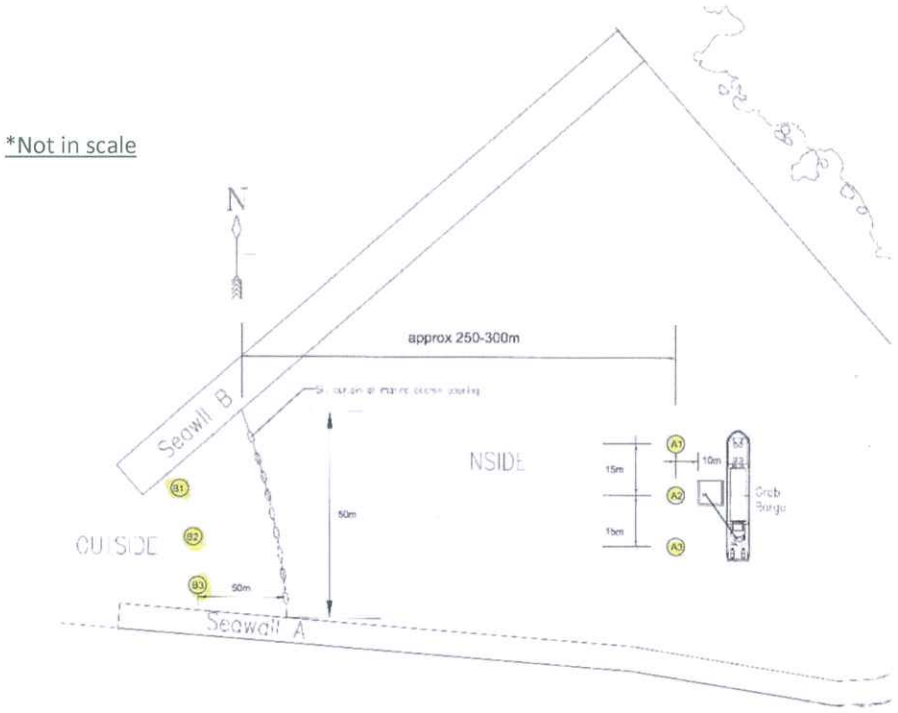
The water monitoring of the pilot test was conducted at a total of six monitoring stations. The general locations of the sampling stations are described in **Table 2.1** and **Figure 1**. Actual sampling locations are described on **Figure 2** and summarize in **Table 2.2**. The sampling locations were followed with the actual location of dredging barge and the actual locations of dredging barges were arranged with the actual site condition and work procedure. Therefore, different sampling locations were applied on the three testing days.

Table 2.1 Locations of Monitoring Stations for Pilot Test (for floating type silt curtain)

Monitoring Stations	Location	Description
A1	Within Marine Works Area	As confirmed by the Contractor, the floating type silt curtain at marine access is 50m wide only. The distance between the inside stations (A1 to A3) was adjusted according to the actual dimension of the floating type silt curtain on the day of the test.
A2		
A3		
B1	Outside Silt Curtain	As confirmed by the Contractor, the floating type silt curtain at marine access is 50m wide only. The distance between the outside stations (B1 to B3) was adjusted according to the actual dimension of the floating type silt curtain on the day of the test and located within approximately 50m from the silt curtain boundary.
B2		
B3		

Figure 1 Location of Floating type silt curtain and Indicative locations of Monitoring Stations for Pilot Test





Note: The distance between the inside stations (A1 to A3) and that between the outside stations (B1 to B3) was adjusted according to the actual dimension of the floating type silt curtain on the day of the test.

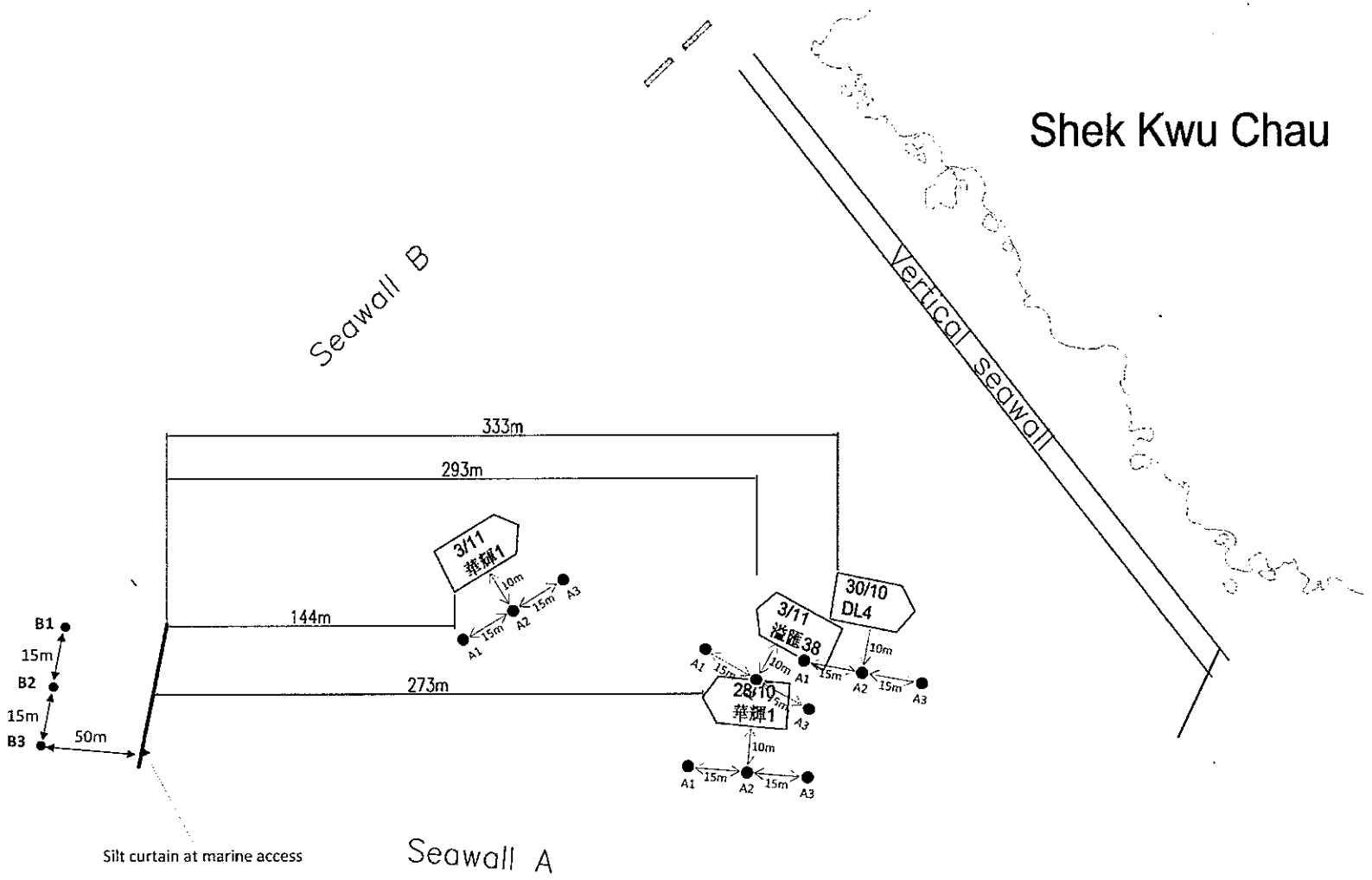


Figure 2 Actual Sampling Locations of Three Testing Days

Table 2.2 Summary of Testing Locations

Date of Test	Name of Barge	Testing Points	Testing Period
28 October 2020	華輝 1	A1, A2, A3 (10 m away from the dropping point of 華輝 1)	Mid Ebb (09:00 – 10:30) Mid Flood (15:30-17:00)
30 October 2020	DL4	A1, A2, A3 (10 m away from the dropping point of DL4)	Mid Ebb (09:00 – 10:30) Mid Flood (16:05-17:35)
3 November 2020	華輝 1	A1, A2, A3 (10 m away from the dropping point of 華輝 1)	Mid Ebb (12:00 – 13:30)
3 November 2020	溢滙 38	A1, A2, A3 (10 m away from the dropping point of 溢滙 38)	Mid Flood (17:00-18:30)

2.2. Monitoring Parameters & Equipment

2.2.1. Water Sampling Equipment

For in-situ monitoring, a turbidimeter (HORIBA U53) was used to measure turbidity. A sampler was used to collect water samples for laboratory analysis of suspended solids.

2.2.2. Turbidity

The instrument was portable and weatherproof using a DC power source complete with cable, sensor and comprehensive operation manuals. The equipment was capable of measuring turbidity between 0-1000 NTU.

2.2.3. Water Depth Detector

A portable, battery-operated echo sounder was used for the determination of water depth at each designated monitoring station. This unit can either be hand held or affixed to the underside of the survey boat, if the same vessel was used throughout the monitoring programme.

2.2.4. Position System

A hand held Global Positioning System (GPS) was used to ensure that the correction location has been selected prior to sample collection.

2.2.5. Current Velocity and Direction

A Valeport 106 current meter was used for measuring current velocity and direction to verify the exact location of the impact monitoring stations and control stations.

2.2.6. Suspended Solids

A water sampler, consisting of PVC cylinder of a capacity of not less than two litres which can be effectively sealed with cups at both ends was used. The water sampler had a positive latching system to keep it open and prevent premature closure until released by a messenger when the sampler was the selected water depth.

2.2.7. Sample Container and Storage

Following collection, water samples for laboratory analysis was stored in high density polythene bottles with no preservatives added, packed in ice (cooled to 4°C without being frozen), delivered to the laboratory and analysed.

2.2.8. Calibration of In-Situ Instruments

The turbidimeter was checked and calibrated before use. Turbidimenter was certified by a laboratory accredited under Hong Kong Laboratory Accreditation Scheme (HOKLAS) or other international accreditation scheme, and subsequently re-calibrated at 3 monthly intervals throughout all stages of the pilot test. Responses of turbidimeter was checked with certified standard solutions before each use. For the in-situ calibration of field equipment, the BS 1427:2009, "Guide to on-site test methods for the analysis of waters" was observed. Sufficient stocks of spare parts were maintained for replacements when necessary. Backup monitoring equipment was also available so that monitoring can proceed uninterrupted even when some equipment is under maintenance, calibration, etc.

2.3. Summary of the equipment used in the water quality monitoring program of pilot tests is presented in **Table 2.3**.

Table 2.3 Water Quality Monitoring Equipment

Equipment	Model	Monitoring Parameters / Use	Quantity
Water Sampler	Wildco 2L Water Sampler with messenger	Collection of water sample	2
Turbidimeter	Horiba U-53	Measurement of turbidity	2
Monitoring Position Equipment	Garmin GPSMAP 78s	Determination of water quality monitoring stations	1
Sonar Water Depth Detector	Hummingbird 160 Portable	Determination of water depth	1
Current Meter	Valeport 106	Measurement of current velocity and direction	1

2.4. The water quality parameters to be monitored are tabulated below in **Table 2.4**.

Table 2.4 Water Quality Parameters to be tested during Pilot Test

Water Quality Parameters	Pilot Test[1]
Turbidity	×
Suspended Solids (SS)	×
Water depth	×
Current Velocity and direction	×

Note [1]: The following parameters were covered in the Pilot Test: Turbidity, Suspended Solids (SS), Water depth, Current velocity and direction.

3. PROCEDURES

3.1. In advance of the sampling day, ET's staff checked wind condition on website of Hong Kong Observatory.

3.2. Before getting on the vessel, all persons were equipped with lifejacket, reflective vest, safety helmet and safety shoes properly;

3.3. ET's staff(s) calibrated the measurement instrument before sampling event;

3.4. At the pier, Coxswain judged local Beaufort Sea Status and weather (e.g. rainstorm, windy, foggy, etc.) whether it is suitable for the sampling work to go on;

3.5. Coxswain parked at the pier and kept steady by keeping the engines on and direction towards the pier for uploading the tools and equipment onto the vessel;

3.6. Trained worker(s) tightened the cool boxes with rope at secure structure of the vessel;

3.7. Vessel was then sailed to the sampling stations with guiding of digital Global Positioning System (GPS); A1 and B1 were sampled at the same time, then A2 & B2 and A3 & B3 were conducted in the similar approach.

3.8. After arriving the sampling station, depth were measured using depth meter in order to determine the sampling depths;

3.9. The water sampler and the multi-functional meter was lowered to the predetermined depths (1m below water surface, mid-depth and 1m above seabed) and the in-situ results of turbidity was recorded at the same time.

3.10. At each measurement, two consecutive measurements of in-situ parameters were taken. Where the difference in the value between the first and second readings of each set was more than 25% of the value of the first reading, the reading was discarded and further readings was taken.

3.11. In-situ measurement results included basic measurements such as turbidity as well as current speed and direction.

3.12. Water samples for SS (mg/L) measurements were collected at the same depths with water sampler. All the containers filled samples were placed into cool boxes.

3.13. Steps 3.7 to 3.12 were repeated for remaining monitoring locations and the monitoring in next tide;

3.14. Coxswain drove back to pier and parked the vessel at the pier. The cool boxes with container samples were transferred from vessel to pier and handed over to the lab's representative(s) for conducting the SS testing.

4. LABORATORY MEASUREMENT / ANALYSIS

4.1. Analysis of suspended solids (SS) was carried out in a HOKLAS accredited laboratory, ALS TECHNICHEM (HK) PTY LIMITED. The certificate of accreditation of the laboratory is attached in **Appendix A**. 1L water samples were collected at the monitoring stations for carrying out the laboratory determinations. The determination work started within 24 hours after collection of water samples. The analyses followed the American Public Health Association (APHA) Standard Methods for the Examination of Water and Wastewater or an equivalent method subject to the approval of EPD. The testing method and lowest detection limit are provided in **Table 4.1**.

Table 4.1 Analytical Methods Applied to Marine Water Quality Samples

Determinant	Standard Method	Detection Limit
Suspended Solids (mg/L)	APHA 2540D*	1 mg/L

Note(*): APHA American Public Health Association Standard Methods for the Examination of Water and Wastewater

4.2. The testing of SS was HOKLAS accredited and comprehensive quality assurance and control procedures in place in order to ensure quality and consistency in results. The Quality Assurance / Quality Control (QA/QC) was in accordance with the requirements of HOKLAS or international accredited scheme.

5. MONITORING RESULTS AND OBSERVATIONS

5.1. Water quality monitoring was conducted on 28 October 2020, 30 October 2020 and 3 November 2020 to test the silt removal efficiency for floating type curtain at marine access. The monitoring results are summarized in **Table 5.1** and **Table 5.2** Details of water quality monitoring results are presented in **Appendix B**.

Table 5.1 Summary of Water Quality Monitoring Results (Ebb Tide)

Location		Parameters			
		Water Depth (m)	Turbidity (NTU)	Suspended Solids (mg/L)	Current Velocity (m/s)
A1	Max.	6.55	136.00	2610	0.170
	Avg.	3.77	80.41	201	0.127
	Min.	1.00	27.40	17	0.096
A2	Max.	6.67	210.00	361	0.147
	Avg.	3.81	96.81	62	0.113
	Min.	1.00	28.20	10	0.090
A3	Max.	7.12	530.00	15700	0.159
	Avg.	3.91	183.17	2179	0.125
	Min.	1.00	50.80	9	0.094
B1	Max.	7.90	9.44	26	0.256
	Avg.	4.60	5.67	12	0.198
	Min.	1.00	1.66	3	0.170
B2	Max.	8.20	12.60	18	0.211
	Avg.	4.68	6.89	10	0.189
	Min.	1.00	1.64	4	0.174
B3	Max.	8.10	10.20	22	0.240
	Avg.	4.69	6.33	11	0.201
	Min.	1.00	1.63	5	0.182

Note: "Avg", "Min" and "Max" is the average, minimum and maximum respectively of the data from measurements conducted under mid-ebb tides at three water depths.

Table 5.2 Summary of Water Quality Monitoring Results (Flood Tide)

Location		Parameters			
		Water Depth (m)	Turbidity (NTU)	Suspended Solids (mg/L)	Current Velocity (m/s)
A1	Max.	12.30	272.00	420	0.169
	Avg.	4.35	119.12	165	0.132
	Min.	1.00	11.90	33	0.105
A2	Max.	10.40	278.00	494	0.157
	Avg.	4.16	107.04	172	0.131
	Min.	1.00	16.60	37	0.120
A3	Max.	11.20	882.00	1290	0.173
	Avg.	4.20	221.04	168	0.126
	Min.	1.00	29.90	14	0.100
B1	Max.	7.30	10.50	19	0.256
	Avg.	4.51	7.46	12	0.192
	Min.	1.00	3.56	6	0.142
B2	Max.	7.20	11.10	15	0.267
	Avg.	4.30	7.80	11	0.223
	Min.	1.00	3.41	9	0.155
B3	Max.	7.30	9.57	14	0.233
	Avg.	4.39	6.59	11	0.200
	Min.	1.00	3.40	7	0.152

Note: "Avg", "Min" and "Max" is the average, minimum and maximum respectively of the data from measurements conducted under mid-flood tides at three water depths.

5.2. The weather conditions during the three testing date (i.e. 28 October 2020, 30 October 2020 and 3 November 2020) were cloudy. Sea conditions of monitoring days were moderate. Monitoring photos are attached in **Appendix D.**

5.3. Laboratory testing reports for the analysis of SS in the HOKLAS-accredited laboratory are attached in **Appendix C.**

5.4. The effectiveness of the proposed silt curtain system can be calculated based on following equation:

$$(SS_{inside} - SS_{outside}) / SS_{inside} \times 100\% \geq 80\%$$

Note: The silt removal efficiencies of ebb and flood tide will be calculated by taking arithmetic means of the three stations throughout different sampling dates.

5.5. The silt removal efficiencies of silt curtains are tabulated as Table 5.3.

Table 5.3 Silt Removal Efficiencies of Floating Type Silt Curtain at Marine Access

	Ebb Tide
SS_{inside}[1]	758.59
$SS_{outside}$[2]	11.46
Silt removal efficiency	**98.49%**
	Flood Tide
SS_{inside}[1]	168.46
$SS_{outside}$[2]	11.17
Silt removal efficiency	**93.37%**

Note:
[1]: "SS_{inside}" is calculated by taking the arithmetic means of suspended solid levels of monitoring locations A1, A2 and A3 at three water depths of the three testing days under the measuremnt for mid-flood and mid-ebb tides.
[2]: "$SS_{outside}$" is calculated by taking the arithmetic means of suspended solid levels of monitoring locations B1, B2 and B3 at three water depths of the three testing days under the measuremnt for mid-flood and mid-ebb tides.

5.6. The silt removal efficiencies of floating type silt curtain at marine access is greater than 80%.

Appendix A: Copy of the Calibration Certificate and Certificate of Accreditation of Laboratory

專業化驗有限公司
QUALITY PRO TEST-CONSULT LIMITED
Unit 10, 14/F, Wah Wai Centre, 38-40 Au Pui Wan St., Fotan, Hong Kong
Email: info@qualityprotest.com; Website: www.qualityprotest.com
Tel: (852) 3956 8717; Fax: (852) 3956 3928

REPORT OF EQUIPMENT PERFORMANCE CHECK/ CALIBRATION

Report No. : AJ090064
Date of Issue : 25 September 2020

PART A – CUSTOMER INFORMATION

Acuity Sustainability Consulting Limited
Unit C, 11/F, Ford Glory Plaza
37-39 Wing Hong Street
Cheung Sha Wan, Kowloon, Hong Kong
Attn: Mr. Nelson TSUI

PART B – DESCRIPTION

Name of Equipment	:	Multi Water Quality Checker U-53
Manufacturer	:	Horiba
Serial Number	:	L20550GA
Date of Received	:	Sep 17, 2020
Date of Calibration	:	Sep 25, 2020
Date of Next Calibration[a]	:	Dec 24, 2020

PART C – REFERENCE METHODS/ DOCUMENTS FOR THE CALIBRATION

Parameter	Reference Method
pH at 25°C	APHA 21e 4500-H^+ B
Dissolved Oxygen	APHA 21e 4500-O G
Salinity	APHA 21e 2520 B
Turbidity	APHA 21e 2130 B
Temperature	Section 6 of international Accreditation New Zealand Technical Guide no. 3 Second edition March 2008: Working Thermometer Calibration Procedure.

PART D – CALIBRATION RESULTS[b,c]

(1) pH at 25°C

Target (pH unit)	Displayed Reading[d] (pH Unit)	Tolerance[e](pH Unit)	Results
4.00	4.08	0.08	Satisfactory
7.42	7.46	0.04	Satisfactory
10.01	10.02	0.01	Satisfactory

Tolerance of pH should be less than ±0.20 (pH unit)

(2) Temperature

Reading of Ref. thermometer (°C)	Displayed Reading (°C)	Tolerance (°C)	Results
14.5	14.42	-0.08	Satisfactory
26.0	25.45	-0.55	Satisfactory
40.0	39.77	-0.23	Satisfactory

Tolerance limit of temperature should be less than ±2.0 (°C)

~ CONTINUED ON NEXT PAGE ~

Remark(s): -

[a] The "Date of Next Calibration" is recommended according to best practice principals as practiced by QPT or quoted form relevant international standards.
[b] The results relate only to the calibrated equipment as received
[c] The performance of the equipment stated in this report is checked with independent reference material and results compared against a calibrated secondary source.
[d] "Displayed Reading" denotes the figure shown on item under calibration/ checking regardless of equipment precision or significant figures.
[e] The "Tolerance Limit" mentioned is the acceptance criteria applicable for similar equipment used by Quality Pro Test-Consult Ltd. or quoted form relevant international standards.

LEE Chun-ning, Desmond
Senior Chemist

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REPORT OF EQUIPMENT PERFORMANCE CHECK/ CALIBRATION

Report No. : AJ090064
Date of Issue : 25 September 2020

PART D – CALIBRATION RESULTS (Cont'd)

(3) Dissolved Oxygen

Expected Reading (mg/L)	Displayed Reading (mg/L)	Tolerance (mg/L)	Results
0.05	0.00	-0.05	Satisfactory
2.58	2.11	-0.37	Satisfactory
5.08	5.08	0.00	Satisfactory
7.82	7.63	-0.19	Satisfactory

Tolerance limit of dissolved oxygen should be less than ±0.50 (mg/L)

(4) Salinity

Expected Reading (g/L)	Displayed Reading (g/L)	Tolerance (%)	Results
10	9.92	-0.08	Satisfactory
20	20.12	0.06	Satisfactory
30	31.03	3.43	Satisfactory

Tolerance limit of salinity should be less than ±10.0 (%)

(5) Turbidity

Expected Reading (NTU)	Displayed Reading[(f)] (NTU)	Tolerance[(g)] (%)	Results
0	0.33	--	Satisfactory
10	9.65	-3.5	Satisfactory
20	18.9	-5.5	Satisfactory
100	100	0.0	Satisfactory
800	781	-2.4	Satisfactory

Tolerance limit of turbidity should be less than ±10.0 (%)

~ END OF REPORT ~

Remark(s): -
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REPORT OF EQUIPMENT PERFORMANCE CHECK/ CALIBRATION

Report No. : AJ080016
Date of Issue : 21 August 2020

PART A – CUSTOMER INFORMATION

Acuity Sustainability Consulting Limited
Unit C, 11/F, Ford Glory Plaza
37-39 Wing Hong Street
Cheung Sha Wan, Kowloon, Hong Kong
Attn: Mr. Nelson TSUI

PART B – DESCRIPTION

Name of Equipment	:	Multi Water Quality Checker U-53
Manufacturer	:	Horiba
Serial Number	:	A55XB7UP
Date of Received	:	Aug 06, 2020
Date of Calibration	:	Aug 21, 2020
Date of Next Calibration[a]	:	Nov 20, 2020

PART C – REFERENCE METHODS/ DOCUMENTS FOR THE CALIBRATION

Parameter	Reference Method
pH at 25°C	APHA 21e 4500-H$^+$ B
Turbidity	APHA 21e 2130 B
Temperature	Section 6 of international Accreditation New Zealand Technical Guide no. 3 Second edition March 2008: Working Thermometer Calibration Procedure.

PART D – CALIBRATION RESULTS[b,c]

(1) Temperature

Reading of Ref. thermometer (°C)	Displayed Reading (°C)	Tolerance (°C)	Results
18	18.05	+0.05	Satisfactory
30	29.79	-0.21	Satisfactory
41	40.12	+0.88	Satisfactory

Tolerance limit of temperature should be less than ±2.0 (°C)

~ CONTINUED ON NEXT PAGE ~

Remark(s): -
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[b] The results relate only to the calibrated equipment as received
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REPORT OF EQUIPMENT PERFORMANCE CHECK/ CALIBRATION

Report No. : AJ080016
Date of Issue : 21 August 2020

PART D – CALIBRATION RESULTS (Cont'd)

(2) Salinity

Expected Reading (g/L)	Displayed Reading (g/L)	Tolerance (%)	Results
10	9.59	-4.10	Satisfactory
20	19.30	-3.50	Satisfactory
30	30.11	0.37	Satisfactory

Tolerance limit of salinity should be less than ±10.0 (%)

(3) Turbidity

Expected Reading (NTU)	Displayed Reading[d] (NTU)	Tolerance[e] (%)	Results
0	0.54	--	Satisfactory
10	10.30	3.0	Satisfactory
20	19.3	-3.5	Satisfactory
100	101.0	1.0	Satisfactory
800	834	4.3	Satisfactory

Tolerance limit of turbidity should be less than ±10.0 (%)

~ END OF REPORT ~

Remark(s): -
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[e] The "Tolerance Limit" mentioned is the acceptance criteria applicable for similar equipment used by Quality Pro Test-Consult Ltd. or quoted form relevant international standards.

Hong Kong Accreditation Service
香港認可處

Certificate of Accreditation
認可證書

This is to certify that
特此證明

ALS TECHNICHEM (HK) PTY LIMITED

11/F., Chung Shun Knitting Centre, 1-3 Wing Yip Street, Kwai Chung, New Territories, Hong Kong
香港新界葵涌永業街1-3號忠信針織中心11樓

has been accepted by the HKAS Executive, on the recommendation of the Accreditation Advisory Board, as a
為香港認可處執行機關根據認可諮詢委員會建議而接受的

HOKLAS Accredited Laboratory
「香港實驗所認可計劃」認可實驗所

This laboratory meets the requirements of ISO / IEC 17025 : 2005 – General requirements for the competence
此實驗所符合ISO / IEC 17025 : 2005 –《測試及校正實驗所能力的通用規定》所訂的要求，
of testing and calibration laboratories and it has been accredited for performing specific tests or calibrations as
獲認可進行載於香港實驗所認可計劃《認可實驗所名冊》內下述測試類別中的指定
listed in the HOKLAS Directory of Accredited Laboratories within the test category of
測試或校正工作

Environmental Testing
環境測試

This laboratory is accredited in accordance with the recognised International Standard ISO / IEC 17025 : 2005.
本實驗所乃根據公認的國際標準 ISO / IEC 17025 : 2005 獲得認可。
This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory
這項認可資格證示在指定範疇所需的技術能力及實驗所質量管理體系的運作
quality management system (see joint IAF-ILAC-ISO Communiqué).
(見國際認可論壇、國際實驗所認可合作組織及國際標準化組織的聯合公報)。

The common seal of the Hong Kong Accreditation Service is affixed hereto by the authority of the HKAS Executive
香港認可處根據認可處執行機關的權限在此蓋上通用印章

CHAN Sing Sing, Terence, Executive Administrator
執行幹事 陳成城
Issue Date : 5 May 2009
簽發日期：二零零九年五月五日

Registration Number : HOKLAS 066
註冊號碼：

Date of First Registration : 15 September 1995
首次註冊日期：一九九五年九月十五日

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L 000552

Appendix B: Water Quality Monitoring Results

Location	Date (YYYYMMDD)	Weather	Sea Condition	Tidal	Water Level	Depth (m) Note[1]	Time (hh:mm)	DO (mg/L)	pH	Sal (ppt)	Temp (°C)	Turbidty (NTU)	SS (mg/L)	Current Velocity (m/s)	Direction in NESW
A1	20201028	Cloudy	Moderate	Mid-Ebb	Surface	1.00	16:06	11.68	9.03	33.44	25.21	31.2	15	0.172	SE
A1	20201028	Cloudy	Moderate	Mid-Ebb	Surface	1.00	16:06	11.48	9.01	33.36	25.24	31.5	15	0.175	SE
A1	20201028	Cloudy	Moderate	Mid-Ebb	Middle	3.78	16:05	11.25	9.05	33.51	25.31	27.4	17	0.169	SE
A1	20201028	Cloudy	Moderate	Mid-Ebb	Middle	3.78	16:05	11.37	9.03	33.43	25.27	27.6	17	0.163	SE
A1	20201028	Cloudy	Moderate	Mid-Ebb	Bottom	6.55	16:04	11.27	9.08	33.53	25.28	34.5	115	0.170	SE
A1	20201028	Cloudy	Moderate	Mid-Ebb	Bottom	6.55	16:04	11.28	9.11	33.49	25.26	41.5	2610	0.165	SE
A2	20201028	Cloudy	Moderate	Mid-Ebb	Surface	1.00	16:12	11.41	9.01	33.38	25.28	28.3	47	0.134	SE
A2	20201028	Cloudy	Moderate	Mid-Ebb	Surface	1.00	16:12	11.30	9.07	33.28	25.27	27.9	20	0.140	SE
A2	20201028	Cloudy	Moderate	Mid-Ebb	Middle	3.84	16:11	11.83	9.03	33.36	25.27	28.2	20	0.125	SE
A2	20201028	Cloudy	Moderate	Mid-Ebb	Middle	3.84	16:11	11.51	9.06	33.37	25.32	28.4	19	0.122	SE
A2	20201028	Cloudy	Moderate	Mid-Ebb	Bottom	6.67	16:10	11.23	9.03	33.49	25.21	73.4	361	0.147	SE
A2	20201028	Cloudy	Moderate	Mid-Ebb	Bottom	6.67	16:10	11.49	9.02	33.00	25.21	72.3	214	0.122	SE
A3	20201028	Cloudy	Moderate	Mid-Ebb	Surface	1.00	16:19	11.38	9.08	33.03	25.32	31.3	1760	0.156	SE
A3	20201028	Cloudy	Moderate	Mid-Ebb	Surface	1.00	16:19	11.86	9.05	33.14	25.27	32.6	30	0.148	SE
A3	20201028	Cloudy	Moderate	Mid-Ebb	Middle	4.06	16:18	11.17	9.00	33.01	25.23	413.0	15700	0.158	SE
A3	20201028	Cloudy	Moderate	Mid-Ebb	Middle	4.06	16:18	11.78	9.02	33.21	25.27	410.0	1580	0.148	SE
A3	20201028	Cloudy	Moderate	Mid-Ebb	Bottom	7.12	16:17	11.68	9.02	33.06	25.26	523.0	3100	0.153	SE
A3	20201028	Cloudy	Moderate	Mid-Ebb	Bottom	7.12	16:17	11.15	9.06	33.51	25.21	530.0	13600	0.159	SE
B1	20201028	Cloudy	Moderate	Mid-Ebb	Surface	1.00	16:05	8.81	9.72	34.31	26.34	7.0	16	0.204	SE
B1	20201028	Cloudy	Moderate	Mid-Ebb	Surface	1.00	16:05	9.17	9.62	34.24	26.32	7.3	15	0.187	SE
B1	20201028	Cloudy	Moderate	Mid-Ebb	Middle	4.25	16:04	9.00	9.74	34.52	26.34	7.9	21	0.197	SE
B1	20201028	Cloudy	Moderate	Mid-Ebb	Middle	4.25	16:04	8.82	9.71	34.52	26.35	7.5	20	0.191	SE
B1	20201028	Cloudy	Moderate	Mid-Ebb	Bottom	7.50	16:03	9.20	9.61	34.44	26.34	7.9	26	0.182	SE
B1	20201028	Cloudy	Moderate	Mid-Ebb	Bottom	7.50	16:03	9.12	9.59	34.58	26.32	8.2	26	0.184	SE
B2	20201028	Cloudy	Moderate	Mid-Ebb	Surface	1.00	16:12	9.01	9.65	34.67	26.33	10.6	13	0.175	E
B2	20201028	Cloudy	Moderate	Mid-Ebb	Surface	1.00	16:12	8.70	9.59	34.52	26.32	10.1	14	0.208	E
B2	20201028	Cloudy	Moderate	Mid-Ebb	Middle	4.20	16:11	8.96	9.69	34.53	26.38	11.5	15	0.174	E

Location	Date (YYYYMMDD)	Weather	Sea Condition	Tidal	Water Level	Depth (m) Note[1]	Time (hh:mm)	DO (mg/L)	pH	Sal (ppt)	Temp (°C)	Turbidty (NTU)	SS (mg/L)	Current Velocity (m/s)	Direction in NESW
B2	20201028	Cloudy	Moderate	Mid-Ebb	Middle	4.20	16:11	8.79	9.65	34.51	26.36	11.4	15	0.207	E
B2	20201028	Cloudy	Moderate	Mid-Ebb	Bottom	7.40	16:10	9.06	9.66	34.32	26.33	12.3	17	0.211	E
B2	20201028	Cloudy	Moderate	Mid-Ebb	Bottom	7.40	16:10	8.93	9.66	34.51	26.35	12.6	18	0.188	E
B3	20201028	Cloudy	Moderate	Mid-Ebb	Surface	1.00	16:19	8.89	9.69	34.43	26.29	9.1	14	0.199	SE
B3	20201028	Cloudy	Moderate	Mid-Ebb	Surface	1.00	16:19	8.61	9.65	34.47	26.34	9.3	14	0.193	SE
B3	20201028	Cloudy	Moderate	Mid-Ebb	Middle	4.20	16:18	9.17	9.67	34.37	26.31	8.7	14	0.199	SE
B3	20201028	Cloudy	Moderate	Mid-Ebb	Middle	4.20	16:18	8.63	9.62	34.63	26.32	8.9	15	0.191	SE
B3	20201028	Cloudy	Moderate	Mid-Ebb	Bottom	7.40	16:17	8.87	9.68	34.42	26.35	9.6	21	0.201	SE
B3	20201028	Cloudy	Moderate	Mid-Ebb	Bottom	7.40	16:17	8.94	9.67	34.56	26.38	9.7	22	0.190	SE
A1	20201028	Cloudy	Moderate	Mid-Flood	Bottom	12.30	9:55	8.85	9.09	32.28	25.33	11.9	33	0.107	E
A1	20201028	Cloudy	Moderate	Mid-Flood	Bottom	12.30	9:55	8.53	9.02	32.13	25.32	12.6	34	0.105	E
A1	20201028	Cloudy	Moderate	Mid-Flood	Middle	6.65	9:56	8.70	9.10	32.20	25.31	14.4	49	0.106	E
A1	20201028	Cloudy	Moderate	Mid-Flood	Middle	6.65	9:56	8.45	9.12	32.34	25.34	16.3	50	0.106	E
A1	20201028	Cloudy	Moderate	Mid-Flood	Surface	1.00	9:57	8.87	9.11	32.11	25.30	20.2	58	0.105	E
A1	20201028	Cloudy	Moderate	Mid-Flood	Surface	1.00	9:57	8.62	9.08	31.98	25.22	21.3	59	0.120	E
A2	20201028	Cloudy	Moderate	Mid-Flood	Surface	1.00	10:14	9.58	9.09	31.43	25.20	21.5	95	0.128	E
A2	20201028	Cloudy	Moderate	Mid-Flood	Surface	1.00	10:14	9.45	9.07	31.23	25.26	22.1	93	0.124	E
A2	20201028	Cloudy	Moderate	Mid-Flood	Middle	5.70	10:13	9.18	9.11	31.43	25.32	20.8	46	0.131	E
A2	20201028	Cloudy	Moderate	Mid-Flood	Middle	5.70	10:13	9.06	9.05	31.39	25.28	21.4	47	0.142	E
A2	20201028	Cloudy	Moderate	Mid-Flood	Bottom	10.40	10:12	8.98	9.11	31.45	25.33	16.6	37	0.124	E
A2	20201028	Cloudy	Moderate	Mid-Flood	Bottom	10.40	10:12	8.86	9.14	31.84	25.30	17.3	38	0.137	E
A3	20201028	Cloudy	Moderate	Mid-Flood	Surface	1.00	10:22	8.85	9.19	32.73	25.30	48.1	96	0.127	E
A3	20201028	Cloudy	Moderate	Mid-Flood	Surface	1.00	10:22	8.96	9.22	33.01	25.67	47.8	94	0.125	E
A3	20201028	Cloudy	Moderate	Mid-Flood	Middle	6.10	10:21	9.25	9.32	32.80	25.35	256.0	46	0.122	E
A3	20201028	Cloudy	Moderate	Mid-Flood	Middle	6.10	10:21	9.13	9.27	31.74	25.29	263.0	48	0.125	E
A3	20201028	Cloudy	Moderate	Mid-Flood	Bottom	11.20	10:20	9.43	9.30	32.76	25.35	882.0	40	0.121	E
A3	20201028	Cloudy	Moderate	Mid-Flood	Bottom	11.20	10:20	9.38	9.27	32.52	25.28	853.0	1290	0.135	E

Location	Date (YYYYMMDD)	Weather	Sea Condition	Tidal	Water Level	Depth (m) Note[1]	Time (hh:mm)	DO (mg/L)	pH	Sal (ppt)	Temp (°C)	Turbidty (NTU)	SS (mg/L)	Current Velocity (m/s)	Direction in NESW
B1	20201028	Cloudy	Moderate	Mid-Flood	Surface	1.00	9:52	8.64	9.34	34.47	26.12	9.8	18	0.143	SE
B1	20201028	Cloudy	Moderate	Mid-Flood	Surface	1.00	9:52	8.49	9.12	34.27	26.09	10.5	19	0.143	SE
B1	20201028	Cloudy	Moderate	Mid-Flood	Middle	4.15	9:51	8.71	9.43	34.28	26.01	8.6	16	0.144	SE
B1	20201028	Cloudy	Moderate	Mid-Flood	Middle	4.15	9:51	8.47	9.03	34.26	25.98	8.9	15	0.145	SE
B1	20201028	Cloudy	Moderate	Mid-Flood	Bottom	7.30	9:50	8.52	9.42	34.42	25.93	8.7	14	0.142	SE
B1	20201028	Cloudy	Moderate	Mid-Flood	Bottom	7.30	9:50	8.69	9.40	34.41	26.12	10.4	14	0.142	SE
B2	20201028	Cloudy	Moderate	Mid-Flood	Surface	1.00	10:14	8.62	9.14	34.44	26.00	9.9	13	0.174	E
B2	20201028	Cloudy	Moderate	Mid-Flood	Surface	1.00	10:14	8.58	9.25	34.29	26.13	9.6	12	0.183	E
B2	20201028	Cloudy	Moderate	Mid-Flood	Middle	4.10	10:13	8.54	9.16	34.39	25.95	10.4	12	0.175	E
B2	20201028	Cloudy	Moderate	Mid-Flood	Middle	4.10	10:13	8.48	9.30	34.36	25.96	10.4	11	0.155	E
B2	20201028	Cloudy	Moderate	Mid-Flood	Bottom	7.20	10:12	8.48	9.28	34.31	25.93	11.1	11	0.177	E
B2	20201028	Cloudy	Moderate	Mid-Flood	Bottom	7.20	10:12	8.73	9.18	34.54	25.98	10.7	11	0.177	E
B3	20201028	Cloudy	Moderate	Mid-Flood	Surface	1.00	10:25	8.71	9.23	34.35	26.01	9.1	14	0.159	SE
B3	20201028	Cloudy	Moderate	Mid-Flood	Surface	1.00	10:25	8.52	9.21	34.44	26.06	9.6	13	0.171	SE
B3	20201028	Cloudy	Moderate	Mid-Flood	Middle	4.15	10:22	8.75	9.37	34.29	26.22	6.5	12	0.164	SE
B3	20201028	Cloudy	Moderate	Mid-Flood	Middle	4.15	10:22	8.68	9.28	34.26	26.08	6.1	12	0.172	SE
B3	20201028	Cloudy	Moderate	Mid-Flood	Bottom	7.30	10:20	8.57	9.32	34.28	25.95	8.2	11	0.152	SE
B3	20201028	Cloudy	Moderate	Mid-Flood	Bottom	7.30	10:20	8.44	9.24	34.42	26.21	7.9	12	0.163	SE
A1	20201030	Cloudy	Moderate	Mid-Ebb	Bottom	5.80	10:54	9.63	9.14	33.21	25.41	64.2	44	0.122	SE
A1	20201030	Cloudy	Moderate	Mid-Ebb	Bottom	5.80	10:54	9.45	9.04	33.58	25.32	56.8	43	0.124	SE
A1	20201030	Cloudy	Moderate	Mid-Ebb	Middle	3.40	10:55	9.51	9.17	33.15	25.30	59.8	36	0.121	SE
A1	20201030	Cloudy	Moderate	Mid-Ebb	Middle	3.40	10:55	9.50	9.08	33.60	25.30	57.5	34	0.127	SE
A1	20201030	Cloudy	Moderate	Mid-Ebb	Surface	1.00	10:56	9.08	8.92	33.28	25.36	83.2	26	0.123	SE
A1	20201030	Cloudy	Moderate	Mid-Ebb	Surface	1.00	10:56	9.15	9.16	33.49	25.39	71.0	25	0.127	SE
A2	20201030	Cloudy	Moderate	Mid-Ebb	Bottom	5.70	11:24	9.37	8.82	33.11	25.40	86.3	26	0.090	SE
A2	20201030	Cloudy	Moderate	Mid-Ebb	Bottom	5.70	11:24	9.44	8.82	33.35	25.38	75.2	27	0.090	SE
A2	20201030	Cloudy	Moderate	Mid-Ebb	Middle	3.35	11:25	9.05	8.89	33.13	25.35	59.8	18	0.093	SE

Location	Date (YYYYMMDD)	Weather	Sea Condition	Tidal	Water Level	Depth (m) Note[1]	Time (hh:mm)	DO (mg/L)	pH	Sal (ppt)	Temp (°C)	Turbidty (NTU)	SS (mg/L)	Current Velocity (m/s)	Direction in NESW
A2	20201030	Cloudy	Moderate	Mid-Ebb	Middle	3.35	11:25	9.32	8.88	33.48	25.34	63.2	19	0.094	SE
A2	20201030	Cloudy	Moderate	Mid-Ebb	Surface	1.00	11:26	9.11	9.13	33.32	25.40	74.2	10	0.095	SE
A2	20201030	Cloudy	Moderate	Mid-Ebb	Surface	1.00	11:26	9.55	8.82	33.28	25.42	87.0	11	0.092	SE
A3	20201030	Cloudy	Moderate	Mid-Ebb	Bottom	5.80	11:34	9.01	8.87	33.52	25.33	73.2	75	0.134	SE
A3	20201030	Cloudy	Moderate	Mid-Ebb	Bottom	5.80	11:34	9.02	9.02	33.58	25.30	64.1	77	0.134	SE
A3	20201030	Cloudy	Moderate	Mid-Ebb	Middle	3.40	11:35	9.26	9.15	33.42	25.31	52.3	49	0.131	SE
A3	20201030	Cloudy	Moderate	Mid-Ebb	Middle	3.40	11:35	9.10	9.14	33.26	25.33	50.8	51	0.133	SE
A3	20201030	Cloudy	Moderate	Mid-Ebb	Surface	1.00	11:36	9.42	9.14	33.45	25.29	68.3	10	0.132	SE
A3	20201030	Cloudy	Moderate	Mid-Ebb	Surface	1.00	11:36	9.49	8.81	33.11	25.30	79.0	9	0.132	SE
B1	20201030	Cloudy	Moderate	Mid-Ebb	Bottom	7.90	10:59	9.90	9.09	33.64	25.29	9.4	12	0.171	SE
B1	20201030	Cloudy	Moderate	Mid-Ebb	Bottom	7.90	10:59	9.80	9.09	33.39	25.39	8.7	13	0.174	SE
B1	20201030	Cloudy	Moderate	Mid-Ebb	Middle	4.45	11:00	10.02	9.15	33.51	25.21	7.9	11	0.173	SE
B1	20201030	Cloudy	Moderate	Mid-Ebb	Middle	4.45	11:00	9.89	9.17	33.26	25.30	7.3	11	0.173	SE
B1	20201030	Cloudy	Moderate	Mid-Ebb	Surface	1.00	11:01	9.82	9.14	33.33	25.32	8.1	10	0.174	SE
B1	20201030	Cloudy	Moderate	Mid-Ebb	Surface	1.00	11:01	9.70	9.10	33.45	25.37	7.0	10	0.170	SE
B2	20201030	Cloudy	Moderate	Mid-Ebb	Bottom	8.20	11:10	9.99	9.13	33.34	25.34	8.6	12	0.189	E
B2	20201030	Cloudy	Moderate	Mid-Ebb	Bottom	8.20	11:10	9.94	9.14	33.64	25.34	9.2	11	0.181	E
B2	20201030	Cloudy	Moderate	Mid-Ebb	Middle	4.60	11:11	9.76	9.07	33.48	25.40	8.6	10	0.186	E
B2	20201030	Cloudy	Moderate	Mid-Ebb	Middle	4.60	11:11	9.91	9.21	33.36	25.32	9.1	10	0.187	E
B2	20201030	Cloudy	Moderate	Mid-Ebb	Surface	1.00	11:12	10.00	9.09	33.46	25.31	8.7	10	0.187	E
B2	20201030	Cloudy	Moderate	Mid-Ebb	Surface	1.00	11:12	9.91	9.07	33.36	25.35	7.9	9	0.180	E
B3	20201030	Cloudy	Moderate	Mid-Ebb	Bottom	8.10	11:28	10.09	9.16	33.32	25.32	8.4	12	0.213	SE
B3	20201030	Cloudy	Moderate	Mid-Ebb	Bottom	8.10	11:28	9.84	9.21	33.36	25.23	8.4	12	0.200	SE
B3	20201030	Cloudy	Moderate	Mid-Ebb	Middle	4.55	11:29	10.11	9.17	33.49	25.26	8.6	10	0.200	SE
B3	20201030	Cloudy	Moderate	Mid-Ebb	Middle	4.55	11:29	10.12	9.07	33.45	25.27	8.6	10	0.234	SE
B3	20201030	Cloudy	Moderate	Mid-Ebb	Surface	1.00	11:30	10.08	9.20	33.28	25.30	9.4	10	0.240	SE
B3	20201030	Cloudy	Moderate	Mid-Ebb	Surface	1.00	11:30	9.92	9.17	33.34	25.33	10.2	10	0.210	SE

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A1	20201030	Cloudy	Moderate	Mid-Flood	Bottom	3.80	16:06	9.24	9.06	33.40	25.29	81.1	410	0.144	W
A1	20201030	Cloudy	Moderate	Mid-Flood	Bottom	3.80	16:06	9.77	9.07	33.42	25.25	86.0	420	0.169	W
A1	20201030	Cloudy	Moderate	Mid-Flood	Surface	1.00	16:08	9.32	9.16	33.53	25.38	79.3	82	0.159	W
A1	20201030	Cloudy	Moderate	Mid-Flood	Surface	1.00	16:08	9.87	9.15	33.55	25.24	67.8	80	0.143	W
A2	20201030	Cloudy	Moderate	Mid-Flood	Bottom	3.80	16:17	9.37	9.17	33.43	25.23	136.0	486	0.129	W
A2	20201030	Cloudy	Moderate	Mid-Flood	Bottom	3.80	16:17	9.57	9.09	33.44	25.34	118.0	494	0.122	W
A2	20201030	Cloudy	Moderate	Mid-Flood	Surface	1.00	16:19	9.86	9.08	33.50	25.29	120.0	185	0.120	W
A2	20201030	Cloudy	Moderate	Mid-Flood	Surface	1.00	16:19	9.74	9.17	33.55	25.25	129.0	187	0.157	W
A3	20201030	Cloudy	Moderate	Mid-Flood	Bottom	3.50	16:27	9.64	9.14	33.41	25.36	79.9	91	0.167	W
A3	20201030	Cloudy	Moderate	Mid-Flood	Bottom	3.50	16:27	9.49	9.16	33.50	25.24	88.0	96	0.126	W
A3	20201030	Cloudy	Moderate	Mid-Flood	Surface	1.00	16:29	9.74	9.07	33.49	25.25	73.4	169	0.173	W
A3	20201030	Cloudy	Moderate	Mid-Flood	Surface	1.00	16:29	9.85	9.10	33.56	25.27	79.9	170	0.156	W
B1	20201030	Cloudy	Moderate	Mid-Flood	Bottom	7.20	16:07	9.81	9.23	33.28	25.48	10.2	10	0.243	NW
B1	20201030	Cloudy	Moderate	Mid-Flood	Bottom	7.20	16:07	9.97	9.23	33.52	25.47	9.3	10	0.244	NW
B1	20201030	Cloudy	Moderate	Mid-Flood	Middle	4.10	16:08	9.51	9.38	33.27	25.45	8.5	10	0.250	NW
B1	20201030	Cloudy	Moderate	Mid-Flood	Middle	4.10	16:08	9.92	9.27	33.36	25.42	8.3	10	0.251	NW
B1	20201030	Cloudy	Moderate	Mid-Flood	Surface	1.00	16:09	10.17	9.22	33.35	25.43	9.2	9	0.256	NW
B1	20201030	Cloudy	Moderate	Mid-Flood	Surface	1.00	16:09	9.89	9.31	33.46	25.49	9.4	9	0.252	NW
B2	20201030	Cloudy	Moderate	Mid-Flood	Bottom	6.60	16:22	9.61	9.25	33.43	25.49	10.8	9	0.249	W
B2	20201030	Cloudy	Moderate	Mid-Flood	Bottom	6.60	16:22	9.75	9.38	33.55	25.36	9.6	9	0.248	W
B2	20201030	Cloudy	Moderate	Mid-Flood	Middle	3.80	16:23	10.04	9.35	33.40	25.39	9.0	9	0.247	W
B2	20201030	Cloudy	Moderate	Mid-Flood	Middle	3.80	16:23	10.20	9.37	33.53	25.34	9.5	9	0.231	W
B2	20201030	Cloudy	Moderate	Mid-Flood	Surface	1.00	16:24	9.87	9.31	33.45	25.34	8.9	10	0.247	W
B2	20201030	Cloudy	Moderate	Mid-Flood	Surface	1.00	16:24	10.29	9.38	33.45	25.48	8.8	10	0.239	W
B3	20201030	Cloudy	Moderate	Mid-Flood	Bottom	6.90	16:28	9.72	9.38	33.34	25.49	9.2	11	0.211	W
B3	20201030	Cloudy	Moderate	Mid-Flood	Bottom	6.90	16:28	9.77	9.24	33.57	25.49	8.6	10	0.208	W
B3	20201030	Cloudy	Moderate	Mid-Flood	Middle	3.95	16:29	9.80	9.29	33.59	25.31	7.9	10	0.219	W

Location	Date (YYYYMMDD)	Weather	Sea Condition	Tidal	Water Level	Depth (m) Note[1]	Time (hh:mm)	DO (mg/L)	pH	Sal (ppt)	Temp (°C)	Turbidty (NTU)	SS (mg/L)	Current Velocity (m/s)	Direction in NESW
B3	20201030	Cloudy	Moderate	Mid-Flood	Middle	3.95	16:29	10.28	9.37	33.29	25.46	8.1	9	0.205	W
B3	20201030	Cloudy	Moderate	Mid-Flood	Surface	1.00	16:30	9.47	9.22	33.44	25.42	8.5	7	0.215	W
B3	20201030	Cloudy	Moderate	Mid-Flood	Surface	1.00	16:30	10.06	9.29	33.56	25.41	7.4	7	0.198	W
A1	20201103	Cloudy	Moderate	Mid-Ebb	Surface	1.00	12:37	9.08	8.91	29.36	25.82	109.0	63	0.098	SE
A1	20201103	Cloudy	Moderate	Mid-Ebb	Surface	1.00	12:37	9.18	8.99	29.59	25.77	135.0	63	0.096	SE
A1	20201103	Cloudy	Moderate	Mid-Ebb	Middle	3.20	12:36	9.23	8.83	29.93	25.81	129.0	40	0.105	SE
A1	20201103	Cloudy	Moderate	Mid-Ebb	Middle	3.20	12:36	9.87	8.95	29.63	25.69	136.0	40	0.102	SE
A1	20201103	Cloudy	Moderate	Mid-Ebb	Bottom	5.40	12:35	9.24	8.84	29.37	25.65	118.0	23	0.112	SE
A1	20201103	Cloudy	Moderate	Mid-Ebb	Bottom	5.40	12:35	9.22	8.75	29.69	25.73	136.0	23	0.106	SE
A2	20201103	Cloudy	Moderate	Mid-Ebb	Surface	1.00	12:49	9.16	8.96	29.36	25.61	97.0	66	0.126	E
A2	20201103	Cloudy	Moderate	Mid-Ebb	Surface	1.00	12:49	9.13	8.91	29.46	25.76	110.0	63	0.127	E
A2	20201103	Cloudy	Moderate	Mid-Ebb	Middle	3.30	12:48	8.79	8.79	29.76	25.84	143.0	37	0.122	E
A2	20201103	Cloudy	Moderate	Mid-Ebb	Middle	3.30	12:48	10.01	8.94	29.70	25.88	152.0	36	0.117	E
A2	20201103	Cloudy	Moderate	Mid-Ebb	Bottom	5.60	12:47	9.30	8.84	29.38	25.48	189.0	33	0.120	E
A2	20201103	Cloudy	Moderate	Mid-Ebb	Bottom	5.60	12:47	8.91	8.76	29.38	25.58	210.0	32	0.118	E
A3	20201103	Cloudy	Moderate	Mid-Ebb	Surface	1.00	13:07	8.98	8.97	29.57	25.84	143.0	122	0.102	SE
A3	20201103	Cloudy	Moderate	Mid-Ebb	Surface	1.00	13:07	9.09	8.86	29.56	25.86	128.0	124	0.101	SE
A3	20201103	Cloudy	Moderate	Mid-Ebb	Middle	3.30	13:06	9.13	8.79	29.76	25.70	101.0	104	0.098	SE
A3	20201103	Cloudy	Moderate	Mid-Ebb	Middle	3.30	13:06	9.09	8.76	29.93	25.70	113.0	107	0.098	SE
A3	20201103	Cloudy	Moderate	Mid-Ebb	Bottom	5.60	13:05	8.70	8.89	29.57	25.68	85.0	78	0.094	SE
A3	20201103	Cloudy	Moderate	Mid-Ebb	Bottom	5.60	13:05	8.94	8.83	29.35	25.66	97.0	80	0.099	SE
B1	20201103	Cloudy	Moderate	Mid-Ebb	Surface	1.00	12:44	9.05	8.83	29.76	25.74	1.9	8	0.202	SE
B1	20201103	Cloudy	Moderate	Mid-Ebb	Surface	1.00	12:44	9.04	8.78	29.72	25.80	2.0	8	0.256	SE
B1	20201103	Cloudy	Moderate	Mid-Ebb	Middle	3.90	12:45	8.71	8.89	29.67	25.80	1.9	6	0.207	SE
B1	20201103	Cloudy	Moderate	Mid-Ebb	Middle	3.90	12:45	8.90	8.86	30.01	25.90	1.7	6	0.219	SE
B1	20201103	Cloudy	Moderate	Mid-Ebb	Bottom	6.80	12:46	6.88	8.80	30.01	25.57	1.7	3	0.236	SE
B1	20201103	Cloudy	Moderate	Mid-Ebb	Bottom	6.80	12:46	7.67	8.80	29.74	25.80	1.8	3	0.254	SE

Location	Date (YYYYMMDD)	Weather	Sea Condition	Tidal	Water Level	Depth (m) Note[1]	Time (hh:mm)	DO (mg/L)	pH	Sal (ppt)	Temp (°C)	Turbidty (NTU)	SS (mg/L)	Current Velocity (m/s)	Direction in NESW
B2	20201103	Cloudy	Moderate	Mid-Ebb	Bottom	7.00	12:59	11.29	8.87	29.63	25.96	1.6	8	0.186	SE
B2	20201103	Cloudy	Moderate	Mid-Ebb	Bottom	7.00	12:59	10.46	8.78	29.81	25.90	1.9	8	0.193	SE
B2	20201103	Cloudy	Moderate	Mid-Ebb	Middle	4.00	12:58	8.98	8.83	29.92	25.88	1.8	6	0.195	SE
B2	20201103	Cloudy	Moderate	Mid-Ebb	Middle	4.00	12:58	9.18	8.88	29.80	25.65	1.7	6	0.185	SE
B2	20201103	Cloudy	Moderate	Mid-Ebb	Surface	1.00	12:57	8.84	8.78	30.02	25.62	1.6	4	0.192	SE
B2	20201103	Cloudy	Moderate	Mid-Ebb	Surface	1.00	12:57	8.49	8.89	29.89	25.85	1.9	4	0.188	SE
B3	20201103	Cloudy	Moderate	Mid-Ebb	Bottom	7.20	13:08	8.98	8.79	29.72	25.67	1.6	5	0.200	SE
B3	20201103	Cloudy	Moderate	Mid-Ebb	Bottom	7.20	13:08	8.83	8.86	29.73	25.60	1.7	5	0.190	SE
B3	20201103	Cloudy	Moderate	Mid-Ebb	Middle	4.10	13:09	8.88	8.80	29.91	25.56	2.0	7	0.182	SE
B3	20201103	Cloudy	Moderate	Mid-Ebb	Middle	4.10	13:09	8.86	8.89	29.78	25.64	1.8	7	0.188	SE
B3	20201103	Cloudy	Moderate	Mid-Ebb	Surface	1.00	13:10	9.26	8.81	29.85	25.73	2.0	8	0.184	SE
B3	20201103	Cloudy	Moderate	Mid-Ebb	Surface	1.00	13:10	9.01	8.79	30.08	25.63	1.7	8	0.192	SE
A1	20201103	Cloudy	Moderate	Mid-Flood	Surface	1.00	16:35	10.42	9.36	33.51	25.43	240.0	279	0.149	SE
A1	20201103	Cloudy	Moderate	Mid-Flood	Surface	1.00	16:35	10.35	9.37	33.33	25.50	272.0	280	0.149	SE
A1	20201103	Cloudy	Moderate	Mid-Flood	Middle	3.35	16:34	10.29	9.30	33.62	25.38	270.0	222	0.137	SE
A1	20201103	Cloudy	Moderate	Mid-Flood	Middle	3.35	16:34	10.56	9.33	33.48	25.44	246.0	220	0.138	SE
A1	20201103	Cloudy	Moderate	Mid-Flood	Bottom	5.70	16:33	9.43	9.35	33.70	25.39	237.0	185	0.139	SE
A1	20201103	Cloudy	Moderate	Mid-Flood	Bottom	5.70	16:33	9.99	9.34	33.65	25.32	230.0	186	0.132	SE
A2	20201103	Cloudy	Moderate	Mid-Flood	Surface	1.00	16:51	9.53	9.29	33.76	25.35	147.0	150	0.125	SE
A2	20201103	Cloudy	Moderate	Mid-Flood	Surface	1.00	16:51	10.02	9.25	33.69	25.33	136.0	154	0.128	SE
A2	20201103	Cloudy	Moderate	Mid-Flood	Middle	3.80	16:50	10.67	9.29	33.78	25.35	141.0	174	0.126	SE
A2	20201103	Cloudy	Moderate	Mid-Flood	Middle	3.80	16:50	10.56	9.27	33.67	25.46	141.0	172	0.142	SE
A2	20201103	Cloudy	Moderate	Mid-Flood	Bottom	6.60	16:49	10.87	9.33	33.77	25.35	247.0	194	0.132	SE
A2	20201103	Cloudy	Moderate	Mid-Flood	Bottom	6.60	16:49	10.56	9.30	33.50	25.28	278.0	199	0.124	SE
A3	20201103	Cloudy	Moderate	Mid-Flood	Surface	1.00	17:02	9.49	9.22	33.74	25.31	52.3	15	0.112	SE
A3	20201103	Cloudy	Moderate	Mid-Flood	Surface	1.00	17:02	9.78	9.34	33.69	25.36	46.0	14	0.109	SE
A3	20201103	Cloudy	Moderate	Mid-Flood	Middle	3.60	17:01	10.03	9.20	33.78	25.33	29.9	46	0.104	SE

Location	Date (YYYYMMDD)	Weather	Sea Condition	Tidal	Water Level	Depth (m) Note[1]	Time (hh:mm)	DO (mg/L)	pH	Sal (ppt)	Temp (°C)	Turbidty (NTU)	SS (mg/L)	Current Velocity (m/s)	Direction in NESW
A3	20201103	Cloudy	Moderate	Mid-Flood	Middle	3.60	17:01	10.09	9.14	33.67	25.36	34.3	47	0.115	SE
A3	20201103	Cloudy	Moderate	Mid-Flood	Bottom	6.20	17:00	10.84	9.45	33.73	25.33	366.0	214	0.100	SE
A3	20201103	Cloudy	Moderate	Mid-Flood	Bottom	6.20	17:00	10.57	9.36	33.76	25.30	337.0	212	0.106	SE
B1	20201103	Cloudy	Moderate	Mid-Flood	Surface	1.00	16:33	9.98	8.90	29.75	25.54	3.7	12	0.183	SE
B1	20201103	Cloudy	Moderate	Mid-Flood	Surface	1.00	16:33	9.90	8.92	29.82	25.65	3.6	13	0.184	SE
B1	20201103	Cloudy	Moderate	Mid-Flood	Middle	4.10	16:32	9.95	8.86	29.84	25.36	3.7	9	0.190	SE
B1	20201103	Cloudy	Moderate	Mid-Flood	Middle	4.10	16:32	9.87	8.85	29.77	25.35	3.7	8	0.181	SE
B1	20201103	Cloudy	Moderate	Mid-Flood	Bottom	7.20	16:31	9.67	8.93	29.29	25.41	4.1	6	0.180	SE
B1	20201103	Cloudy	Moderate	Mid-Flood	Bottom	7.20	16:31	9.86	8.80	29.86	25.56	3.8	6	0.182	SE
B2	20201103	Cloudy	Moderate	Mid-Flood	Surface	1.00	16:45	10.21	8.91	29.66	25.46	3.7	15	0.263	E
B2	20201103	Cloudy	Moderate	Mid-Flood	Surface	1.00	16:45	9.89	8.83	29.75	25.39	3.4	14	0.207	E
B2	20201103	Cloudy	Moderate	Mid-Flood	Middle	3.90	16:44	9.86	8.87	29.86	25.58	3.6	13	0.264	E
B2	20201103	Cloudy	Moderate	Mid-Flood	Middle	3.90	16:44	9.97	8.90	29.87	25.60	3.4	13	0.242	E
B2	20201103	Cloudy	Moderate	Mid-Flood	Bottom	6.80	16:43	9.48	8.89	28.94	25.45	3.9	11	0.267	E
B2	20201103	Cloudy	Moderate	Mid-Flood	Bottom	6.80	16:43	9.78	8.95	29.80	25.60	3.8	11	0.265	E
B3	20201103	Cloudy	Moderate	Mid-Flood	Surface	1.00	16:54	9.96	8.93	29.72	25.37	3.7	13	0.222	E
B3	20201103	Cloudy	Moderate	Mid-Flood	Surface	1.00	16:54	9.82	8.97	29.84	25.66	3.7	13	0.223	E
B3	20201103	Cloudy	Moderate	Mid-Flood	Middle	3.95	16:53	9.79	8.90	29.95	25.66	3.6	10	0.233	E
B3	20201103	Cloudy	Moderate	Mid-Flood	Middle	3.95	16:53	9.79	8.92	29.71	25.54	3.4	10	0.230	E
B3	20201103	Cloudy	Moderate	Mid-Flood	Bottom	6.90	16:52	9.36	8.89	30.40	25.37	3.8	9	0.222	E
B3	20201103	Cloudy	Moderate	Mid-Flood	Bottom	6.90	16:52	9.96	8.86	29.93	25.51	3.4	9	0.231	E

Note 1: The water depths of A1- A3 during Mid-flood peroid on 30 Oct 2020 were less than 6m, sampling events were only conducted on suface level and bottom level.

Appendix C: Laboratory Testing Report

ALS Technichem (HK) Pty Ltd

11/F, Chung Shun Knitting Centre, 1-3 Wing Yip St, Kwai Chung, N.T., Hong Kong
Tel : (852) 2610 1044 Fax : (852) 2610 2021 Email: hongkong@alsglobal.com

SAMPLE SUBMISSION FORM (Environmental test)

*Note : * The following information is required to expedite sample analysis. Please complete all the necessary details and return this form with your samples. Test(s) will not be started until a COMPLETED form is received.*
 # Items will be subject to additional charge and needed further confirmation & arrangement.

Reporting Information for Final Report

*Company Name: Acuity Sustainability Consulting Limited
*Client Contact: Name: Nelson Tsui Email: ntsui@acuityhk.com
Tel: 69395551 Fax:
*Report address to: Unit C, 11/F., Ford Glory Plaza, No. 37-39 Wing Hong Street, Cheung Sha Wan, Kowloon
*Postal Address (if different):

Soft copy report delivery (if different from above)

*Client Contact Name (1st): Joe Ho Email: jho@acuityhk.com
*Client Contact Name (2nd): Sally Mok Email: pchan@acuityhk.com

Billing information for Invoice (if different from reporting information for final report)

Note : Client Name on invoice will be the company Name of the Final report.

*Invoice to (c/o company):
*Client Contact Name: Tel:
Email:
*Invoice address to:

*Purchase Order/ Client Order No:
* ALS Quotation No.: HKE/2177/2018
*Project Name/No: IWMF
Site Name (if any):

Environmental Division
Hong Kong
Work Order Reference
HK2038714

Telephone : +852 2610 1044

Sampling and delivery

Sampling by: ☑ Client ☐ # ALS ☐ others:
*Sample(s) delivery by: ☐ Client ☑ # ALS ☐ others: Wai

*Expected TAT (Working days): ☐ Regular (7-10) ☐#Express (5) ☑ #Double Express (3) ☐ #Other (____)
Other remark:

SAMPLE ANALYTICAL REQUIREMENTS (Supplementary sheet attached ☐ Yes, _____ pages ☐ No)

Lab ID (Lab use only)	*Sample ID.	Matrix	*Sampling Date/Time	*Analysis Required (Tests)
1	A1/S	Mid-Flood	2020 Oct 28	SS
2	A1/S/Duplicate	Mid-Flood		
3	A1/M	Mid-Flood		
4	A1/M/Duplicate	Mid-Flood		
5	A1/B	Mid-Flood		
6	A1/B/Duplicate	Mid-Flood		
7	A2/S	Mid-Flood		
8	A2/S/Duplicate	Mid-Flood		
9	A2/M	Mid-Flood		
10	A2/M/Duplicate	Mid-Flood		
11	A2/B	Mid-Flood		
12	A2/B/Duplicate	Mid-Flood		
13	A3/S	Mid-Flood	28/10/2020	SS
14	A3/S/Duplicate	Mid-Flood		
15	A3/M	Mid-Flood		
16	A3/M/Duplicate	Mid-Flood		
17	A3/B	Mid-Flood		
18	A3/B/Duplicate	Mid-Flood		
19	B1/S	Mid-Flood		
20	B1/S/Duplicate	Mid-Flood		
21	B1/M	Mid-Flood		
22	B1/M/Duplicate	Mid-Flood		
23	B1/B	Mid-Flood		
24	B1/B/Duplicate	Mid-Flood		
25	B2/S	Mid-Flood		
26	B2/S/Duplicate	Mid-Flood		
27	B2/M	Mid-Flood		
28	B2/M/Duplicate	Mid-Flood		
29	B2/B	Mid-Flood		
30	B2/B/Duplicate	Mid-Flood		
31	B3/S	Mid-Flood		
32	B3/S/Duplicate	Mid-Flood		
33	B3/M	Mid-Flood		
34	B3/M/Duplicate	Mid-Flood		
35	B3/B	Mid-Flood		
36	B3/B/Duplicate	Mid-Flood		
37	A1/S	Mid-Ebb		
38	A1/S/Duplicate	Mid-Ebb		
39	A1/M	Mid-Ebb		
40	A1/M/Duplicate	Mid-Ebb		
41	A1/B	Mid-Ebb		
42	A1/B/Duplicate	Mid-Ebb		
43	A2/S	Mid-Ebb		
44	A2/S/Duplicate	Mid-Ebb		
45	A2/M	Mid-Ebb		
46	A2/M/Duplicate	Mid-Ebb		
47	A2/B	Mid-Ebb		
48	A2/B/Duplicate	Mid-Ebb		
49	A3/S	Mid-Ebb		
50	A3/S/Duplicate	Mid-Ebb		

51	A3/M	Mid-Ebb	28/10/2020	SS
52	A3/M/Duplicate	Mid-Ebb		
53	A3/B	Mid-Ebb		
54	A3/B/Duplicate	Mid-Ebb		
55	B1/S	Mid-Ebb		
56	B1/S/Duplicate	Mid-Ebb		
57	B1/M	Mid-Ebb		
58	B1/M/Duplicate	Mid-Ebb		
59	B1/B	Mid-Ebb		
60	B1/B/Duplicate	Mid-Ebb		
61	B2/S	Mid-Ebb		
62	B2/S/Duplicate	Mid-Ebb		
63	B2/M	Mid-Ebb		
64	B2/M/Duplicate	Mid-Ebb		
65	B2/B	Mid-Ebb		
66	B2/B/Duplicate	Mid-Ebb		
67	B3/S	Mid-Ebb		
68	B3/S/Duplicate	Mid-Ebb		
69	B3/M	Mid-Ebb		
70	B3/M/Duplicate	Mid-Ebb		
71	B3/B	Mid-Ebb		
72	B3/B/Duplicate	Mid-Ebb		

SAMPLE RECEIVE INFO: (Lab Use Only)

Received Date/ Time:	28 OCT 2020 1135	Document Received Date/Time:	/
Sorting Date/ Time:	28 OCT 2020 2000	Esky Count:	3
Condition:	Ambient / Chilled / Frozen	Ice Bricks / Ice	Yes / No
Bottle information:	1L Green		
Tray No:	N/A	Sort by:	

ALS Technichem (HK) Pty Ltd

ALS Laboratory Group

ANALYICAL CHEMISTRY & TESTING SERVICES

CERTIFICATE OF ANALYSIS

Client	: ACUITY SUSTAINABILITY CONSULTING LIMITED	Laboratory	: ALS Technichem (HK) Pty Ltd	Page	: 1 of 6
Contact	: NELSON TSUI	Contact	: Richard Fung	Work Order	: HK2038714
Address	: 11/F, ROOM C, FORD GLORY PLAZA, 37-39 WING HONG STREET, CHEUNG SHA WAN, HONG KONG	Address	: 11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong		
E-mail	: ntsui@acityhk.com	E-mail	: richard.fung@alsglobal.com		
Telephone	: 2698 9097	Telephone	: +852 2610 1044		
Facsimile	: ----	Facsimile	: +852 2610 2021		
Project	: IWMF			Date received	: 28-Oct-2020
Order number	: ---	Quote number	: HKE/2177a/2018_R1	Date of issue	: 30-Oct-2020
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

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 28-Oct-2020 to 31-Oct-2020.

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 HK2038714 :

Sample(s) was/ were picked up from client by ALS staff . 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., if any) is provided by client.

Analytical Results

Sub-Matrix: WATER			Compound	EA025: Suspended Solids (SS)	----	----	----	----
			LOR Unit	2 mg/L	----	----	----	----
Client sample ID	Client sampling date / time	Laboratory sample ID		EA/ED: Physical and Aggregate Properties	----	----	----	----
A1/S	28-Oct-2020	HK2038714-001		33	----	----	----	----
A1/S/Duplicate	28-Oct-2020	HK2038714-002		34	----	----	----	----
A1/M	28-Oct-2020	HK2038714-003		49	----	----	----	----
A1/M/Duplicate	28-Oct-2020	HK2038714-004		50	----	----	----	----
A1/B	28-Oct-2020	HK2038714-005		58	----	----	----	----
A1/B/Duplicate	28-Oct-2020	HK2038714-006		59	----	----	----	----
A2/S	28-Oct-2020	HK2038714-007		95	----	----	----	----
A2/S/Duplicate	28-Oct-2020	HK2038714-008		93	----	----	----	----
A2/M	28-Oct-2020	HK2038714-009		46	----	----	----	----
A2/M/Duplicate	28-Oct-2020	HK2038714-010		47	----	----	----	----
A2/B	28-Oct-2020	HK2038714-011		37	----	----	----	----
A2/B/Duplicate	28-Oct-2020	HK2038714-012		38	----	----	----	----
A3/S	28-Oct-2020	HK2038714-013		96	----	----	----	----
A3/S/Duplicate	28-Oct-2020	HK2038714-014		94	----	----	----	----
A3/M	28-Oct-2020	HK2038714-015		46	----	----	----	----
A3/M/Duplicate	28-Oct-2020	HK2038714-016		48	----	----	----	----
A3/B	28-Oct-2020	HK2038714-017		40	----	----	----	----
A3/B/Duplicate	28-Oct-2020	HK2038714-018		1290	----	----	----	----
B1/S	28-Oct-2020	HK2038714-019		18	----	----	----	----
B1/S/Duplicate	28-Oct-2020	HK2038714-020		19	----	----	----	----
B1/M	28-Oct-2020	HK2038714-021		16	----	----	----	----
B1/M/Duplicate	28-Oct-2020	HK2038714-022		15	----	----	----	----
B1/B	28-Oct-2020	HK2038714-023		14	----	----	----	----
B1/B/Duplicate	28-Oct-2020	HK2038714-024		14	----	----	----	----
B2/S	28-Oct-2020	HK2038714-025		13	----	----	----	----
B2/S/Duplicate	28-Oct-2020	HK2038714-026		12	----	----	----	----
B2/M	28-Oct-2020	HK2038714-027		12	----	----	----	----
B2/M/Duplicate	28-Oct-2020	HK2038714-028		11	----	----	----	----
B2/B	28-Oct-2020	HK2038714-029		11	----	----	----	----
B2/B/Duplicate	28-Oct-2020	HK2038714-030		11	----	----	----	----
B3/S	28-Oct-2020	HK2038714-031		14	----	----	----	----

Sub-Matrix: **WATER**

Client sample ID	Client sampling date / time	Laboratory sample ID	Compound	EA025: Suspended Solids (SS)	----	----	----	----
			LOR Unit	2 mg/L	----	----	----	----
				EA/ED: Physical and Aggregate Properties	----	----	----	----
B3/S/Duplicate	28-Oct-2020	HK2038714-032		13	----	----	----	----
B3/M	28-Oct-2020	HK2038714-033		12	----	----	----	----
B3/M/Duplicate	28-Oct-2020	HK2038714-034		12	----	----	----	----
B3/B	28-Oct-2020	HK2038714-035		11	----	----	----	----
B3/B/Duplicate	28-Oct-2020	HK2038714-036		12	----	----	----	----
A1/S	28-Oct-2020	HK2038714-037		15	----	----	----	----
A1/S/Duplicate	28-Oct-2020	HK2038714-038		15	----	----	----	----
A1/M	28-Oct-2020	HK2038714-039		17	----	----	----	----
A1/M/Duplicate	28-Oct-2020	HK2038714-040		17	----	----	----	----
A1/B	28-Oct-2020	HK2038714-041		115	----	----	----	----
A1/B/Duplicate	28-Oct-2020	HK2038714-042		2610	----	----	----	----
A2/S	28-Oct-2020	HK2038714-043		47	----	----	----	----
A2/S/Duplicate	28-Oct-2020	HK2038714-044		20	----	----	----	----
A2/M	28-Oct-2020	HK2038714-045		20	----	----	----	----
A2/M/Duplicate	28-Oct-2020	HK2038714-046		19	----	----	----	----
A2/B	28-Oct-2020	HK2038714-047		361	----	----	----	----
A2/B/Duplicate	28-Oct-2020	HK2038714-048		214	----	----	----	----
A3/S	28-Oct-2020	HK2038714-049		1760	----	----	----	----
A3/S/Duplicate	28-Oct-2020	HK2038714-050		30	----	----	----	----
A3/M	28-Oct-2020	HK2038714-051		15700	----	----	----	----
A3/M/Duplicate	28-Oct-2020	HK2038714-052		1580	----	----	----	----
A3/B	28-Oct-2020	HK2038714-053		3100	----	----	----	----
A3/B/Duplicate	28-Oct-2020	HK2038714-054		13600	----	----	----	----
B1/S	28-Oct-2020	HK2038714-055		16	----	----	----	----
B1/S/Duplicate	28-Oct-2020	HK2038714-056		15	----	----	----	----
B1/M	28-Oct-2020	HK2038714-057		21	----	----	----	----
B1/M/Duplicate	28-Oct-2020	HK2038714-058		20	----	----	----	----
B1/B	28-Oct-2020	HK2038714-059		26	----	----	----	----
B1/B/Duplicate	28-Oct-2020	HK2038714-060		26	----	----	----	----
B2/S	28-Oct-2020	HK2038714-061		13	----	----	----	----
B2/S/Duplicate	28-Oct-2020	HK2038714-062		14	----	----	----	----
B2/M	28-Oct-2020	HK2038714-063		15	----	----	----	----
B2/M/Duplicate	28-Oct-2020	HK2038714-064		15	----	----	----	----

Sub-Matrix: WATER			Compound	EA025: Suspended Solids (SS)	----	----	----	----
			LOR Unit	2 mg/L	----	----	----	----
Client sample ID	Client sampling date / time	Laboratory sample ID		EA/ED: Physical and Aggregate Properties	----	----	----	----
B2/B	28-Oct-2020	HK2038714-065		17	----	----	----	----
B2/B/Duplicate	28-Oct-2020	HK2038714-066		18	----	----	----	----
B3/S	28-Oct-2020	HK2038714-067		14	----	----	----	----
B3/S/Duplicate	28-Oct-2020	HK2038714-068		14	----	----	----	----
B3/M	28-Oct-2020	HK2038714-069		14	----	----	----	----
B3/M/Duplicate	28-Oct-2020	HK2038714-070		15	----	----	----	----
B3/B	28-Oct-2020	HK2038714-071		21	----	----	----	----
B3/B/Duplicate	28-Oct-2020	HK2038714-072		22	----	----	----	----

Laboratory Duplicate (DUP) Report

Matrix: **WATER**

Laboratory sample ID	Client 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: 3335433)								
HK2038714-001	A1/S	EA025: Suspended Solids (SS)	----	2	mg/L	33	32	0.00
HK2038714-011	A2/B	EA025: Suspended Solids (SS)	----	2	mg/L	37	38	0.00
EA/ED: Physical and Aggregate Properties (QC Lot: 3335434)								
HK2038714-021	B1/M	EA025: Suspended Solids (SS)	----	2	mg/L	16	16	0.00
HK2038714-031	B3/S	EA025: Suspended Solids (SS)	----	2	mg/L	14	13	0.00
EA/ED: Physical and Aggregate Properties (QC Lot: 3335435)								
HK2038714-041	A1/B	EA025: Suspended Solids (SS)	----	2	mg/L	115	117	1.81
HK2038714-055	B1/S	EA025: Suspended Solids (SS)	----	2	mg/L	16	15	7.97
EA/ED: Physical and Aggregate Properties (QC Lot: 3335436)								
HK2038714-061	B2/S	EA025: Suspended Solids (SS)	----	2	mg/L	13	14	0.00
HK2038714-072	B3/B/Duplicate	EA025: Suspended Solids (SS)	----	2	mg/L	22	21	7.64

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: 3335433)											
EA025: Suspended Solids (SS)	----	2	mg/L	<2	20 mg/L	102	----	84.4	116	----	----
EA/ED: Physical and Aggregate Properties (QCLot: 3335434)											
EA025: Suspended Solids (SS)	----	2	mg/L	<2	20 mg/L	108	----	84.4	116	----	----
EA/ED: Physical and Aggregate Properties (QCLot: 3335435)											
EA025: Suspended Solids (SS)	----	2	mg/L	<2	20 mg/L	98.5	----	84.4	116	----	----
EA/ED: Physical and Aggregate Properties (QCLot: 3335436)											
EA025: Suspended Solids (SS)	----	2	mg/L	<2	20 mg/L	104	----	84.4	116	----	----

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

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

ALS Technichem (HK) Pty Ltd

11/F, Chung Shun Knitting Centre, 1-3 Wing Yip St, Kwai Chung, N.T., Hong Kong
Tel : (852) 2610 1044 Fax : (852) 2610 2021 Email: hongkong@alsglobal.com

SAMPLE SUBMISSION FORM (Environmental test)

*Note : * The following information is required to expedite sample analysis. Please complete all the necessary details and return this form with your samples. Test(s) will not be started until a COMPLETED form is received.*
 # Items will be subject to additional charge and needed further confirmation & arrangement.

Reporting Information for Final Report

*Company Name: Acuity Sustainability Consulting Limited
*Client Contact: Name: Nelson Tsui Email: ntsui@acuityhk.com
Tel: 69395551 Fax:
*Report address to: Unit C, 11/F., Ford Glory Plaza, No. 37-39 Wing Hong Street, Cheung Sha Wan, Kowloon
*Postal Address (if different):

Soft copy report delivery (if different from above)

*Client Contact Name (1st): Joe Ho Email: jho@acuityhk.com
*Client Contact Name (2nd): Sally Mok / Polin Chan Email: pchan@acuityhk.com

Billing information for Invoice (if different from reporting information for final report)

Note : Client Name on invoice will be the company Name of the Final report.

*Invoice to (c/o company):
*Client Contact Name: Tel:
Email:
*Invoice address to:

*Purchase Order/ Client Order No:
* ALS Quotation No.: HKE/2177/2018
*Project Name/No: IWMF
Site Name (if any):

Sampling and delivery

Sampling by: ☑ Client ☐ # ALS ☐ others:
*Sample(s) delivery by: ☐ Client ☑ # ALS ☐ others: Ming

Environmental Division
Hong Kong
Work Order Reference
HK2038726
31/10

Telephone : + 852 2610 1044

*Expected TAT (Working days): ☐ Regular (7-10) ☐#Express (5) ☑ #Double Express (3) ☐ #Other (___)
Other remark:

SAMPLE ANALYTICAL REQUIREMENTS (Supplementary sheet attached ☐ Yes, _____ pages ☐ No)

Lab ID (Lab use only)	*Sample ID.	Matrix	*Sampling Date/Time	*Analysis Required (Tests)
1	A1/S	Mid-Flood	2020 Oct 30	SS
2	A1/S/Duplicate	Mid-Flood		
3	A1/M	Mid-Flood		
4	A1/M/Duplicate	Mid-Flood		
5	A1/B	Mid-Flood	30/10/2020	SS
6	A1/B/Duplicate	Mid-Flood		
7	A2/S	Mid-Flood		
8	A2/S/Duplicate	Mid-Flood		
9	A2/M	Mid-Flood		
10	A2/M/Duplicate	Mid-Flood		
11	A2/B	Mid-Flood	30/10/2020	SS
12	A2/B/Duplicate	Mid-Flood		
13	A3/S	Mid-Flood	30/10/2020	SS
14	A3/S/Duplicate	Mid-Flood	1	SS
15	A3/M	Mid-Flood		
16	A3/M/Duplicate	Mid-Flood		
17	A3/B	Mid-Flood	30/10/2020	SS
18	A3/B/Duplicate	Mid-Flood		
19	B1/S	Mid-Flood		
20	B1/S/Duplicate	Mid-Flood		
21	B1/M	Mid-Flood		
22	B1/M/Duplicate	Mid-Flood		
23	B1/B	Mid-Flood		
24	B1/B/Duplicate	Mid-Flood		
25	B2/S	Mid-Flood		
26	B2/S/Duplicate	Mid-Flood		
27	B2/M	Mid-Flood		
28	B2/M/Duplicate	Mid-Flood		
29	B2/B	Mid-Flood		
30	B2/B/Duplicate	Mid-Flood		
31	B3/S	Mid-Flood		
32	B3/S/Duplicate	Mid-Flood		
33	B3/M	Mid-Flood		
34	B3/M/Duplicate	Mid-Flood		
35	B3/B	Mid-Flood		
36	B3/B/Duplicate	Mid-Flood		
37	A1/S	Mid-Ebb		
38	A1/S/Duplicate	Mid-Ebb		
39	A1/M	Mid-Ebb		
40	A1/M/Duplicate	Mid-Ebb		
41	A1/B	Mid-Ebb		
42	A1/B/Duplicate	Mid-Ebb		
43	A2/S	Mid-Ebb		
44	A2/S/Duplicate	Mid-Ebb		
45	A2/M	Mid-Ebb		
46	A2/M/Duplicate	Mid-Ebb		
47	A2/B	Mid-Ebb		
48	A2/B/Duplicate	Mid-Ebb		
49	A3/S	Mid-Ebb		
50	A3/S/Duplicate	Mid-Ebb		

51	A3/M	Mid-Ebb	30/10/2020	SS
52	A3/M/Duplicate	Mid-Ebb		
53	A3/B	Mid-Ebb		
54	A3/B/Duplicate	Mid-Ebb		
55	B1/S	Mid-Ebb		
56	B1/S/Duplicate	Mid-Ebb		
57	B1/M	Mid-Ebb		
58	B1/M/Duplicate	Mid-Ebb		
59	B1/B	Mid-Ebb		
60	B1/B/Duplicate	Mid-Ebb		
61	B2/S	Mid-Ebb		
62	B2/S/Duplicate	Mid-Ebb		
63	B2/M	Mid-Ebb		
64	B2/M/Duplicate	Mid-Ebb		
65	B2/B	Mid-Ebb		
66	B2/B/Duplicate	Mid-Ebb		
67	B3/S	Mid-Ebb		
68	B3/S/Duplicate	Mid-Ebb		
69	B3/M	Mid-Ebb		
70	B3/M/Duplicate	Mid-Ebb		
71	B3/B	Mid-Ebb		
72	B3/B/Duplicate	Mid-Ebb		

SAMPLE RECEIVE INFO: (Lab Use Only)

Received Date/ Time:	30 OCT 2020 1930	Document Received Date/Time:	
Sorting Date/ Time:	30 OCT 2020 1930	Esky Count:	4
Condition:	Ambient / Chilled / Frozen	Ice Bricks / Ice	Yes / No
Bottle information:	1L Green X 66		
Tray No:	N/A	Sort by:	

ALS Technichem (HK) Pty Ltd

ALS Laboratory Group

ANALYICAL CHEMISTRY & TESTING SERVICES

CERTIFICATE OF ANALYSIS

Client	: ACUITY SUSTAINABILITY CONSULTING LIMITED	Laboratory	: ALS Technichem (HK) Pty Ltd	Page	: 1 of 6		
Contact	: NELSON TSUI	Contact	: Richard Fung	Work Order	: HK2038726		
Address	: 11/F, ROOM C, FORD GLORY PLAZA, 37-39 WING HONG STREET, CHEUNG SHA WAN, HONG KONG	Address	: 11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong				
E-mail	: ntsui@acityhk.com	E-mail	: richard.fung@alsglobal.com				
Telephone	: 2698 9097	Telephone	: +852 2610 1044				
Facsimile	: ----	Facsimile	: +852 2610 2021				
Project	: IWMF			Date received	: 30-Oct-2020		
Order number	: ----	Quote number	: HKE/2177a/2018_R1	Date of issue	: 05-Nov-2020		
C-O-C number	: ----			No. of samples	- Received	:	66
Site	:				- Analysed	:	66

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

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 30-Oct-2020 to 04-Nov-2020.

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 HK2038726 :

Sample(s) was/ were picked up from client by ALS staff . 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., if any) is provided by client.

Analytical Results

Sub-Matrix: **WATER**

Client sample ID	Client sampling date / time	Laboratory sample ID	Compound	EA025: Suspended Solids (SS)	----	----	----	----
			LOR Unit	2 mg/L	----	----	----	----
				EA/ED: Physical and Aggregate Properties	----	----	----	----
A1/S	30-Oct-2020	HK2038726-001		410	----	----	----	----
A1/S/Duplicate	30-Oct-2020	HK2038726-002		420	----	----	----	----
A1/B	30-Oct-2020	HK2038726-005		82	----	----	----	----
A1/B/Duplicate	30-Oct-2020	HK2038726-006		80	----	----	----	----
A2/S	30-Oct-2020	HK2038726-007		486	----	----	----	----
A2/S/Duplicate	30-Oct-2020	HK2038726-008		494	----	----	----	----
A2/B	30-Oct-2020	HK2038726-011		185	----	----	----	----
A2/B/Duplicate	30-Oct-2020	HK2038726-012		187	----	----	----	----
A3/S	30-Oct-2020	HK2038726-013		91	----	----	----	----
A3/S/Duplicate	30-Oct-2020	HK2038726-014		96	----	----	----	----
A3/B	30-Oct-2020	HK2038726-017		169	----	----	----	----
A3/B/Duplicate	30-Oct-2020	HK2038726-018		170	----	----	----	----
B1/S	30-Oct-2020	HK2038726-019		10	----	----	----	----
B1/S/Duplicate	30-Oct-2020	HK2038726-020		10	----	----	----	----
B1/M	30-Oct-2020	HK2038726-021		10	----	----	----	----
B1/M/Duplicate	30-Oct-2020	HK2038726-022		10	----	----	----	----
B1/B	30-Oct-2020	HK2038726-023		9	----	----	----	----
B1/B/Duplicate	30-Oct-2020	HK2038726-024		9	----	----	----	----
B2/S	30-Oct-2020	HK2038726-025		9	----	----	----	----
B2/S/Duplicate	30-Oct-2020	HK2038726-026		9	----	----	----	----
B2/M	30-Oct-2020	HK2038726-027		9	----	----	----	----
B2/M/Duplicate	30-Oct-2020	HK2038726-028		9	----	----	----	----
B2/B	30-Oct-2020	HK2038726-029		10	----	----	----	----
B2/B/Duplicate	30-Oct-2020	HK2038726-030		10	----	----	----	----
B3/S	30-Oct-2020	HK2038726-031		11	----	----	----	----
B3/S/Duplicate	30-Oct-2020	HK2038726-032		10	----	----	----	----
B3/M	30-Oct-2020	HK2038726-033		10	----	----	----	----
B3/M/Duplicate	30-Oct-2020	HK2038726-034		9	----	----	----	----
B3/B	30-Oct-2020	HK2038726-035		7	----	----	----	----
B3/B/Duplicate	30-Oct-2020	HK2038726-036		7	----	----	----	----
A1/S	30-Oct-2020	HK2038726-037		44	----	----	----	----

Sub-Matrix: **WATER**

Client sample ID	Client sampling date / time	Laboratory sample ID	Compound	EA025: Suspended Solids (SS)	----	----	----	----
			LOR Unit	2 mg/L	----	----	----	----
				EA/ED: Physical and Aggregate Properties	----	----	----	----
A1/S/Duplicate	30-Oct-2020	HK2038726-038		43	----	----	----	----
A1/M	30-Oct-2020	HK2038726-039		36	----	----	----	----
A1/M/Duplicate	30-Oct-2020	HK2038726-040		34	----	----	----	----
A1/B	30-Oct-2020	HK2038726-041		26	----	----	----	----
A1/B/Duplicate	30-Oct-2020	HK2038726-042		25	----	----	----	----
A2/S	30-Oct-2020	HK2038726-043		26	----	----	----	----
A2/S/Duplicate	30-Oct-2020	HK2038726-044		27	----	----	----	----
A2/M	30-Oct-2020	HK2038726-045		18	----	----	----	----
A2/M/Duplicate	30-Oct-2020	HK2038726-046		19	----	----	----	----
A2/B	30-Oct-2020	HK2038726-047		10	----	----	----	----
A2/B/Duplicate	30-Oct-2020	HK2038726-048		11	----	----	----	----
A3/S	30-Oct-2020	HK2038726-049		75	----	----	----	----
A3/S/Duplicate	30-Oct-2020	HK2038726-050		77	----	----	----	----
A3/M	30-Oct-2020	HK2038726-051		49	----	----	----	----
A3/M/Duplicate	30-Oct-2020	HK2038726-052		51	----	----	----	----
A3/B	30-Oct-2020	HK2038726-053		10	----	----	----	----
A3/B/Duplicate	30-Oct-2020	HK2038726-054		9	----	----	----	----
B1/S	30-Oct-2020	HK2038726-055		12	----	----	----	----
B1/S/Duplicate	30-Oct-2020	HK2038726-056		13	----	----	----	----
B1/M	30-Oct-2020	HK2038726-057		11	----	----	----	----
B1/M/Duplicate	30-Oct-2020	HK2038726-058		11	----	----	----	----
B1/B	30-Oct-2020	HK2038726-059		10	----	----	----	----
B1/B/Duplicate	30-Oct-2020	HK2038726-060		10	----	----	----	----
B2/S	30-Oct-2020	HK2038726-061		12	----	----	----	----
B2/S/Duplicate	30-Oct-2020	HK2038726-062		11	----	----	----	----
B2/M	30-Oct-2020	HK2038726-063		10	----	----	----	----
B2/M/Duplicate	30-Oct-2020	HK2038726-064		10	----	----	----	----
B2/B	30-Oct-2020	HK2038726-065		10	----	----	----	----
B2/B/Duplicate	30-Oct-2020	HK2038726-066		9	----	----	----	----
B3/S	30-Oct-2020	HK2038726-067		12	----	----	----	----
B3/S/Duplicate	30-Oct-2020	HK2038726-068		12	----	----	----	----
B3/M	30-Oct-2020	HK2038726-069		10	----	----	----	----
B3/M/Duplicate	30-Oct-2020	HK2038726-070		10	----	----	----	----

Sub-Matrix: WATER			Compound	EA025: Suspended Solids (SS)	----	----	----	----
			LOR Unit	2 mg/L	----	----	----	----
Client sample ID	Client sampling date / time	Laboratory sample ID	EA/ED: Physical and Aggregate Properties		----	----	----	----
B3/B	30-Oct-2020	HK2038726-071		10	----	----	----	----
B3/B/Duplicate	30-Oct-2020	HK2038726-072		10	----	----	----	----

Laboratory Duplicate (DUP) Report

Matrix: **WATER**

Laboratory sample ID	Client 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: 3340302)								
HK2038726-001	A1/S	EA025: Suspended Solids (SS)	----	2	mg/L	410	412	0.462
HK2038726-017	A3/B	EA025: Suspended Solids (SS)	----	2	mg/L	169	167	1.34
EA/ED: Physical and Aggregate Properties (QC Lot: 3340303)								
HK2038726-027	B2/M	EA025: Suspended Solids (SS)	----	2	mg/L	9	9	0.00
HK2038726-037	A1/S	EA025: Suspended Solids (SS)	----	2	mg/L	44	43	0.00
EA/ED: Physical and Aggregate Properties (QC Lot: 3340304)								
HK2038726-047	A2/B	EA025: Suspended Solids (SS)	----	2	mg/L	10	11	0.00
HK2038726-057	B1/M	EA025: Suspended Solids (SS)	----	2	mg/L	11	11	0.00
EA/ED: Physical and Aggregate Properties (QC Lot: 3340305)								
HK2038726-067	B3/S	EA025: Suspended Solids (SS)	----	2	mg/L	12	12	0.00

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: 3340302)											
EA025: Suspended Solids (SS)	----	2	mg/L	<2	20 mg/L	108	----	84.4	116	----	----
EA/ED: Physical and Aggregate Properties (QCLot: 3340303)											
EA025: Suspended Solids (SS)	----	2	mg/L	<2	20 mg/L	102	----	84.4	116	----	----
EA/ED: Physical and Aggregate Properties (QCLot: 3340304)											
EA025: Suspended Solids (SS)	----	2	mg/L	<2	20 mg/L	97.5	----	84.4	116	----	----
EA/ED: Physical and Aggregate Properties (QCLot: 3340305)											
EA025: Suspended Solids (SS)	----	2	mg/L	<2	20 mg/L	96.0	----	84.4	116	----	----

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

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

ALS Technichem (HK) Pty Ltd

11/F, Chung Shun Knitting Centre, 1-3 Wing Yip St, Kwai Chung, N.T., Hong Kong
Tel : (852) 2610 1044 Fax : (852) 2610 2021 Email: hongkong@alsglobal.com

SAMPLE SUBMISSION FORM (Environmental test)

*Note : * The following information is required to expedite sample analysis. Please complete all the necessary details and return this form with your samples. Test(s) will not be started until a COMPLETED form is received.*
 # Items will be subject to additional charge and needed further confirmation & arrangement.

Reporting information for Final Report

*Company Name: Acuity Sustainability Consulting Limited

*Client Contact: Name: Nelson Tsui Email: ntsui@acuityhk.com

Tel: 69395551 Fax:

*Report address to: Unit C, 11/F., Ford Glory Plaza, No. 37-39 Wing Hong Street, Cheung Sha Wan, Kowloon

*Postal Address (if different):

Soft copy report delivery (if different from above)

*Client Contact Name (1st): Joe Ho Email: jho@acuityhk.com

*Client Contact Name (2nd): Sally Mok / Polan Chan Email: pchan@acuityhk.com

Billing information for Invoice (if different from reporting information for final ------)

Note : Client Name on invoice will be the company Name of the Final report.

*Invoice to (c/o company):

*Client Contact Name: Tel:

Email:

*Invoice address to:

Environmental Division
Hong Kong
Work Order Reference
HK2038732

Telephone : + 852 2610 1044

*Purchase Order/ Client Order No:

* ALS Quotation No.: HKE/2177/2018

*Project Name/No: IWMF

Site Name (if any):

Sampling and delivery

Sampling by: ☑ Client ☐ # ALS ☐ others:

*Sample(s) delivery by: ☐ Client ☑ # ALS ☐ others:

***Expected TAT (Working days): ☐ Regular (7-10) ☐#Express (5) ☑ #Double Express (3) ☐ #Other (___)**

Other remark:

SAMPLE ANALYTICAL REQUIREMENTS (Supplementary sheet attached ☐ Yes, _____ pages ☐ No)

Lab ID (Lab use only)	*Sample ID.	Matrix	*Sampling Date/Time	*Analysis Required (Tests)
1	A1/S	Mid-Flood	2020 Nov 3	SS
2	A1/S/Duplicate	Mid-Flood	3/11/2020	SS
3	A1/M	Mid-Flood		
4	A1/M/Duplicate	Mid-Flood		
5	A1/B	Mid-Flood		
6	A1/B/Duplicate	Mid-Flood		
7	A2/S	Mid-Flood		
8	A2/S/Duplicate	Mid-Flood		
9	A2/M	Mid-Flood		
10	A2/M/Duplicate	Mid-Flood		
11	A2/B	Mid-Flood		
12	A2/B/Duplicate	Mid-Flood		
13	A3/S	Mid-Flood	3/11/2020	SS
14	A3/S/Duplicate	Mid-Flood		
15	A3/M	Mid-Flood		
16	A3/M/Duplicate	Mid-Flood		
17	A3/B	Mid-Flood		
18	A3/B/Duplicate	Mid-Flood		
19	B1/S	Mid-Flood		
20	B1/S/Duplicate	Mid-Flood		
21	B1/M	Mid-Flood		
22	B1/M/Duplicate	Mid-Flood		
23	B1/B	Mid-Flood		
24	B1/B/Duplicate	Mid-Flood		
25	B2/S	Mid-Flood		
26	B2/S/Duplicate	Mid-Flood		
27	B2/M	Mid-Flood		
28	B2/M/Duplicate	Mid-Flood		
29	B2/B	Mid-Flood		
30	B2/B/Duplicate	Mid-Flood		
31	B3/S	Mid-Flood		
32	B3/S/Duplicate	Mid-Flood		
33	B3/M	Mid-Flood		
34	B3/M/Duplicate	Mid-Flood		
35	B3/B	Mid-Flood		
36	B3/B/Duplicate	Mid-Flood		
37	A1/S	Mid-Ebb		
38	A1/S/Duplicate	Mid-Ebb		
39	A1/M	Mid-Ebb		
40	A1/M/Duplicate	Mid-Ebb		
41	A1/B	Mid-Ebb		
42	A1/B/Duplicate	Mid-Ebb		
43	A2/S	Mid-Ebb		
44	A2/S/Duplicate	Mid-Ebb		
45	A2/M	Mid-Ebb		
46	A2/M/Duplicate	Mid-Ebb		
47	A2/B	Mid-Ebb		
48	A2/B/Duplicate	Mid-Ebb		
49	A3/S	Mid-Ebb		
50	A3/S/Duplicate	Mid-Ebb		

51	A3/M	Mid-Ebb	3/11/2020	55
52	A3/M/Duplicate	Mid-Ebb		
53	A3/B	Mid-Ebb		
54	A3/B/Duplicate	Mid-Ebb		
55	B1/S	Mid-Ebb		
56	B1/S/Duplicate	Mid-Ebb		
57	B1/M	Mid-Ebb		
58	B1/M/Duplicate	Mid-Ebb		
59	B1/B	Mid-Ebb		
60	B1/B/Duplicate	Mid-Ebb		
61	B2/S	Mid-Ebb		
62	B2/S/Duplicate	Mid-Ebb		
63	B2/M	Mid-Ebb		
64	B2/M/Duplicate	Mid-Ebb		
65	B2/B	Mid-Ebb		
66	B2/B/Duplicate	Mid-Ebb		
67	B3/S	Mid-Ebb		
68	B3/S/Duplicate	Mid-Ebb		
69	B3/M	Mid-Ebb		
70	B3/M/Duplicate	Mid-Ebb		
71	B3/B	Mid-Ebb		
72	B3/B/Duplicate	Mid-Ebb		

SAMPLE RECEIVE INFO: (Lab Use Only)

Received Date/ Time:	- 3 NOV 2020 1900	Document Received Date/Time:	✓
Sorting Date/ Time:	- 3 NOV 2020 2000	Esky Count:	4
Condition:	Ambient / Chilled / Frozen	Ice Bricks / Ice	Yes / No
Bottle information:	1L Green x 72		
Tray No:	N/A	Sort by:	9

ALS Technichem (HK) Pty Ltd

ALS Laboratory Group

ANALYICAL CHEMISTRY & TESTING SERVICES

CERTIFICATE OF ANALYSIS

Client	: ACUITY SUSTAINABILITY CONSULTING LIMITED	Laboratory	: ALS Technichem (HK) Pty Ltd	Page	: 1 of 6
Contact	: NELSON TSUI	Contact	: Richard Fung	Work Order	: HK2038732
Address	: 11/F, ROOM C, FORD GLORY PLAZA, 37-39 WING HONG STREET, CHEUNG SHA WAN, HONG KONG	Address	: 11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong		
E-mail	: ntsui@acityhk.com	E-mail	: richard.fung@alsglobal.com		
Telephone	: 2698 9097	Telephone	: +852 2610 1044		
Facsimile	: ----	Facsimile	: +852 2610 2021		
Project	: IWMF			Date received	: 03-Nov-2020
Order number	: ----	Quote number	: HKE/2177a/2018_R1	Date of issue	: 06-Nov-2020
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

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 03-Nov-2020 to 06-Nov-2020.

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 HK2038732 :

Sample(s) was/ were picked up from client by ALS staff . 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., if any) is provided by client.

Analytical Results

Sub-Matrix: WATER		Compound	EA025: Suspended Solids (SS)	----	----	----	----
		LOR Unit	2 mg/L	----	----	----	----
Client sample ID	Client sampling date / time	Laboratory sample ID	EA/ED: Physical and Aggregate Properties	----	----	----	----
A1/S	03-Nov-2020	HK2038732-001	279	----	----	----	----
A1/S/Duplicate	03-Nov-2020	HK2038732-002	280	----	----	----	----
A1/M	03-Nov-2020	HK2038732-003	222	----	----	----	----
A1/M/Duplicate	03-Nov-2020	HK2038732-004	220	----	----	----	----
A1/B	03-Nov-2020	HK2038732-005	185	----	----	----	----
A1/B/Duplicate	03-Nov-2020	HK2038732-006	186	----	----	----	----
A2/S	03-Nov-2020	HK2038732-007	150	----	----	----	----
A2/S/Duplicate	03-Nov-2020	HK2038732-008	154	----	----	----	----
A2/M	03-Nov-2020	HK2038732-009	174	----	----	----	----
A2/M/Duplicate	03-Nov-2020	HK2038732-010	172	----	----	----	----
A2/B	03-Nov-2020	HK2038732-011	194	----	----	----	----
A2/B/Duplicate	03-Nov-2020	HK2038732-012	199	----	----	----	----
A3/S	03-Nov-2020	HK2038732-013	15	----	----	----	----
A3/S/Duplicate	03-Nov-2020	HK2038732-014	14	----	----	----	----
A3/M	03-Nov-2020	HK2038732-015	46	----	----	----	----
A3/M/Duplicate	03-Nov-2020	HK2038732-016	47	----	----	----	----
A3/B	03-Nov-2020	HK2038732-017	214	----	----	----	----
A3/B/Duplicate	03-Nov-2020	HK2038732-018	212	----	----	----	----
B1/S	03-Nov-2020	HK2038732-019	12	----	----	----	----
B1/S/Duplicate	03-Nov-2020	HK2038732-020	13	----	----	----	----
B1/M	03-Nov-2020	HK2038732-021	9	----	----	----	----
B1/M/Duplicate	03-Nov-2020	HK2038732-022	8	----	----	----	----
B1/B	03-Nov-2020	HK2038732-023	6	----	----	----	----
B1/B/Duplicate	03-Nov-2020	HK2038732-024	6	----	----	----	----
B2/S	03-Nov-2020	HK2038732-025	15	----	----	----	----
B2/S/Duplicate	03-Nov-2020	HK2038732-026	14	----	----	----	----
B2/M	03-Nov-2020	HK2038732-027	13	----	----	----	----
B2/M/Duplicate	03-Nov-2020	HK2038732-028	13	----	----	----	----
B2/B	03-Nov-2020	HK2038732-029	11	----	----	----	----
B2/B/Duplicate	03-Nov-2020	HK2038732-030	11	----	----	----	----
B3/S	03-Nov-2020	HK2038732-031	13	----	----	----	----

Sub-Matrix: WATER			Compound	EA025: Suspended Solids (SS)	----	----	----	----
			LOR Unit	2 mg/L	----	----	----	----
Client sample ID	Client sampling date / time	Laboratory sample ID		EA/ED: Physical and Aggregate Properties	----	----	----	----
B3/S/Duplicate	03-Nov-2020	HK2038732-032		13	----	----	----	----
B3/M	03-Nov-2020	HK2038732-033		10	----	----	----	----
B3/M/Duplicate	03-Nov-2020	HK2038732-034		10	----	----	----	----
B3/B	03-Nov-2020	HK2038732-035		9	----	----	----	----
B3/B/Duplicate	03-Nov-2020	HK2038732-036		9	----	----	----	----
A1/S	03-Nov-2020	HK2038732-037		63	----	----	----	----
A1/S/Duplicate	03-Nov-2020	HK2038732-038		63	----	----	----	----
A1/M	03-Nov-2020	HK2038732-039		40	----	----	----	----
A1/M/Duplicate	03-Nov-2020	HK2038732-040		40	----	----	----	----
A1/B	03-Nov-2020	HK2038732-041		23	----	----	----	----
A1/B/Duplicate	03-Nov-2020	HK2038732-042		23	----	----	----	----
A2/S	03-Nov-2020	HK2038732-043		66	----	----	----	----
A2/S/Duplicate	03-Nov-2020	HK2038732-044		63	----	----	----	----
A2/M	03-Nov-2020	HK2038732-045		37	----	----	----	----
A2/M/Duplicate	03-Nov-2020	HK2038732-046		36	----	----	----	----
A2/B	03-Nov-2020	HK2038732-047		33	----	----	----	----
A2/B/Duplicate	03-Nov-2020	HK2038732-048		32	----	----	----	----
A3/S	03-Nov-2020	HK2038732-049		122	----	----	----	----
A3/S/Duplicate	03-Nov-2020	HK2038732-050		124	----	----	----	----
A3/M	03-Nov-2020	HK2038732-051		104	----	----	----	----
A3/M/Duplicate	03-Nov-2020	HK2038732-052		107	----	----	----	----
A3/B	03-Nov-2020	HK2038732-053		78	----	----	----	----
A3/B/Duplicate	03-Nov-2020	HK2038732-054		80	----	----	----	----
B1/S	03-Nov-2020	HK2038732-055		8	----	----	----	----
B1/S/Duplicate	03-Nov-2020	HK2038732-056		8	----	----	----	----
B1/M	03-Nov-2020	HK2038732-057		6	----	----	----	----
B1/M/Duplicate	03-Nov-2020	HK2038732-058		6	----	----	----	----
B1/B	03-Nov-2020	HK2038732-059		3	----	----	----	----
B1/B/Duplicate	03-Nov-2020	HK2038732-060		3	----	----	----	----
B2/S	03-Nov-2020	HK2038732-061		8	----	----	----	----
B2/S/Duplicate	03-Nov-2020	HK2038732-062		8	----	----	----	----
B2/M	03-Nov-2020	HK2038732-063		6	----	----	----	----
B2/M/Duplicate	03-Nov-2020	HK2038732-064		6	----	----	----	----

Sub-Matrix: WATER			Compound	EA025: Suspended Solids (SS)	----	----	----	----
			LOR Unit	2 mg/L	----	----	----	----
Client sample ID	Client sampling date / time	Laboratory sample ID		EA/ED: Physical and Aggregate Properties	----	----	----	----
B2/B	03-Nov-2020	HK2038732-065		4	----	----	----	----
B2/B/Duplicate	03-Nov-2020	HK2038732-066		4	----	----	----	----
B3/S	03-Nov-2020	HK2038732-067		5	----	----	----	----
B3/S/Duplicate	03-Nov-2020	HK2038732-068		5	----	----	----	----
B3/M	03-Nov-2020	HK2038732-069		7	----	----	----	----
B3/M/Duplicate	03-Nov-2020	HK2038732-070		7	----	----	----	----
B3/B	03-Nov-2020	HK2038732-071		8	----	----	----	----
B3/B/Duplicate	03-Nov-2020	HK2038732-072		8	----	----	----	----

Laboratory Duplicate (DUP) Report

Matrix: **WATER**

Laboratory sample ID	Client 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: 3345237)								
HK2038732-001	A1/S	EA025: Suspended Solids (SS)	----	2	mg/L	279	282	1.05
HK2038732-011	A2/B	EA025: Suspended Solids (SS)	----	2	mg/L	194	194	0.00
EA/ED: Physical and Aggregate Properties (QC Lot: 3345238)								
HK2038732-022	B1/M/Duplicate	EA025: Suspended Solids (SS)	----	2	mg/L	8	9	0.00
HK2038732-031	B3/S	EA025: Suspended Solids (SS)	----	2	mg/L	13	13	0.00
EA/ED: Physical and Aggregate Properties (QC Lot: 3345239)								
HK2038732-041	A1/B	EA025: Suspended Solids (SS)	----	2	mg/L	23	23	0.00
HK2038732-051	A3/M	EA025: Suspended Solids (SS)	----	2	mg/L	104	104	0.00
EA/ED: Physical and Aggregate Properties (QC Lot: 3345240)								
HK2038732-061	B2/S	EA025: Suspended Solids (SS)	----	2	mg/L	8	8	0.00
HK2038732-071	B3/B	EA025: Suspended Solids (SS)	----	2	mg/L	8	8	0.00

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

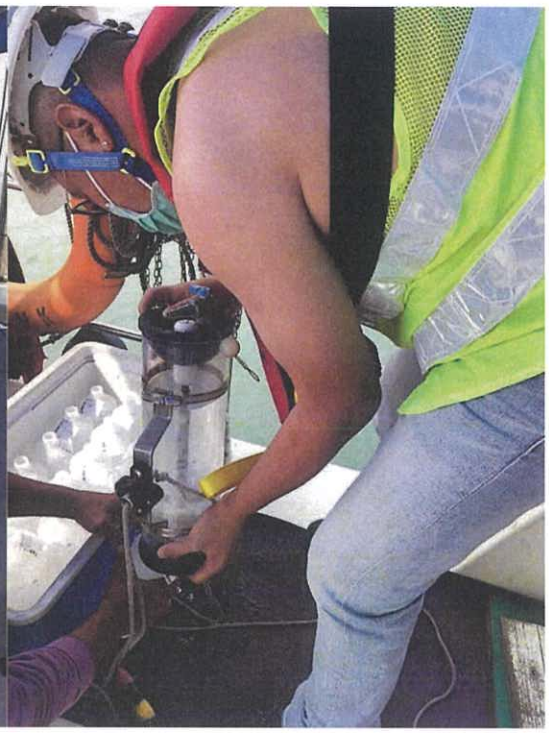
Matrix: **WATER**

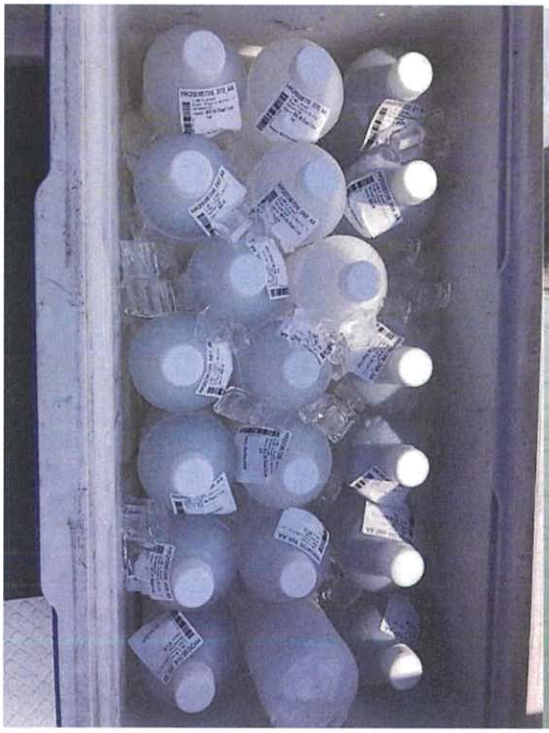
Method: Compound	CAS Number	Method Blank (MB) Report			Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report						
					Spike	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
		LOR	Unit	Result	Concentration	LCS	DCS	Low	High	Value	Control Limit
EA/ED: Physical and Aggregate Properties (QCLot: 3345237)											
EA025: Suspended Solids (SS)	----	2	mg/L	<2	20 mg/L	107	----	84.4	116	----	----
EA/ED: Physical and Aggregate Properties (QCLot: 3345238)											
EA025: Suspended Solids (SS)	----	2	mg/L	<2	20 mg/L	90.5	----	84.4	116	----	----
EA/ED: Physical and Aggregate Properties (QCLot: 3345239)											
EA025: Suspended Solids (SS)	----	2	mg/L	<2	20 mg/L	108	----	84.4	116	----	----
EA/ED: Physical and Aggregate Properties (QCLot: 3345240)											
EA025: Suspended Solids (SS)	----	2	mg/L	<2	20 mg/L	99.0	----	84.4	116	----	----

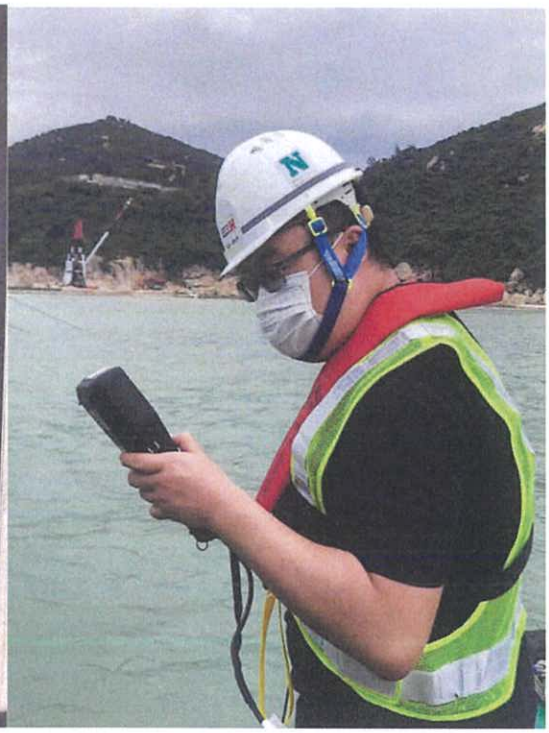
Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report

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

Appendix D: Monitoring Photos







Acuity Sustainability	SUMMARY OF RESPONSE TO COMMENTS	Page 1 of 1
		Comment issue date: 22 Feb 2021
		Issue date: 24 Sep 2021
	Submission Title: IWMF Test Report for Silt Curtain Efficiency Pilot Test (Rev A)	Reviewer: EPD

COMMENT ITEM REF.	REVIEWER'S COMMENT	ET'S RESPONSE
1.	Please explain why the sampling points of mid-Ebb and mid-Flood periods on Nov 3 were far apart from each other.	The sampling locations were followed with the actual location of dredging barge and the actual locations of dredging barges were arranged with the actual site condition and work procedure. Therefore, different sampling locations were applied on the three testing days.
2.	Please explain why there were missing data for the tests on Oct 30.	As the depths of A1-A3 on Oct 30 were less than 6m, sampling evets were only conducted at the surface level and bottom level with reference to general EM&A practice. A remark has been supplemented in Appendix B.
3.	Please review if testing condition, such as weather, current, working method, etc., of mid-ebb test on Oct 30 was different from other tests. The efficiency of this standalone test was below 80%. It is recommended to take additional precautionary/ mitigation measures during construction in that particular condition.	The testing condition on Oct 30 was similar with the other testing days after reviewing the data.