MTR Corporation Limited

TUEN MUN SOUTH EXTENSION

(No. EP-615/2022)

Baseline Water Quality Monitoring Report

Certified by	:	
		(Raymond Wong)
Position	:	Environmental Team Leader
Date	:	8/11/2023

Verified by	:	
		(Adi Lee)
Position	:	Independent Environmental Checker
Date	:	8/11/2023

AECOM

MTR Corporation Limited

Consultancy Agreement No. C1502
(Variation Order No. C1502/009)

Environmental Monitoring and Audit (EM&A) for Tuen Mun South Extension

Baseline Water Quality Monitoring Report

November 2023

	Name	Signature
Prepared & Checked:	Ben Wong	
Reviewed & Approved:	Angela Tong	

Version: C	Date: 8 November 2023

This Report is prepared for MTR Corporation Limited and is given for its sole benefit in relation to and pursuant to Consultancy Agreement No. C1502 and may not be disclosed to, quoted to or relied upon by any person other than MTR Corporation Limited without our prior written consent. No person (other than MTR Corporation Limited) into whose possession a copy of this Report comes may rely on this Report without our express written consent and MTR Corporation Limited may not rely on it for any purpose other than as described above.

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

Table of Contents

Page

List of Tables

List of Figure

List of Appendices

EXECUTIVE SUMMARY

The Tuen Mun South Extension (TME) (hereinafter referred to as "the Project") is one of the seven recommended railway schemes in the Railway Development Strategy 2014 ("RDS-2014"). The Project will extend the Tuen Ma Line (TML), from Tuen Mun (TUM) Station southwards by about 2.4 km, terminating at a new station near Tuen Mun Ferry Pier (i.e. Tuen Mun South (TMS) Station) with an intermediate station at Tuen Mun Area 16 (i.e. A16 Station).

An Environmental Impact Assessment (EIA) study for the Project was conducted in accordance with EIA Study Brief No. ESB-332/2020. The EIA Report and Environmental Monitoring and Audit (EM&A) Manual (Register No.: AEIAR-236/2022) were approved under the Environmental Impact Assessment Ordinance (EIAO), with an Environmental Permit (EP) granted on 18 August 2022 (EP No: EP-615/2022) for the construction and operation of the Project.

In accordance with the approved Environmental Monitoring and Audit Manual (EM&A Manual) for the Project, baseline environmental monitoring should be conducted prior to the commencement of construction works. Pursuant to Condition 3.3 of the EP, Baseline Monitoring Reports shall be submitted to the Director of Environmental Protection at least 2 weeks before the commencement of construction of the Project. According to Section 4.2.7 of EM&A Manual, Baseline Water Quality Monitoring Report should be submitted to EPD at least 4 weeks before commencement of construction works at Tuen Mun River Channel for agreement. A Baseline Water Quality Monitoring Proposal which provides the details of monitoring methodology, equipment, monitoring locations and criteria for the baseline water quality monitoring was agreed by EPD on 21 August 2023.

The baseline monitoring for water quality was carried out 3 days per week for 4 weeks between 22 August and 19 September 2023 (wet season) at 11 designated water quality monitoring stations prior to the commencement of the construction works at Tuen Mun River Channel. Due to typhoon signal No. 8 hoisted on 2 September 2023, no water monitoring was conducted throughout that day. As such additional monitoring day was carried out on 19 September 2023 to obtain sufficient data. The collected data was reviewed and analysed to establish the Action and Limit Levels for water quality in each monitoring stations during the impact monitoring period in wet season (i.e. April to October). In addition, the monthly water quality results between 2020 and 2022 were obtained from the selected EPD routine monitoring stations which were used to review the seasonal fluctuation, and the results were used for the derivation of Action and Limit Level in dry season (i.e. November to March) for each monitoring stations.

The results of baseline water quality in wet season are summarized in the following table:

Table E1 Summary of Baseline Water Quality Monitoring Results (Mid-Ebb)

Locations		Parameters					
		Salinity (ppt)	Dissolved Oxygen (mg/L)	pH	Dissolved Oxygen Saturation (%)	Turbidity (NTU)	Suspended Solids (mg/L)
W1a[(1)]	Avg.	22.0	3.1	7.61	45.92	4.65	3.64
	Min.	10.0	1.4	7.29	20.50	1.40	2.20
	Max	28.6	5.0	7.91	74.70	9.70	7.50
W2[(1)]	Avg.	25.0	3.5	7.72	52.05	3.55	3.55
	Min.	21.4	2.1	7.48	28.70	1.50	2.20
	Max	28.7	5.0	7.91	75.00	8.80	8.00
W3[(1)]	Avg.	25.3	4.1	7.79	60.98	2.75	3.18
	Min.	23.8	1.5	7.46	21.50	1.60	2.00
	Max	28.7	5.9	7.94	88.70	4.40	5.20
W4[(1)]	Avg.	25.6	4.0	7.78	59.16	3.01	3.21
	Min.	24.0	1.6	7.37	23.50	1.60	2.20
	Max	28.6	5.8	7.93	86.00	6.10	5.80
W5[(2)]	Avg.	25.1	3.9 (Surface)	7.75	56.25	2.93	3.39

Locations		Parameters					
		Salinity (ppt)	Dissolved Oxygen (mg/L)	pH	Dissolved Oxygen Saturation (%)	Turbidity (NTU)	Suspended Solids (mg/L)
			3.7 (Bottom)				
	Min.	20.0	1.4 (Surface) 1.5 (Bottom)	7.27	18.10	1.60	2.10
	Max	28.8	6.3(Surface) 5.7 (Bottom)	7.97	94.50	5.80	5.80
W6(2)	Avg.	24.8	4.0 (Surface) 3.8 (Bottom)	7.76	57.38	3.27	3.27
	Min.	12.0	1.6 (Surface) 1.6 (Bottom)	7.08	22.10	1.40	2.10
	Max	28.9	6.2 (Surface) 5.6 (Bottom)	7.97	91.50	5.70	5.30
W7(2)	Avg.	25.3	4.0 (Surface) 3.9 (Bottom)	7.76	57.68	3.64	3.26
	Min.	17.7	2.3(Surface) 1.7 (Bottom)	7.23	24.40	1.70	1.90
	Max	29.1	6.1 (Surface) 5.8 (Bottom)	7.95	90.90	7.80	5.30

Notes:
(1) Water depth of the monitoring station was less than 3m, therefore mid-depth station was monitored.
(2) Water depth of the monitoring station was between 3m and 6 m, therefore mid-depth station was omitted. Depth average (surface and bottom) of parameters were presented in this table.

Table E2 Summary of Baseline Water Quality Monitoring Results (Mid-Flood)

Locations		Parameters					
		Salinity (ppt)	Dissolved Oxygen (mg/L)	pH	Dissolved Oxygen Saturation (%)	Turbidity (NTU)	Suspended Solids (mg/L)
W1a(1)	Avg.	21.9	3.2	7.61	46.31	4.90	3.79
	Min.	13.6	2.2	7.31	30.30	1.40	2.20
	Max	28.4	5.0	7.91	75.20	10.70	6.30
W2(1)	Avg.	24.9	3.5	7.70	51.15	3.90	3.33
	Min.	21.1	1.9	7.43	27.10	1.50	1.70
	Max	28.5	5.2	7.90	77.20	8.20	6.00
W3(1)	Avg.	25.3	3.8	7.76	55.34	3.10	3.43
	Min.	23.4	1.8	7.46	25.60	1.30	1.60
	Max	28.6	5.9	7.99	88.70	5.40	5.40
W8(2)	Avg.	25.3	3.7 (Surface) 3.4 (Bottom)	7.70	52.35	3.67	3.14
	Min.	21.4	1.9 (Surface) 1.6 (Bottom)	7.28	23.50	1.60	1.80
	Max	29.0	5.4 (Surface) 5.1 (Bottom)	7.98	79.90	6.00	7.60
W9(1)	Avg.	25.2	3.8	7.78	56.12	3.06	2.80
	Min.	23.4	1.7	7.49	24.20	1.40	1.20
	Max	28.8	5.7	7.98	84.40	5.50	4.30
W10(2)	Avg.	25.3	3.7 (Surface) 3.5 (Bottom)	7.76	53.23	3.22	3.19
	Min.	21.4	1.7 (Surface) 1.7 (Bottom)	7.42	23.50	1.40	1.60
	Max.	28.8	5.7 (Surface) 5.4 (Bottom)	7.96	83.40	6.00	6.00
W11(1)	Avg.	25.4	3.7	7.76	54.92	2.94	3.18

Locations		Parameters					
		Salinity (ppt)	**Dissolved Oxygen (mg/L)**	**pH**	**Dissolved Oxygen Saturation (%)**	**Turbidity (NTU)**	**Suspended Solids (mg/L)**
	Min.	23.8	1.7	7.49	24.90	1.40	2.00
	Max	28.6	5.8	7.99	85.50	5.60	5.70

Notes:
(1) Water depth of the monitoring station was less than 3m, therefore mid-depth station was monitored.
(2) Water depth of the monitoring station was between 3m and 6 m, therefore mid-depth station was omitted. Depth average (surface and bottom) of parameters were presented in this table.

1 INTRODUCTION

1.1 Background

1.1.1 The Tuen Mun South Extension (TME) (hereinafter referred to as "the Project") is one of the seven recommended railway schemes in the Railway Development Strategy 2014 ("RDS-2014"). The Project will extend the Tuen Ma Line (TML), from Tuen Mun (TUM) Station southwards by about 2.4 km, terminating at a new station near Tuen Mun Ferry Pier (i.e. Tuen Mun South (TMS) Station) with an intermediate station at Tuen Mun Area 16 (i.e. A16 Station).

1.1.2 The Environmental Impact Assessment (EIA) Report (Register No.: AEIAR-236/2022) for the Project was approved on 12 July 2022 under the Environmental Impact Assessment Ordinance (EIAO). Following the approval of the EIA Report, an Environmental Permit (EP) was granted on 18 August 2022 (EP No: EP-615/2022) for the construction and operation of the Project.

1.1.3 The key elements of the Project are listed below:

- Construction and operation of 2.4-km extension of the viaduct structure from TUM Station to the new TMS Station;
- Construction and operation of two new stations, namely TMS Station and A16 Station;
- Construction and operation of Stations associated facilities; and
- Construction and operation of a railway siding adjacent to A16 Station.

1.1.4 In accordance with the approved Environmental Monitoring and Audit Manual (EM&A Manual) for the Project, baseline environmental monitoring should be conducted prior to the commencement of construction works. Pursuant to Condition 3.3 of the EP, Baseline Monitoring Reports shall be submitted to the Director of Environmental Protection at least 2 weeks before the commencement of construction of the Project. According to Section 4.2.7 of EM&A Manual, Water Quality Baseline Monitoring Report should be submitted to EPD at least 4 weeks before commencement of construction works at Tuen Mun River Channel for agreement. A Baseline Water Quality Monitoring Proposal (BWQMP) (**Appendix 1.1** refers) which provides the details of monitoring methodology, equipment, monitoring locations and criteria for the baseline water quality monitoring was agreed by EPD on 21 August 2023.

1.1.5 According to the EM&A Manual (Register No.: AEIAR-236/2022), baseline water quality monitoring should be conducted prior to the commencement of the construction works at Tuen Mun River Channel to review the baseline conditions and establish Action and Limit Levels. . Baseline water quality monitoring was conducted between 22 August and 19 September 2023 at the designated monitoring stations.

1.2 Purpose of the Report

1.2.1 This Baseline Water Quality Report presents the monitoring locations, equipment, period, methodology, results and observations during the baseline monitoring period.

1.2.2 The purposes of this Report are to:

- Summarise the findings of baseline monitoring for water quality; and
- Establish the Action and Limit (A/L) levels in accordance with the EM&A Manual for the subsequent impact monitoring during construction stage.

1.3 Structure of the Report

1.3.1 This Report comprises the following sections:

- Section 1 introduces the background of the Project and purpose of this Report;
- Section 2 presents the baseline monitoring requirements, methodologies and monitoring results of water quality; and
- Section 3 concludes the findings of the baseline monitoring.

2 WATER QUALITY MONITORING

2.1 Monitoring Requirements

2.1.1 According to the BWQMP, baseline water quality monitoring was undertaken to establish the baseline water quality levels at the designated monitoring stations. The baseline monitoring was conducted 3 days per week for at least 4 weeks prior to the commencement of the construction works at Tuen Mun River Channel.

2.1.2 Measurements at control stations (i.e. W1a and W8) were taken at mid-ebb and mid-flood tides respectively. Water depths, namely, 1 m below water surface, mid-depth and 1 m above river bed, except where the water depth was less than 6m, in which case the mid-depth station was omitted. If the water depth was less than 3m, only the mid-depth station would be monitored.

2.2 Monitoring Equipment

2.2.1 Based on the BWQMP, the monitoring equipment in **Table 2.1** were used for the in-situ measurement of water quality. A copy of the calibration certificates for the water quality monitoring equipment are provided in **Appendix 2.1**.

Table 2.1 Water Quality Monitoring Equipment

Equipment	Model
DO and Temperature Meter, Salinity Meter, pH meter and Turbidimeter	YSI Model ProDSS(1) & YSI Model 6820. V2(1) Reference: ProDSS https://www.ysi.com/file%20library/documents/brochures%20and%20catalogs/ysi-prodss-catalog.pdf 6820 V2 https://www.xylem-analytics.com.au/media/pdfs/e36-6820-6920-v2.pdf
Positioning Equipment	JRC DGPS 224 Model JLR-4341 with J-NAV 500 Model NWZ4551
Water Depth Detector	Eagle cuda 168
Water Sampler	Kahlsico Water Sampler 2 L with messenger

2.3 Monitoring Parameters, Frequency and Duration

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

Table 2.2 Water Quality Monitoring Parameters, Frequency and Duration

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

2.4 Monitoring Locations

2.4.1 In accordance with BWQMP, the monitoring was conducted at 11 designated monitoring stations as shown in **Table 2.3**. The locations of the monitoring stations are shown in **Figure No. C1502/C/TME/ACM/M64/003**.

Table 2.3 Locations of Water Quality Impact Stations

Monitoring Station No.	Description	Coordinates	
		Easting	Northing
Ebb Tide			
W1a(1)	Control Station	815248	828328
W2	Impact Station	815152	827793
W3	Impact Station	814910	827397
W4	Impact Station	814842	827316
W5	Impact Station	814729	826983
W6	Impact Station	814732	826890
W7	Impact Station	814715	826771
Flood Tide			
W8	Control Station	814789	826682
W9	Impact Station	814693	826816
W10	Impact Station	814717	826927
W11	Impact Station	814759	827168
W3	Impact Station	814910	827397
W2	Impact Station	815152	827793
W1a(1)	Impact Station	815248	828328

Remarks:
(1) W1a was proposed as the alternative baseline water quality monitoring location of W1 and was approved by EPD. Details can be referred to the approved BWQMP (Appendix 1.1 refers).

2.5 Monitoring Methodology

2.5.1 The procedures adopted for dissolved oxygen (DO), dissolved oxygen saturation (DO%), temperature, turbidity, pH, salinity and suspended solids (SS) measurement followed the BWQMP and are discussed in the following sections.

Instrumentation

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

Operating/Analytical Procedures

2.5.3 Based on the in-situ measurements, 6 water monitoring stations including W1a, W2-W4, W9 and W11 had water depths of less than 3m, while the rest of the water monitoring stations had water depths between 3m and 6m. The measurements and samplings at the mid-depth station was omitted for those monitoring stations with water depth between 3m and 6m, while only the mid-depth station was monitored at those monitoring stations with water depth of less than 3m.

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

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

Maintenance and Calibration

2.5.6 Before each round of monitoring, the dissolved oxygen probe of YSI (ProDSS & 6820 V2) was calibrated by the wet bulb method.

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

Results and Observations

2.6.1 The baseline water quality monitoring at the designated monitoring stations were conducted between 22 August and 19 September 2023. Based on the Hong Kong Observation weather record, typhoon signal No. 8 was hoisted on 2 September 2023 and no monitoring was carried out throughout that day. As such, one additional monitoring day (i.e. 19 September 2023) was conducted to obtain sufficient data. The monitoring results during mid-ebb and mid-flood are summarized in **Table 2.4** and **Table 2.5** respectively. Details of water quality monitoring results are presented in **Appendix 2.4**.

2.6.2 The weather conditions during the monitoring period were mainly sunny with occasional cloudy and shower. River conditions throughout the monitoring days were consistently moderate. No major pollution sources, which might affect the results, were observed in the vicinity during the baseline monitoring. It is considered that the baseline monitoring data collected between the period of 22 August and 19 September 2023 represent the baseline water quality conditions.

Table 2.4 Summary of Baseline Water Quality Monitoring Results (Mid-Ebb)

Locations		Parameters					
		Salinity (ppt)	Dissolved Oxygen (mg/L)	pH	Dissolved Oxygen Saturation (%)	Turbidity (NTU)	Suspended Solids (mg/L)
W1a(1)	Avg.	22.0	3.1	7.61	45.92	4.65	3.64
	Min.	10.0	1.4	7.29	20.50	1.40	2.20
	Max	28.6	5.0	7.91	74.70	9.70	7.50
W2(1)	Avg.	25.0	3.5	7.72	52.05	3.55	3.55
	Min.	21.4	2.1	7.48	28.70	1.50	2.20
	Max	28.7	5.0	7.91	75.00	8.80	8.00
W3(1)	Avg.	25.3	4.1	7.79	60.98	2.75	3.18
	Min.	23.8	1.5	7.46	21.50	1.60	2.00
	Max	28.7	5.9	7.94	88.70	4.40	5.20
W4(1)	Avg.	25.6	4.0	7.78	59.16	3.01	3.21
	Min.	24.0	1.6	7.37	23.50	1.60	2.20
	Max	28.6	5.8	7.93	86.00	6.10	5.80
W5(2)	Avg.	25.1	3.9 (Surface) 3.7 (Bottom)	7.75	56.25	2.93	3.39
	Min.	20.0	1.4 (Surface) 1.5 (Bottom)	7.27	18.10	1.60	2.10
	Max	28.8	6.3(Surface) 5.7 (Bottom)	7.97	94.50	5.80	5.80
W6(2)	Avg.	24.8	4.0 (Surface) 3.8 (Bottom)	7.76	57.38	3.27	3.27
	Min.	12.0	1.6 (Surface) 1.6 (Bottom)	7.08	22.10	1.40	2.10
	Max	28.9	6.2 (Surface) 5.6 (Bottom)	7.97	91.50	5.70	5.30
W7(2)	Avg.	25.3	4.0 (Surface) 3.9 (Bottom)	7.76	57.68	3.64	3.26
	Min.	17.7	2.3(Surface) 1.7 (Bottom)	7.23	24.40	1.70	1.90
	Max	29.1	6.1 (Surface) 5.8 (Bottom)	7.95	90.90	7.80	5.30

Notes:
(1) Water depth of the monitoring station was less than 3m, therefore mid-depth station was monitored.
(2) Water depth of the monitoring station was between 3m and 6 m, therefore mid-depth station was omitted. Depth average (surface and bottom) of parameters were presented in this table.

Table 2.5 Summary of Baseline Water Quality Monitoring Results (Mid-Flood)

Locations		Parameters					
		Salinity (ppt)	Dissolved Oxygen (mg/L)	pH	Dissolved Oxygen Saturation (%)	Turbidity (NTU)	Suspended Solids (mg/L)
W1a(1)	Avg.	21.9	3.2	7.61	46.31	4.90	3.79
	Min.	13.6	2.2	7.31	30.30	1.40	2.20
	Max	28.4	5.0	7.91	75.20	10.70	6.30
W2(1)	Avg.	24.9	3.5	7.70	51.15	3.90	3.33
	Min.	21.1	1.9	7.43	27.10	1.50	1.70
	Max	28.5	5.2	7.90	77.20	8.20	6.00
W3(1)	Avg.	25.3	3.8	7.76	55.34	3.10	3.43
	Min.	23.4	1.8	7.46	25.60	1.30	1.60
	Max	28.6	5.9	7.99	88.70	5.40	5.40
W8(2)	Avg.	25.3	3.7 (Surface) 3.4 (Bottom)	7.70	52.35	3.67	3.14
	Min.	21.4	1.9 (Surface) 1.6 (Bottom)	7.28	23.50	1.60	1.80
	Max	29.0	5.4 (Surface) 5.1 (Bottom)	7.98	79.90	6.00	7.60
W9(1)	Avg.	25.2	3.8	7.78	56.12	3.06	2.80
	Min.	23.4	1.7	7.49	24.20	1.40	1.20
	Max	28.8	5.7	7.98	84.40	5.50	4.30
W10(2)	Avg.	25.3	3.7 (Surface) 3.5 (Bottom)	7.76	53.23	3.22	3.19
	Min.	21.4	1.7 (Surface) 1.7 (Bottom)	7.42	23.50	1.40	1.60
	Max.	28.8	5.7 (Surface) 5.4 (Bottom)	7.96	83.40	6.00	6.00
W11(1)	Avg.	25.4	3.7	7.76	54.92	2.94	3.18
	Min.	23.8	1.7	7.49	24.90	1.40	2.00
	Max	28.6	5.8	7.99	85.50	5.60	5.70

Notes:
(1) Water depth of the monitoring station was less than 3m, therefore mid-depth station was monitored.
(2) Water depth of the monitoring station was between 3m and 6 m, therefore mid-depth station was omitted. Depth average (surface and bottom) of parameters were presented in this table.

2.7 Action and Limit Levels

2.7.1 The Action and Limit Levels (AL levels) have been set in accordance with the derivation criteria specified in the EM&A Manual as shown in **Table 2.6**. Based on the baseline water quality monitoring data collected between 22 August and 19 September 2023, the derived AL levels for each monitoring stations during the wet season (i.e. April to October) impact monitoring are presented in **Appendix 2.5**.

Table 2.6 Derivation of Action and Limit Levels for Water Quality

Parameters	Action Level	Limit Level
DO in mg/L	5 percentile of baseline data	<4mg/L or 1 percentile of baseline data
Suspended Solids in mg/L (depth-averaged)	95 percentile of baseline data and 120% of upstream control station at the same tide of the same day	99 percentile of baseline data and 130% of upstream control station at the same tide of the same day
Turbidity in NTU	95 percentile of baseline data	99 percentile of baseline data

Parameters	Action Level	Limit Level
(depth-averaged)	and 120% of upstream control station at the same tide of the same day	and 130% of upstream control station at the same tide of the same day

Remarks:
(2) "Depth-averaged" is calculated by taking the arithmetic means of reading of all sampling depths.
(3) For DO, non-compliance of the water quality limits occurs when monitoring result is lower than the limits.
(4) For turbidity and SS, non-compliance of the water quality limits occurs when monitoring result is higher than the limits.
(5) All the figures given in the table are used for reference only and the EPD may amend the figures whenever it is considered as necessary.

2.8 Dry Season Impact Monitoring

2.8.1 Seasonal fluctuation would be taken into account for the derivation of Action and Limit Level in dry season (i.e. November to March).

2.8.2 With respect to the locations of impact monitoring stations, the closest EPD routine monitoring station (i.e. TN3 & TN6) was located in Tune Mun River under North Western Water Control Zone. The monthly DO, SS and turbidity results between 2020 and 2022 obtained from the selected EPD routine monitoring stations were used to review the seasonal fluctuation. A summary of EPD monitoring data between 2020 and 2022 is provided in **Appendix 2.6** whilst the background conditions within this period during wet season (i.e. April to October) and dry season (i.e. November to March) is presented in **Appendix 2.7**.

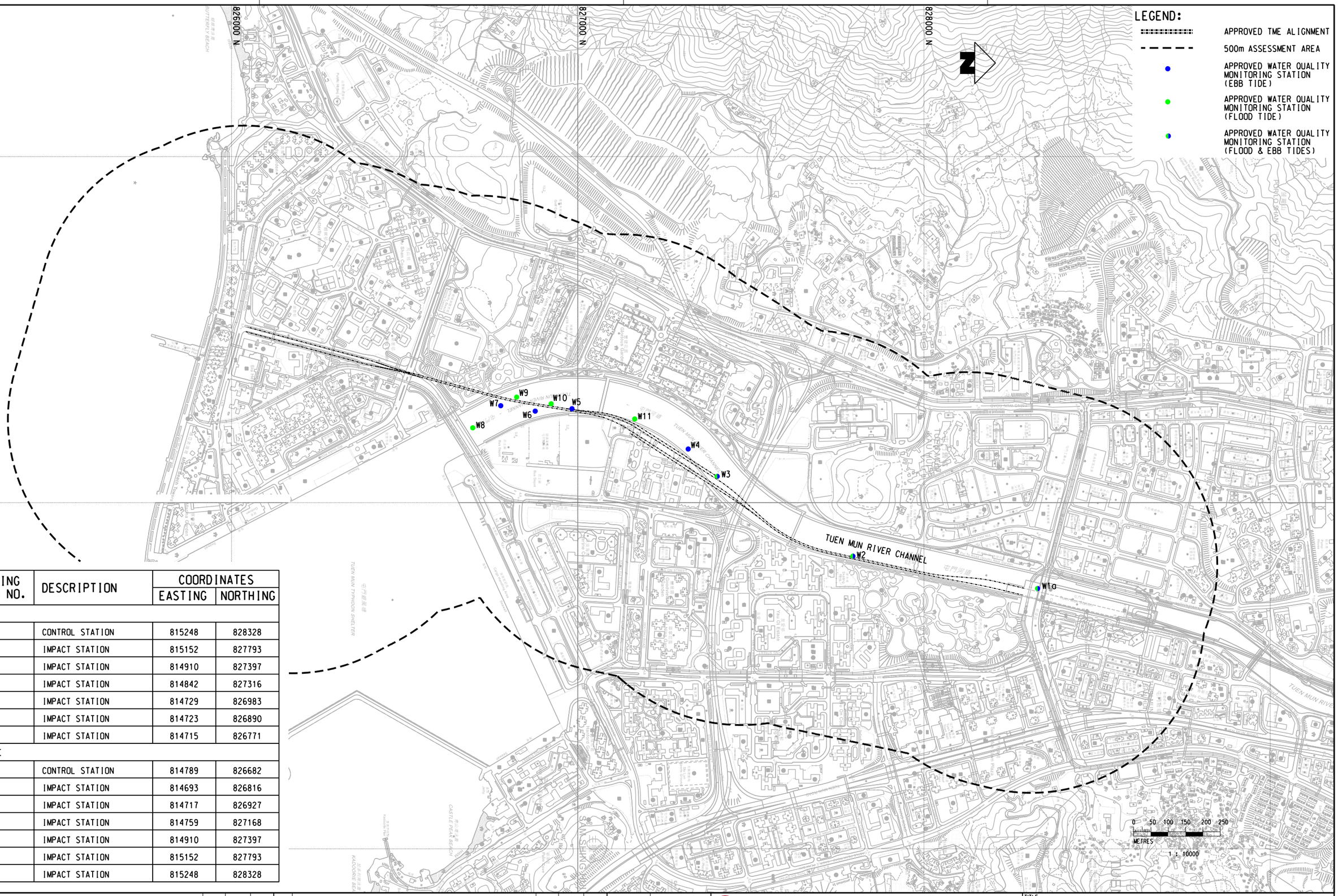
2.8.3 The variation of average percentage between two seasons is applied to the baseline monitoring data taken from the wet season to derive the AL levels for each monitoring station during the impact monitoring in dry season as shown in **Appendix 2.8**.

3 CONCLUSION

3.1.1 Baseline water quality monitoring was conducted between 22 August and 19 September 2023 (wet season) at 11 designated monitoring stations (i.e. 9 impact stations and 2 control stations). During the monitoring period, typhoon signal No. 8 was hoisted on 2 September 2023 and no monitoring was carried out throughout that day. As such, one additional monitoring day (i.e. 19 September 2023) was conducted to obtain sufficient data.

3.1.2 The monthly DO, SS and turbidity results between 2020 and 2022 obtained from the selected EPD monitoring stations (i.e. TN3 & TN6) in Tune Mun River were also used to review the seasonal fluctuation for the derivation of the Action and Limit Levels in dry season. Action and Limit Levels in wet and dry season were derived based on the baseline monitoring results.

Figure



MONITORING STATION NO.	DESCRIPTION	COORDINATES	
		EASTING	NORTHING
EBB TIDE			
W1a	CONTROL STATION	815248	828328
W2	IMPACT STATION	815152	827793
W3	IMPACT STATION	814910	827397
W4	IMPACT STATION	814842	827316
W5	IMPACT STATION	814729	826983
W6	IMPACT STATION	814723	826890
W7	IMPACT STATION	814715	826771
FLOOD TIDE			
W8	CONTROL STATION	814789	826682
W9	IMPACT STATION	814693	826816
W10	IMPACT STATION	814717	826927
W11	IMPACT STATION	814759	827168
W3	IMPACT STATION	814910	827397
W2	IMPACT STATION	815152	827793
W1a	IMPACT STATION	815248	828328

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

PLOT DRV: P:\PROJECTS\60646499\CAD.ADMIN\PLOT_DRIVER\A3 COLOUR.pltPLOTTED BY: Yuxuan.He 10/7/2023 9:57:03 AM
MODEL NAME: Default
FILENAME: P:\PROJECTS\60646499\Drawing\REPORT\C1502\C1502_C_TME_ACM_M64_103.dgn

REV	DESCRIPTION	BY	DATE	APPROVED	REV	DESCRIPTION	BY	DATE	APPROVED

DRAWN	
DESIGNED	
CHECKED	
APPROVED	
DATE	

DO NOT SCALE DRAWINGS. ALL DIMENSIONS SHALL BE VERIFIED ON SITE.
© MTR CORPORATION (LIMITED 2008 COPYRIGHT IN RESPECT OF THIS DRAWING / DOCUMENT IS OWNED BY THE MTR CORPORATION (LIMITED OF HONG KONG. NO REPRODUCTION OF THE DRAWING / DOCUMENT OR ANY PART BY WHATEVER MEANS IS PERMITTED WITHOUT THE PRIOR WRITTEN CONSENT OF THE MTR CORPORATION (LIMITED.

MTR

TUEN MUN SOUTH EXTENSION

ORIGINATOR

AECOM

CADD REF. C1502_C_TME_ACM_M64_103.dgn

TITLE

C1502
TUEN MUN SOUTH EXTENSION
LOCATIONS OF WATER QUALITY MONITORING STATIONS

SCALE 1 : 10000 (A3)

FIGURE NO. C1502/C/TME/ACM/M64/103

REV. A

Appendix 1.1

Agreed Baseline Water Quality Monitoring Proposal

本署檔號
OUR REF: ( ) in EP2/N4/A/131 Pt.2
來函檔號
YOUR REF: C1502-COR-CEM-ENV-060060
電　　話
TEL. NO. : 2835 1107
圖文傳真
FAX NO : 2591 0558
電子郵件
E-MAIL: virginiawong@epd.gov.hk
網　　址
HOMEPAGE: http://www.epd.gov.hk

Environmental Protection Department
Branch Office
28th Floor, Southorn Centre,
130 Hennessy Road,
Wan Chai, Hong Kong.

環境保護署分處
香港灣仔
軒尼詩道
一百三十號
修頓中心廿八樓

21 August 2023

By Post & Fax (1 page): 3761 4610

MTR Corporation Limited
Environmental Section
8/F Fo Tan Railway House,
No.9 Lok King Street, Fo Tan
Sha Tin, Hong Kong
(Attn: Raymond WONG, Senior Environmental Manager (Capital Works))

Dear Mr. WONG,

Environmental Impact Assessment (EIA) Ordinance, Cap. 499
Project Title: Tuen Mun South Extension
Environmental Permit (EP) No.EP-615/2022
Baseline Water Quality Monitoring Proposal

I refer to your letter dated 11 August 2023 submitting Baseline Water Quality Monitoring Proposal for Tuen Mun South Extension.

According to the information provided, one water quality monitoring station (i.e. W1) within works area in Tuen Mun River Channel is proposed to be shifted slightly. The relocation proposal is also certified by Environmental Team Leader and verified by the Independent Environmental Checker.

Based on the above, we have no comment on the proposed relocation of water quality monitoring station.

Yours sincerely,

(Ms. Virginia WONG)
Environmental Protection Officer
for Director of Environmental Protection

c.c.

HyD/RDO	Attn: Mr. Y.C. TING	Fax no: 3525 1527
Meinhardt (IEC)	Attn: Mr. Adi Yuk-ming LEE / Ms. Wing-man LUI	Fax no: 2559 1613
AECOM	Attn: Ms. Angela Tong	By email

MTR Corporation Limited

TUEN MUN SOUTH EXTENSION

(No. EP-615/2022)

Baseline Water Quality Monitoring Proposal

Certified by	:	
		(Raymond Wong)
Position	:	Environmental Team Leader
Date	:	11/8/2023

Verified by	:	
		(Adi Lee)
Position	:	Independent Environmental Checker
Date	:	11/8/2023

AECOM

MTR Corporation Limited

Consultancy Agreement No. C1502

Tuen Mun South Extension – Baseline Water Quality Monitoring Proposal

August 2023

	Name	Signature
Prepared & Checked:	Ben Wong	
Reviewed & Approved:	Angela Tong	

Version: 1	Date: 11 August 2023

This report is prepared for MTR Corporation Limited and is given for its sole benefit in relation to and pursuant to Consultancy Agreement No. C1502 and may not be disclosed to, quoted to or relied upon by any person other than MTR Corporation Limited without our prior written consent. No person (other than MTR Corporation Limited) into whose possession a copy of this report comes may rely on this report without our express written consent and MTR Corporation Limited may not rely on it for any purpose other than as described above.

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

Table of Content

Page

List of Tables

List of Figure

List of Appendices

1. INTRODUCTION

1.1 Background

1.1.1 The Tuen Mun South Extension (TME) (hereinafter referred to as "the Project") is one of the seven recommended railway schemes in the Railway Development Strategy 2014 ("RDS-2014"). The Project will extend the Tuen Ma Line (TML), from Tuen Mun (TUM) Station southwards by about 2.4 km, terminating at a new station near Tuen Mun Ferry Pier (i.e. Tuen Mun South (TMS) Station) with an intermediate station at Tuen Mun Area 16 (i.e. A16 Station).

1.1.2 The Environmental Impact Assessment (EIA) Report (Register No.: AEIAR-236/2022) for the Project was approved on 12 July 2022 under the Environmental Impact Assessment Ordinance (EIAO). Following the approval of the EIA Report, an Environmental Permit (EP) was granted on 18 August 2022 (EP No: EP-615/2022) for the construction and operation of the Project.

1.1.3 The key elements of the Project as assessed in the Environmental Impact Assessment (EIA) Report are listed below:

- Construction and operation of 2.4-km extension of the viaduct structure from TUM Station to the new TMS Station;
- Construction and operation of two new stations, namely TMS Station and A16 Station;
- Construction and operation of Stations associated facilities; and
- Construction and operation of a railway siding adjacent to A16 Station.

1.1.4 According to the approved EM&A Manual (Register No.: AEIAR-236/2022), baseline water quality monitoring should be conducted prior to the commencement of the construction works at Tuen Mun River Channel to review the baseline conditions and establish Action and Limit Levels. Based on the latest construction programme, the construction works of the Project would commence in early November 2023.

1.2 Purpose of this Proposal

1.2.1 The purpose of this Baseline Water Quality Monitoring Proposal is to provide the details of monitoring methodology, equipment, monitoring locations and criteria for the baseline water quality monitoring; and to propose alternative baseline water quality monitoring locations (if any) for agreement with the Independent Environmental Checker (IEC) and Environmental Protection Department (EPD).

2. BASELINE WATER QUALITY MONITORING

2.1 Introduction

2.1.1 This section presents the methodology, equipment, monitoring locations and criteria for the baseline water quality monitoring.

2.2 Baseline Water Quality Monitoring and Reporting Schedule

2.2.1 The measurements should be carried out 3 days per week, at mid-flood and mid-ebb tides, for at least 4 weeks prior to the commencement of construction works at Tuen Mun River Channel. Any construction works at Tuen Mun River Channel should be avoided in the vicinity of the stations during the baseline monitoring as far as practicable. The interval between 2 sets of monitoring should not be less than 36 hours.

2.2.2 The baseline monitoring schedule would commence in end of August 2023 and complete in mid- September 2023. The proposed baseline water quality monitoring schedule is presented in **Appendix A**. EPD will be notified immediately for any changes in schedule.

2.2.3 The Water Quality Monitoring report will be submitted in three weeks after the completion of the water quality monitoring.

2.3 Baseline Water Quality Monitoring Parameters

2.3.1 Dissolved Oxygen (DO), Dissolved Oxygen Saturation (DO%), temperature, pH, turbidity, salinity, suspended solid (SS) and water depth should be monitored at designated water quality monitoring stations. All parameters should be measured in-situ whereas SS should be determined by the laboratory. DO should be presented in mg/L and in % saturation.

2.3.2 Other relevant data should also be recorded, including monitoring location / position, time, tidal stages, weather conditions and any special phenomena or work underway at the construction site during the monitoring.

2.4 Baseline Water Quality Monitoring Equipment and Methodology

Monitoring Position Equipment

2.4.1 A hand-held or boat-fixed type digital Differential Global Positioning System (DGPS) with way point bearing indication or other equipment instrument of similar accuracy, should be provided and used during water quality monitoring to ensure the monitoring vessel is at the correct location before taking measurements. DGPS or the equivalent instrument, calibrated at appropriate checkpoint (e.g. Quarry Bay Survey Nail at Easting 840683.49, Northing 816709.55) should be provided and used to ensure the monitoring station is at the correct position before taking measurement and water samples.

Sampler

2.4.2 A water sampler is required. It should comprise a transparent PVC cylinder, with a capacity of not less than 2 litres, which can be effectively sealed with latex cups at both ends. The sampler should have a positive latching system to keep it open and prevent premature closure until released by a messenger when the sampler is at the selected water depth (for example, Kahlsico Water Sampler or an approved similar instrument).

Water Depth Detector

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

Dissolved Oxygen and Temperature Measuring Instrument

2.4.4 The instrument should be a portable and weatherproof DO measuring instrument complete with cable and sensor and use a DC power source. The equipment should be capable of measuring:

- a DO-level in the range of 0 - 20 mg/L and 0 - 200% saturation; and
- a temperature of 0 - 45 degree Celsius with a capability of measuring to ±0.1 degree Celsius.

2.4.5 It should have a membrane electrode with automatic temperature compensation complete with a cable. Sufficient stocks of spare electrodes and cables should be available for replacement where necessary. (For example, YSI model 59 meter, YSI 5739 probe, YSI 5795A submersible stirrer with reel and cable or an approved similar instrument).

2.4.6 Should salinity compensation not be built-in to the DO equipment, in-situ salinity should be measured to calibrate the DO equipment prior to each DO measurement.

Turbidity Measuring Instrument

2.4.7 Turbidity should be measured in-situ by the nephelometric method. The instrument should be portable and weatherproof using a DC power source complete with cable, sensor and comprehensive operation manuals. It should have a photoelectric sensor capable of measuring turbidity between 0 - 1000 NTU (for example, Hach model 2100P or an approved similar instrument). The cable should not be less than 25m in length. The meter should be calibrated in order to establish the relationship between NTU units and the levels of suspended solids. The turbidity measurement should be carried out on split water sample collected from the same depths of suspended solids samples.

Salinity Measuring Equipment

2.4.8 A portable salinometer capable of measuring salinity in the range of 0 - 40 parts per thousand (ppt) should be provided for measuring salinity of the water at each monitoring location.

pH Measuring Equipment

2.4.9 The instrument should consist of a potentiometer, a glass electrode, a reference electrode and a temperature-compensating device. It should be readable to 0.1 pH in a range of 0 to 14. Standard buffer solutions of at least pH 7 and pH 10 should be used for calibration of the instrument before and after use. Details of the method should comply with APHA, 19th Edition 4500-HTB.

Sample Containers and Storage

2.4.10 Water samples for SS determination should be stored in high density polythene bottles with no preservative added, packed in ice (cooled to 4℃ without being frozen) and delivered to the laboratory and analysed as soon as possible after collection. Sufficient volume of samples should be collected to achieve the detection limit.

2.5 Calibration of In-Situ Instruments

2.5.1 All in-situ monitoring instruments should be checked, calibrated and certified by a laboratory accredited under HOKLAS or any other international accreditation scheme before use and subsequently re-calibrated at 3 monthly intervals throughout all stages of the water quality monitoring. Responses of sensors and electrodes should be checked with certified standard solutions before each use. Wet bulb calibration for a DO meter should be carried out before measurement at each monitoring location.

2.5.2 For the on-site calibration of field equipment, the BS 127:1993, Guide to Field and On-Site Test Methods for the Analysis of Water should be observed.

2.5.3 Sufficient stocks of spare parts should be maintained for replacements when necessary. Backup monitoring equipment should also be made available so that monitoring can proceed uninterrupted even when some equipment are under maintenance, calibration, etc.

2.6 Field Log

2.6.1 All relevant data should be recorded, including monitoring location / position, time, water depth, sampling depth, pH, salinity, DO saturation, DO, turbidity, water temperature, tidal stages, weather conditions and any special phenomena or work underway nearby.

2.6.2 A sample data record sheet is shown in **Appendix B** for reference.

2.7 Laboratory Measurement / Analysis

2.7.1 Analysis of suspended solids should be carried out in a HOKLAS or other international accredited laboratory. Sufficient water samples (i.e. not less than 2 litres) should be collected at the monitoring stations for carrying out the laboratory SS determinations, with detection limit shown in **Table 2.1**. All samples should be assigned a unique code and accompanied by Chain of Custody (COC) sheets.

2.7.2 The SS determination work should start within 24 hours after collection of the water samples. The analyses should follow the standard methods according to **Table 2.1** and as described in "American Public Health Association (APHA) Standard Methods for the Examination of Water and Wastewater", 21th edition, unless otherwise specified.

Table 2.1 Analytical Methods to be applied to Water Quality Samples

Determinant	Standard Method	Suggested Detection Limit
Suspended Solids (mg/L)	APHA 2540 D	0.1 mg/L

2.7.3 For the purpose of QA/QC, all QA/QC results including blank, spike recovery, number of duplicate samples per batch, etc. should be reported in accordance with the requirement of HOKLAS or international accredited scheme.

2.7.4 Additional duplicate samples may be required by EPD for inter laboratory calibration. Remaining samples after analysis should be kept by the laboratory for 3 months in case repeat analysis is required. If in-house or non-standard methods are proposed, details of the method verification may also be required to submit to EPD. In any circumstance, the sample testing should have comprehensive quality assurance and quality control programmes. The laboratory should prepare to demonstrate the programmes to EPD or his representatives when requested.

2.8 Baseline Water Quality Monitoring Stations

2.8.1 Based on the findings of the approved EIA Report, a total of 11 water quality monitoring stations are proposed in the Tuen Mun River Channel (W1 to W11) during ebb tide and flood tide and their coordinates are provided in **Table 2.2**, with their locations shown in **Figure No. C1502/C/TME/ACM/M64/003**.

Table 2.2 Proposed Baseline River Water Quality Monitoring Stations

Monitoring Station No.	Description	Coordinates	
		Easting	Northing
Ebb Tide			
W1	Control Station(1)	815248	828262
W2	Impact Station	815152	827793

Monitoring Station No.	Description	Coordinates	
		Easting	Northing
W3	Impact Station	814910	827397
W4	Impact Station	814842	827316
W5	Impact Station	814729	826983
W6	Impact Station	814732	826890
W7	Impact Station	814715	826771
Flood Tide			
W8	Control Station	814789	826682
W9	Impact Station	814693	826816
W10	Impact Station	814717	826927
W11	Impact Station	814759	827168
W3	Impact Station	814910	827397
W2	Impact Station	815152	827793
W1	Impact Station(1)	815248	828262

Note:
(1) According to the EM&A Manual, there is an inconsistence between the coordinates of W1 in Table 4.1 and the Monitoring Station of W1 shown in Figure No. C1502/C/TME/ACM/M60/401. To tally with the figure in the EM&A Manual, revised coordinates are listed in **Table 2.2** above.

2.8.2 During site visit, it is anticipated that difficulties in accessing to W1 may be encountered during construction phase due to its location will be within the works area and an alternative monitoring location is proposed.

2.9 Alternative Water Quality Monitoring Station

2.9.1 According to **Section 4.2.4** of the approved EM&A Manual, alternative monitoring location should be chosen based on the following criteria:

- Close to the sensitive receptors which are directly or likely to be affected;
- For monitoring locations located in the vicinity of the sensitive receptors, care should be taken to cause minimal disturbance during monitoring; and
- Two or more control stations which should be at representative locations of the Project site in its undisturbed condition. Control stations should be located, as far as practicable, both upstream and downstream of the works area.

2.9.2 An alternative monitoring station of W1a is proposed which is satisfied with the selection criteria as mentioned in **Section 2.9.1** and the access to W1a will not be affected by the works area. Thus, the W1a is proposed to be the alternative water monitoring station.

2.9.3 The baseline water quality monitoring stations with the alternative station are provided in **Table 2.3**, with their locations shown in **Figure No. C1502/C/TME/ACM/M64/003.**

Table 2.3 Baseline River Water Quality Monitoring Stations

Monitoring Station No.	Description	Coordinates	
		Easting	Northing
Ebb Tide			
W1a	**Control Station**	**815248**	**828328**
W2	Impact Station	815152	827793
W3	Impact Station	814910	827397
W4	Impact Station	814842	827316
W5	Impact Station	814729	826983
W6	Impact Station	814732	826890
W7	Impact Station	814715	826771
Flood Tide			
W8	Control Station	814789	826682
W9	Impact Station	814693	826816
W10	Impact Station	814717	826927
W11	Impact Station	814759	827168
W3	Impact Station	814910	827397
W2	Impact Station	815152	827793
W1a(1)	**Impact Station**	**815248**	**828328**

Note:
(1) Monitoring Station specified as '**Bold**' represents the alternative baseline water quality motioning locations.

2.9.4 In exceptional cases, when baseline monitoring data obtained are insufficient or questionable, the ET Leader should liaise with the IEC and EPD to agree on an appropriate set of data to be used as the baseline reference.

2.10 Monitoring Requirements

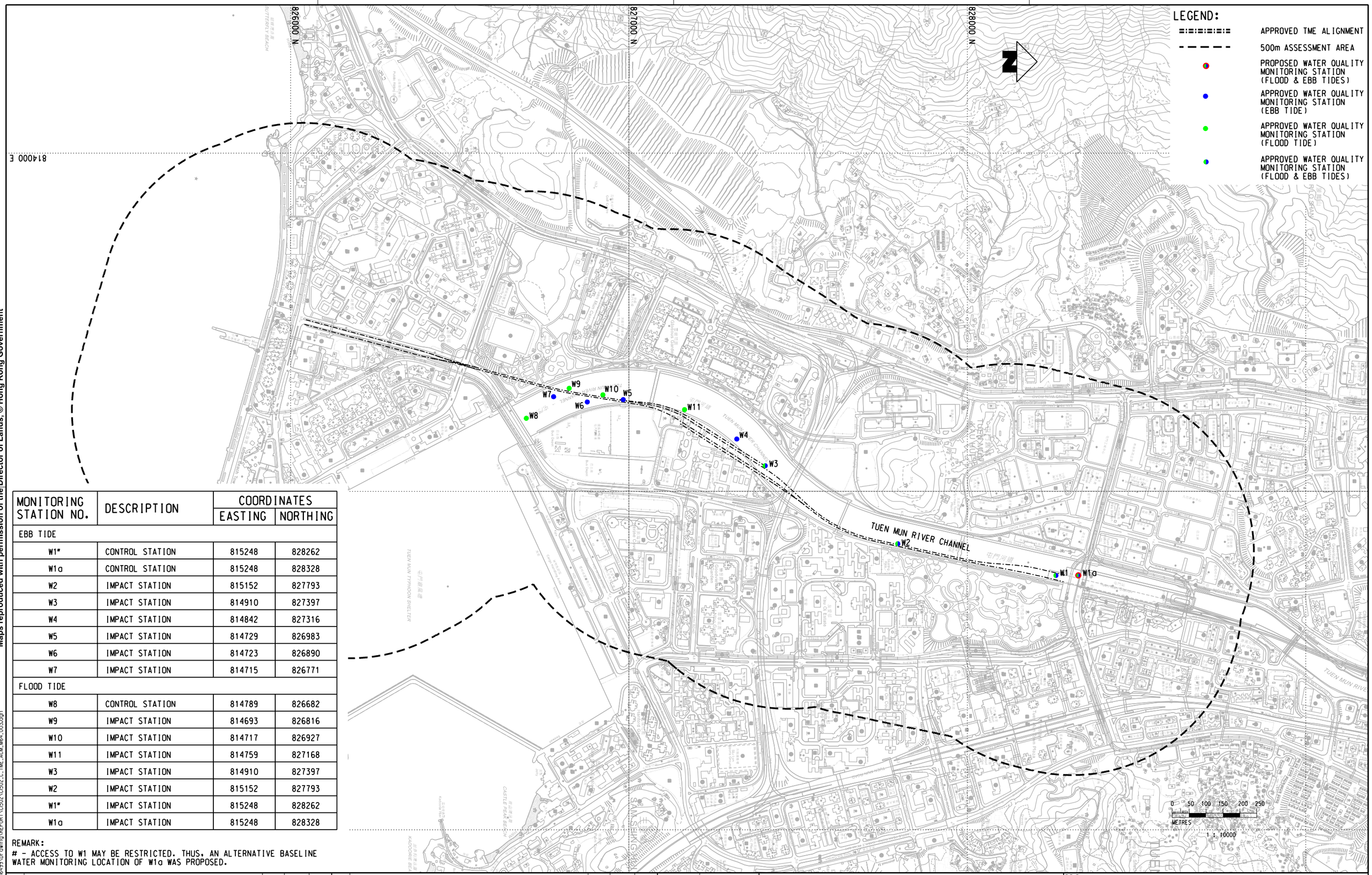
2.10.1 All water quality monitoring stations including control station should be carried out at 3 water depths, namely, 1m below water surface, mid-depth and 1m above sea bed, except where the water depth less than 6m, the mid-depth station may be omitted. Should the water depth be less than 3m, only the mid-depth station will be monitored.

2.10.2 Duplicate in-situ measurements and water sampling should be carried out in each sampling event for all parameters.

2.10.3 No sampling should be carried out when typhoon signal No. 3 or above or black rainstorm signal is hosted.

2.10.4 At each measurement depth, two consecutive measurements should be taken. The probes would be retrieved out of the water after the first measurement and then redeployed for the second measurement. When the difference in value between the first and second measurement of on-site parameters is more than 25% of the value of the first reading, the reading should be discarded and further readings should be taken.

Figure



MONITORING STATION NO.	DESCRIPTION	COORDINATES	
		EASTING	NORTHING
EBB TIDE			
W1*	CONTROL STATION	815248	828262
W1a	CONTROL STATION	815248	828328
W2	IMPACT STATION	815152	827793
W3	IMPACT STATION	814910	827397
W4	IMPACT STATION	814842	827316
W5	IMPACT STATION	814729	826983
W6	IMPACT STATION	814723	826890
W7	IMPACT STATION	814715	826771
FLOOD TIDE			
W8	CONTROL STATION	814789	826682
W9	IMPACT STATION	814693	826816
W10	IMPACT STATION	814717	826927
W11	IMPACT STATION	814759	827168
W3	IMPACT STATION	814910	827397
W2	IMPACT STATION	815152	827793
W1*	IMPACT STATION	815248	828262
W1a	IMPACT STATION	815248	828328

REMARK:
- ACCESS TO W1 MAY BE RESTRICTED. THUS, AN ALTERNATIVE BASELINE WATER MONITORING LOCATION OF W1a WAS PROPOSED.

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

PLOT DRV: P:\PROJECTS\606466499\CAD_ADMIN\PLOT_DRIVER\A3_COLOUR.pltr
MODELNAME: Default PRINTED BY: CAOPA 8/8/2023 4:53:33 PM
FILENAME: P:\PROJECTS\606466499\Drawing\REPORT\C1502\C1502_C_TME_ACM_M64_003.dgn

REV	DESCRIPTION	BY	DATE	APPROVED	REV	DESCRIPTION	BY	DATE	APPROVED

DRAWN	
DESIGNED	
CHECKED	
APPROVED	
DATE	

DO NOT SCALE DRAWINGS. ALL DIMENSIONS SHALL BE VERIFIED ON SITE.
© MTR CORPORATION LIMITED 2008 COPYRIGHT IN RESPECT OF THIS DRAWING / DOCUMENT IS OWNED BY THE MTR CORPORATION LIMITED OF HONG KONG. NO REPRODUCTION OF THE DRAWING / DOCUMENT OR ANY PART BY WHATEVER MEANS IS PERMITTED WITHOUT THE PRIOR WRITTEN CONSENT OF THE MTR CORPORATION LIMITED.

MTR

TUEN MUN SOUTH EXTENSION

ORIGINATOR

AECOM

CADD REF. C1502_C_TME_ACM_M64_003.dgn

TITLE

C1502
TUEN MUN SOUTH EXTENSION
LOCATIONS OF WATER QUALITY MONITORING STATIONS

SCALE 1 : 10000 (A3)

FIGURE NO. C1502/C/TME/ACM/M64/003

REV. A

Appendix A

Baseline Water Quality Monitoring Schedule

Tuen Mun South Extension (Baseline)
Tentative Baseline Water Quality Monitoring Schedule for Aug & Sep 2023

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
20-Aug	21-Aug	22-Aug	23-Aug	24-Aug	25-Aug	26-Aug
		Mid-flood 10:11 Mid-Ebb 16:16		Mid-flood 12:40 Mid-Ebb 17:59		Mid-Ebb 8:23 Mid-flood 20:59
27-Aug	28-Aug	29-Aug	30-Aug	31-Aug	1-Sep	2-Sep
		Mid-Flood 4:30 Mid-Ebb 11:37		Mid-flood 6:25 Mid-Ebb 13:13		Mid-flood 8:09 Mid-Ebb 14:38
3-Sep	4-Sep	5-Sep	6-Sep	7-Sep	8-Sep	9-Sep
		Mid-flood 10:54 Mid-Ebb 16:32		Mid-Ebb 6:16 Mid-flood 18:44		Mid-Ebb 9:04 Mid-flood 21:49
10-Sep	11-Sep	12-Sep	13-Sep	14-Sep	15-Sep	16-Sep
		Mid-Ebb 11:46 Mid-flood 18:52		Mid-Ebb 12:54 Mid-flood 19:30		Mid-Ebb 13:52 Mid-Flood 20:07

The schedule is subject to change due to unforeseeable circumstances (e.g. adverse weather, etc)

Appendix B

Sample Data Record Sheet for Baseline Water Quality Monitoring

Water Quality Monitoring Data Record Sheet

Monitoring Station	
Date	
Weather Condition	**Sunny / Fine / Cloudy / Rainy**
Sea Condition	**Calm / Moderate / Rough**
Tide Mode	**High Tide / Low Tide**
Start Time (hh:mm)	
Water Depth which sample is collected (m)	
pH	
Temperature (^oC)	
Salinity (ppt)	
Turbidity (NTU)	
Sample Identification	
Suspended Solids (mg/l)	
DO (mg/l)	
DO Saturation (%)	
Remarks / Other Observations	

	Name & Designation	Signature	Date
Recorded by:			
Checked by:			
Laboratory Staff:			

Notes:

1 The SS results are to be entered once they are available from the laboratory.

2 *In-situ* measurements shall be deployed at the designated location twice. The difference between the two consecutive measurements shall be within the range of 25%. If the difference is larger than 25%, the measurement shall be carried out again until the two consecutive readings agree to within 25%.

Appendix 2.1

Calibration Certificates of Monitoring Equipment

1. Calibration Certification of YSI Model ProDSS
(Calibration Period: 6 Jun - 6 Sep 2023)

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

REPORT OF EQUIPMENT PERFORMANCE CHECK/CALIBRATION

CONTACT:	MR W S CHAN	**WORK ORDER:**	HK2321714
CLIENT:	AECOM ASIA COMPANY LIMITED		
ADDRESS:	13/F, TOWER 2, GRAND CENTRAL PLAZA, 138 SHATIN RURAL COMMITTEE ROAD, SHATIN, HONG KONG	**SUB-BATCH:**	0
		LABORATORY:	HONG KONG
		DATE RECEIVED:	06-Jun-2023
		DATE OF ISSUE:	12-Jun-2023

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]/ [ProDSS]
Serial No./ Equipment No.:	[22J104777/22H104506]/ [W.026.37]
Date of Calibration:	06-June-2023

GENERAL COMMENTS

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

Ms. Lin Wai Yu, Iris
Assistant Manager - Inorganics

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

REPORT OF EQUIPMENT PERFORMANCE CHECK/CALIBRATION

WORK ORDER: HK2321714

SUB-BATCH: 0
DATE OF ISSUE: 12-Jun-2023
CLIENT: AECOM ASIA COMPANY LIMITED

Equipment Type: Multifunctional Meter
Brand Name/ Model No.: [YSI]/ [ProDSS]
Serial No./ Equipment No.: [22J104777/22H104506]/ [W.026.37]
Date of Calibration: 06-June-2023 Date of Next Calibration: 06-September-2023

PARAMETERS:

Conductivity **Method Ref: APHA (23rd edition), 2510B**

Expected Reading (µS/cm)	Displayed Reading (µS/cm)	Tolerance (%)
146.9	139.5	-5.0
6667	6327	-5.1
12890	12443	-3.5
58670	58115	-0.9
	Tolerance Limit (%)	±10.0

Dissolved Oxygen **Method Ref: APHA (23rd edition), 4500O: G**

Expected Reading (mg/L)	Displayed Reading (mg/L)	Tolerance (mg/L)
2.85	2.86	+0.01
5.35	5.39	+0.04
7.90	7.87	-0.03
	Tolerance Limit (mg/L)	±0.20

pH Value **Method Ref: APHA (23rd edition), 4500H: B**

Expected Reading (pH unit)	Displayed Reading (pH unit)	Tolerance (pH unit)
4.0	3.94	-0.06
7.0	7.05	+0.05
10.0	9.83	-0.17
	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.

Ms. Lin Wai Yu, Iris
Assistant Manager - Inorganics

REPORT OF EQUIPMENT PERFORMANCE CHECK/CALIBRATION

WORK ORDER: HK2321714

SUB-BATCH: 0
DATE OF ISSUE: 12-Jun-2023
CLIENT: AECOM ASIA COMPANY LIMITED

Equipment Type: Multifunctional Meter
Brand Name/ Model No.: [YSI]/ [ProDSS]
Serial No./ Equipment No.: [22J104777/22H104506]/ [W.026.37]
Date of Calibration: 06-June-2023 Date of Next Calibration: 06-September-2023

PARAMETERS:

Turbidity **Method Ref: APHA (23rd edition), 2130B**

Expected Reading (NTU)	Displayed Reading (NTU)	Tolerance (%)
0	0.16	--
4	4.05	+1.3
10	10.63	+6.3
20	20.82	+4.1
50	50.56	+1.1
100	100.96	+1.0
	Tolerance Limit (%)	±10.0

Salinity **Method Ref: APHA (23rd edition), 2520B**

Expected Reading (ppt)	Displayed Reading (ppt)	Tolerance (%)
0	0.00	--
10	9.82	-1.8
20	19.62	-1.9
30	29.59	-1.4
	Tolerance Limit (%)	±10.0

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

Ms. Lin Wai Yu, Iris
Assistant Manager - Inorganics

REPORT OF EQUIPMENT PERFORMANCE CHECK/CALIBRATION

WORK ORDER: HK2321714

SUB-BATCH: 0
DATE OF ISSUE: 12-Jun-2023
CLIENT: AECOM ASIA COMPANY LIMITED

Equipment Type: Multifunctional Meter
Brand Name/ Model No.: [YSI]/ [ProDSS]
Serial No./ Equipment No.: [22J104777/22H104506]/ [W.026.37]
Date of Calibration: 06-June-2023 Date of Next Calibration: 06-September-2023

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)
10.0	9.7	-0.3
20.0	19.5	-0.5
39.0	39.2	+0.2
	Tolerance Limit (°C)	±2.0

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

Ms. Lin Wai Yu, Iris
Assistant Manager - Inorganics

2. Calibration Certification of YSI Model 6820 V2
(Calibration Period: 1 Aug - 1 Nov 2023)

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

REPORT OF EQUIPMENT PERFORMANCE CHECK/CALIBRATION

CONTACT:	MR W S CHAN	**WORK ORDER:**	HK2330272
CLIENT:	AECOM ASIA COMPANY LIMITED		
ADDRESS:	13/F, TOWER 2, GRAND CENTRAL PLAZA, 138 SHATIN RURAL COMMITTEE ROAD, SHATIN, HONG KONG	**SUB-BATCH:**	0
		LABORATORY:	HONG KONG
		DATE RECEIVED:	01-Aug-2023
		DATE OF ISSUE:	07-Aug-2023

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:	01-August-2023

GENERAL COMMENTS

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

Ms. Lin Wai Yu, Iris
Assistant Manager - Inorganics

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

REPORT OF EQUIPMENT PERFORMANCE CHECK/CALIBRATION

WORK ORDER: HK2330272

SUB-BATCH: 0
DATE OF ISSUE: 07-Aug-2023
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: 01-August-2023 Date of Next Calibration: 01-November-2023

PARAMETERS:

Conductivity **Method Ref: APHA (23rd edition), 2510B**

Expected Reading (µS/cm)	Displayed Reading (µS/cm)	Tolerance (%)
146.9	146	-0.6
6667	6815	+2.2
12890	12907	+0.1
58670	58116	-0.9
	Tolerance Limit (%)	±10.0

Dissolved Oxygen **Method Ref: APHA (23rd edition), 4500O: G**

Expected Reading (mg/L)	Displayed Reading (mg/L)	Tolerance (mg/L)
2.89	2.94	+0.05
5.96	6.02	+0.06
7.61	7.56	-0.05
	Tolerance Limit (mg/L)	±0.20

pH Value **Method Ref: APHA (23rd edition), 4500H: B**

Expected Reading (pH unit)	Displayed Reading (pH unit)	Tolerance (pH unit)
4.0	4.00	+0.00
7.0	6.98	-0.02
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.

Ms. Lin Wai Yu, Iris
Assistant Manager - Inorganics

REPORT OF EQUIPMENT PERFORMANCE CHECK/CALIBRATION

WORK ORDER: HK2330272

SUB-BATCH: 0
DATE OF ISSUE: 07-Aug-2023
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: 01-August-2023 Date of Next Calibration: 01-November-2023

PARAMETERS:

Turbidity **Method Ref: APHA (23rd edition), 2130B**

Expected Reading (NTU)	Displayed Reading (NTU)	Tolerance (%)
0	0.1	--
4	3.9	-2.5
10	9.4	-6.0
20	19.8	-1.0
50	48.2	-3.6
100	95.1	-4.9
	Tolerance Limit (%)	±10.0

Salinity **Method Ref: APHA (23rd edition), 2520B**

Expected Reading (ppt)	Displayed Reading (ppt)	Tolerance (%)
0	0.02	--
10	10.63	+6.3
20	19.38	-3.1
30	30.46	+1.5
	Tolerance Limit (%)	±10.0

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

Ms. Lin Wai Yu, Iris
Assistant Manager - Inorganics

REPORT OF EQUIPMENT PERFORMANCE CHECK/CALIBRATION

WORK ORDER: HK2330272

SUB-BATCH: 0
DATE OF ISSUE: 07-Aug-2023
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: 01-August-2023 Date of Next Calibration: 01-November-2023

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)
10.5	10.33	-0.2
20.5	20.10	-0.4
39.0	38.49	-0.5
	Tolerance Limit (°C)	±2.0

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

Ms. Lin Wai Yu, Iris
Assistant Manager - Inorganics

3. Calibration Certification of YSI Model ProDSS
(Calibration Period: 5 Sep - 5 Dec 2023)

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

REPORT OF EQUIPMENT PERFORMANCE CHECK/CALIBRATION

CONTACT:	MR W S CHAN	**WORK ORDER:**	HK2335176
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 05-Sep-2023 11-Sep-2023

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]/ [ProDSS]
Serial No./ Equipment No.:	[22J104777/22H104506]/ [W.026.37]
Date of Calibration:	05-September-2023

GENERAL COMMENTS

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

Mr Chan Siu Ming, Vico
Assistant Laboratory Manager
Environmental

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

right solutions. right partner.

REPORT OF EQUIPMENT PERFORMANCE CHECK/CALIBRATION

WORK ORDER: HK2335176

SUB-BATCH: 0
DATE OF ISSUE: 11-Sep-2023
CLIENT: AECOM ASIA COMPANY LIMITED

Equipment Type: Multifunctional Meter
Brand Name/ Model No.: [YSI]/ [ProDSS]
Serial No./ Equipment No.: [22J104777/22H104506]/ [W.026.37]
Date of Calibration: 05-September-2023 Date of Next Calibration: 05-December-2023

PARAMETERS:

Conductivity **Method Ref: APHA (23rd edition), 2510B**

Expected Reading (µS/cm)	Displayed Reading (µS/cm)	Tolerance (%)
146.9	152.9	+4.1
6667	6524	-2.1
12890	12626	-2.0
58670	54061	-7.9
	Tolerance Limit (%)	±10.0

Dissolved Oxygen **Method Ref: APHA (23rd edition), 4500O: G**

Expected Reading (mg/L)	Displayed Reading (mg/L)	Tolerance (mg/L)
1.95	1.89	-0.06
3.95	4.02	+0.07
6.84	6.80	-0.04
	Tolerance Limit (mg/L)	±0.20

pH Value **Method Ref: APHA (23rd edition), 4500H: B**

Expected Reading (pH unit)	Displayed Reading (pH unit)	Tolerance (pH unit)
4.0	4.06	+0.06
7.0	7.10	+0.10
10.0	10.01	+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
Assistant Laboratory Manager
Environmental

REPORT OF EQUIPMENT PERFORMANCE CHECK/CALIBRATION

WORK ORDER: HK2335176

SUB-BATCH: 0
DATE OF ISSUE: 11-Sep-2023
CLIENT: AECOM ASIA COMPANY LIMITED

Equipment Type: Multifunctional Meter
Brand Name/ Model No.: [YSI]/ [ProDSS]
Serial No./ Equipment No.: [22J104777/22H104506]/ [W.026.37]
Date of Calibration: 05-September-2023 Date of Next Calibration: 05-December-2023

PARAMETERS:

Turbidity **Method Ref: APHA (23rd edition), 2130B**

Expected Reading (NTU)	Displayed Reading (NTU)	Tolerance (%)
0	-0.07	--
4	4.08	+2.0
10	9.91	-0.9
20	19.02	-4.9
50	48.20	-3.6
100	96.31	-3.7
	Tolerance Limit (%)	±10.0

Salinity **Method Ref: APHA (23rd edition), 2520B**

Expected Reading (ppt)	Displayed Reading (ppt)	Tolerance (%)
0	0.00	--
10	9.78	-2.2
20	19.65	-1.8
30	29.39	-2.0
	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
Assistant Laboratory Manager
Environmental

REPORT OF EQUIPMENT PERFORMANCE CHECK/CALIBRATION

WORK ORDER: HK2335176

SUB-BATCH: 0
DATE OF ISSUE: 11-Sep-2023
CLIENT: AECOM ASIA COMPANY LIMITED

Equipment Type: Multifunctional Meter
Brand Name/ Model No.: [YSI]/ [ProDSS]
Serial No./ Equipment No.: [22J104777/22H104506]/ [W.026.37]
Date of Calibration: 05-September-2023 Date of Next Calibration: 05-December-2023

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)
10.0	9.9	-0.1
20.5	19.8	-0.7
40.0	40.3	+0.3
	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
Assistant Laboratory Manager
Environmental

Appendix 2.2

Baseline Water Quality Monitoring Schedule

Tuen Mun South Extension - Environmental Monitoring and Audit
Baseline Water Quality Monitoring Schedule in August & September 2023

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
20-Aug	21-Aug	22-Aug	23-Aug	24-Aug	25-Aug	26-Aug
		Mid-flood 10:11 Mid-Ebb 16:16		Mid-flood 12:40 Mid-Ebb 17:59		Mid-Ebb 8:23 Mid-flood 20:59
27-Aug	28-Aug	29-Aug	30-Aug	31-Aug	1-Sep	2-Sep
		Mid-Flood 4:30 Mid-Ebb 11:37		Mid-flood 6:25 Mid-Ebb 13:13		Mid-flood 8:09 Mid-Ebb 14:38 **Cancelled due to Typhoon Signal No. 8**
3-Sep	4-Sep	5-Sep	6-Sep	7-Sep	8-Sep	9-Sep
		Mid-flood 10:54 Mid-Ebb 16:32		Mid-Ebb 6:16 Mid-flood 18:44		Mid-Ebb 9:04 Mid-flood 21:49
10-Sep	11-Sep	12-Sep	13-Sep	14-Sep	15-Sep	16-Sep
		Mid-Ebb 11:46 Mid-flood 18:52		Mid-Ebb 12:54 Mid-flood 19:30		Mid-Ebb 13:52 Mid-Flood 20:07
17-Sep	18-Sep	19-Sep	20-Sep	21-Sep	22-Sep	23-Sep
		Mid-flood 9:24 Mid-Ebb 15:19				

The schedule is subject to change due to unforeseeable circumstances (e.g. adverse weather, etc)

Appendix 2.3

Laboratory Results and HOKLAS-accreditation Certificate of the Testing Laboratory

ALS Technichem (HK) Pty Ltd

ALS Laboratory Group

ANALYTICAL CHEMISTRY & TESTING SERVICES

CERTIFICATE OF ANALYSIS

Client	:	AECOM ASIA COMPANY LIMITED	Laboratory	:	ALS Technichem (HK) Pty Ltd	Page	: 1 of 5
Contact	:	MR YIU WAH FUNG	Contact	:	Richard Fung	Work Order	: HK2333545
Address	:	12/F, TOWER 2, GRAND CENTRAL PLAZA, NO. 138 SHATIN RURAL COMMITTEE ROAD, SHATIN, N.T. HONG KONG	Address	:	11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong		
E-mail	:	yw.fung@aecom.com	E-mail	:	richard.fung@alsglobal.com		
Telephone	:	+852 3922 9366	Telephone	:	+852 2610 1044		
Facsimile	:	+852 2891 0305	Facsimile	:	+852 2610 2021		
Project	:	TUEN MUN SOUTH EXTENSION - BASELINE				Date received	: 22-Aug-2023
Order number	:	60646499	Quote number	:	HKE/1326/2023	Date of issue	: 29-Aug-2023
C-O-C number	:	—				No. of samples	- Received : 38
Site	:	—					- Analysed : 38

This report may not be reproduced except with prior written approval from the testing laboratory.

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 the same work order number. 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 22-Aug-2023 to 29-Aug-2023.

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 HK2333545 :

Sample(s) was/ were submitted by client. Sample(s) arrived laboratory in chilled condition.

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. The result(s) is/are related only to the item(s) tested.

EA025 - The accredited LOR of Total Suspended Solids is 0.5mg/L. Results below this LOR are for reference only.

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	----	----	----	----
W1a Middle Mid-Ebb	22-Aug-2023	HK2333545-003	3.5	----	----	----	----
W1a Middle Mid-Ebb	22-Aug-2023	HK2333545-004	3.1	----	----	----	----
W2 Middle Mid-Ebb	22-Aug-2023	HK2333545-009	3.2	----	----	----	----
W2 Middle Mid-Ebb	22-Aug-2023	HK2333545-010	2.9	----	----	----	----
W3 Middle Mid-Ebb	22-Aug-2023	HK2333545-015	2.2	----	----	----	----
W3 Middle Mid-Ebb	22-Aug-2023	HK2333545-016	2.5	----	----	----	----
W4 Middle Mid-Ebb	22-Aug-2023	HK2333545-021	2.4	----	----	----	----
W4 Middle Mid-Ebb	22-Aug-2023	HK2333545-022	2.4	----	----	----	----
W5 Surface Mid-Ebb	22-Aug-2023	HK2333545-025	2.1	----	----	----	----
W5 Surface Mid-Ebb	22-Aug-2023	HK2333545-026	2.3	----	----	----	----
W5 Bottom Mid-Ebb	22-Aug-2023	HK2333545-029	3.1	----	----	----	----
W5 Bottom Mid-Ebb	22-Aug-2023	HK2333545-030	2.8	----	----	----	----
W6 Surface Mid-Ebb	22-Aug-2023	HK2333545-031	2.9	----	----	----	----
W6 Surface Mid-Ebb	22-Aug-2023	HK2333545-032	2.6	----	----	----	----
W6 Bottom Mid-Ebb	22-Aug-2023	HK2333545-035	4.5	----	----	----	----
W6 Bottom Mid-Ebb	22-Aug-2023	HK2333545-036	4.2	----	----	----	----
W7 Surface Mid-Ebb	22-Aug-2023	HK2333545-037	2.9	----	----	----	----
W7 Surface Mid-Ebb	22-Aug-2023	HK2333545-038	2.6	----	----	----	----
W7 Bottom Mid-Ebb	22-Aug-2023	HK2333545-041	3.4	----	----	----	----
W7 Bottom Mid-Ebb	22-Aug-2023	HK2333545-042	3.0	----	----	----	----
W8 Surface Mid-Flood	22-Aug-2023	HK2333545-043	3.0	----	----	----	----
W8 Surface Mid-Flood	22-Aug-2023	HK2333545-044	2.6	----	----	----	----
W8 Bottom Mid-Flood	22-Aug-2023	HK2333545-047	2.1	----	----	----	----
W8 Bottom Mid-Flood	22-Aug-2023	HK2333545-048	2.4	----	----	----	----
W9 Middle Mid-Flood	22-Aug-2023	HK2333545-051	1.7	----	----	----	----
W9 Middle Mid-Flood	22-Aug-2023	HK2333545-052	1.9	----	----	----	----
W10 Surface Mid-Flood	22-Aug-2023	HK2333545-055	<1.0	----	----	----	----
W10 Surface Mid-Flood	22-Aug-2023	HK2333545-056	<1.0	----	----	----	----
W10 Bottom Mid-Flood	22-Aug-2023	HK2333545-059	1.6	----	----	----	----
W10 Bottom Mid-Flood	22-Aug-2023	HK2333545-060	1.9	----	----	----	----
W11 Middle Mid-Flood	22-Aug-2023	HK2333545-063	2.2	----	----	----	----

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	----	----	----	----
W11 Middle Mid-Flood	22-Aug-2023	HK2333545-064		**2.4**	----	----	----	----
W3 Middle Mid-Flood	22-Aug-2023	HK2333545-069		**1.6**	----	----	----	----
W3 Middle Mid-Flood	22-Aug-2023	HK2333545-070		**1.9**	----	----	----	----
W2 Middle Mid-Flood	22-Aug-2023	HK2333545-075		**2.7**	----	----	----	----
W2 Middle Mid-Flood	22-Aug-2023	HK2333545-076		**2.4**	----	----	----	----
W1a Middle Mid-Flood	22-Aug-2023	HK2333545-081		**3.0**	----	----	----	----
W1a Middle Mid-Flood	22-Aug-2023	HK2333545-082		**3.4**	----	----	----	----

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: 5253355)								
HK2333545-003	W1a Middle Mid-Ebb	EA025: Suspended Solids (SS)	----	0.5	mg/L	3.5	3.7	4.2
HK2333545-029	W5 Bottom Mid-Ebb	EA025: Suspended Solids (SS)	----	0.5	mg/L	3.1	3.4	9.2
EA/ED: Physical and Aggregate Properties (QC Lot: 5253356)								
HK2333545-043	W8 Surface Mid-Flood	EA025: Suspended Solids (SS)	----	0.5	mg/L	3.0	3.3	9.6
HK2333545-063	W11 Middle Mid-Flood	EA025: Suspended Solids (SS)	----	0.5	mg/L	2.2	2.1	7.0

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: 5253355)											
EA025: Suspended Solids (SS)	----	0.5	mg/L	<0.5	20 mg/L	95.0	----	86.6	113	----	----
EA/ED: Physical and Aggregate Properties (QCLot: 5253356)											
EA025: Suspended Solids (SS)	----	0.5	mg/L	<0.5	20 mg/L	104	----	86.6	113	----	----

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

ALS Laboratory Group

ANALYTICAL CHEMISTRY & TESTING SERVICES

CERTIFICATE OF ANALYSIS

Client	:	AECOM ASIA COMPANY LIMITED	Laboratory	:	ALS Technichem (HK) Pty Ltd	Page	: 1 of 5
Contact	:	MR YIU WAH FUNG	Contact	:	Richard Fung	Work Order	: HK2333657
Address	:	12/F, TOWER 2, GRAND CENTRAL PLAZA, NO. 138 SHATIN RURAL COMMITTEE ROAD, SHATIN, N.T. HONG KONG	Address	:	11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong		
E-mail	:	yw.fung@aecom.com	E-mail	:	richard.fung@alsglobal.com		
Telephone	:	+852 3922 9366	Telephone	:	+852 2610 1044		
Facsimile	:	+852 2891 0305	Facsimile	:	+852 2610 2021		
Project	:	TUEN MUN SOUTH EXTENSION - BASELINE				Date received	: 24-Aug-2023
Order number	:	60646499	Quote number	:	HKE/1326/2023	Date of issue	: 31-Aug-2023
C-O-C number	:	—				No. of samples	- Received : 38
Site	:	—					- Analysed : 38

This report may not be reproduced except with prior written approval from the testing laboratory.

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 the same work order number. 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 24-Aug-2023 to 31-Aug-2023.

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 HK2333657 :

Sample(s) was/ were submitted by client. Sample(s) arrived laboratory in chilled condition.

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. The result(s) is/are related only to the item(s) tested.

EA025 - The accredited LOR of Total Suspended Solids is 0.5mg/L. Results below this LOR are for reference only.

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	----	----	----	----
W1a Middle Mid-Ebb	24-Aug-2023	HK2333657-003	4.2	----	----	----	----
W1a Middle Mid-Ebb	24-Aug-2023	HK2333657-004	4.0	----	----	----	----
W2 Middle Mid-Ebb	24-Aug-2023	HK2333657-009	2.6	----	----	----	----
W2 Middle Mid-Ebb	24-Aug-2023	HK2333657-010	2.2	----	----	----	----
W3 Middle Mid-Ebb	24-Aug-2023	HK2333657-015	3.4	----	----	----	----
W3 Middle Mid-Ebb	24-Aug-2023	HK2333657-016	3.4	----	----	----	----
W4 Middle Mid-Ebb	24-Aug-2023	HK2333657-021	3.1	----	----	----	----
W4 Middle Mid-Ebb	24-Aug-2023	HK2333657-022	2.8	----	----	----	----
W5 Surface Mid-Ebb	24-Aug-2023	HK2333657-025	2.9	----	----	----	----
W5 Surface Mid-Ebb	24-Aug-2023	HK2333657-026	3.1	----	----	----	----
W5 Bottom Mid-Ebb	24-Aug-2023	HK2333657-029	5.8	----	----	----	----
W5 Bottom Mid-Ebb	24-Aug-2023	HK2333657-030	5.4	----	----	----	----
W6 Surface Mid-Ebb	24-Aug-2023	HK2333657-031	3.2	----	----	----	----
W6 Surface Mid-Ebb	24-Aug-2023	HK2333657-032	3.2	----	----	----	----
W6 Bottom Mid-Ebb	24-Aug-2023	HK2333657-035	3.0	----	----	----	----
W6 Bottom Mid-Ebb	24-Aug-2023	HK2333657-036	2.9	----	----	----	----
W7 Surface Mid-Ebb	24-Aug-2023	HK2333657-037	2.9	----	----	----	----
W7 Surface Mid-Ebb	24-Aug-2023	HK2333657-038	2.4	----	----	----	----
W7 Bottom Mid-Ebb	24-Aug-2023	HK2333657-041	3.7	----	----	----	----
W7 Bottom Mid-Ebb	24-Aug-2023	HK2333657-042	4.0	----	----	----	----
W8 Surface Mid-Flood	24-Aug-2023	HK2333657-043	2.1	----	----	----	----
W8 Surface Mid-Flood	24-Aug-2023	HK2333657-044	2.3	----	----	----	----
W8 Bottom Mid-Flood	24-Aug-2023	HK2333657-047	3.1	----	----	----	----
W8 Bottom Mid-Flood	24-Aug-2023	HK2333657-048	2.9	----	----	----	----
W9 Middle Mid-Flood	24-Aug-2023	HK2333657-051	2.5	----	----	----	----
W9 Middle Mid-Flood	24-Aug-2023	HK2333657-052	2.3	----	----	----	----
W10 Surface Mid-Flood	24-Aug-2023	HK2333657-055	3.5	----	----	----	----
W10 Surface Mid-Flood	24-Aug-2023	HK2333657-056	3.1	----	----	----	----
W10 Bottom Mid-Flood	24-Aug-2023	HK2333657-059	3.8	----	----	----	----
W10 Bottom Mid-Flood	24-Aug-2023	HK2333657-060	4.1	----	----	----	----
W11 Middle Mid-Flood	24-Aug-2023	HK2333657-063	2.4	----	----	----	----

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	----	----	----	----
W11 Middle Mid-Flood	24-Aug-2023	HK2333657-064	**2.6**	----	----	----	----
W3 Middle Mid-Flood	24-Aug-2023	HK2333657-069	**3.1**	----	----	----	----
W3 Middle Mid-Flood	24-Aug-2023	HK2333657-070	**3.5**	----	----	----	----
W2 Middle Mid-Flood	24-Aug-2023	HK2333657-075	**3.2**	----	----	----	----
W2 Middle Mid-Flood	24-Aug-2023	HK2333657-076	**3.5**	----	----	----	----
W1a Middle Mid-Flood	24-Aug-2023	HK2333657-081	**5.2**	----	----	----	----
W1a Middle Mid-Flood	24-Aug-2023	HK2333657-082	**4.9**	----	----	----	----

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: 5259269)								
HK2333657-004	W1a Middle Mid-Ebb	EA025: Suspended Solids (SS)	----	0.5	mg/L	4.0	3.7	7.2
HK2333657-029	W5 Bottom Mid-Ebb	EA025: Suspended Solids (SS)	----	0.5	mg/L	5.8	5.3	7.7
EA/ED: Physical and Aggregate Properties (QC Lot: 5259270)								
HK2333657-043	W8 Surface Mid-Flood	EA025: Suspended Solids (SS)	----	0.5	mg/L	2.1	2.4	13.5
HK2333657-063	W11 Middle Mid-Flood	EA025: Suspended Solids (SS)	----	0.5	mg/L	2.4	2.5	7.2

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: 5259269)											
EA025: Suspended Solids (SS)	----	0.5	mg/L	<0.5	20 mg/L	102	----	86.6	113	----	----
EA/ED: Physical and Aggregate Properties (QCLot: 5259270)											
EA025: Suspended Solids (SS)	----	0.5	mg/L	<0.5	20 mg/L	106	----	86.6	113	----	----

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

ALS Laboratory Group

ANALYTICAL CHEMISTRY & TESTING SERVICES

CERTIFICATE OF ANALYSIS

Client	:	AECOM ASIA COMPANY LIMITED	Laboratory	:	ALS Technichem (HK) Pty Ltd	Page	: 1 of 5
Contact	:	MR YIU WAH FUNG	Contact	:	Richard Fung	Work Order	: HK2333659
Address	:	12/F, TOWER 2, GRAND CENTRAL PLAZA, NO. 138 SHATIN RURAL COMMITTEE ROAD, SHATIN, N.T. HONG KONG	Address	:	11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong		
E-mail	:	yw.fung@aecom.com	E-mail	:	richard.fung@alsglobal.com		
Telephone	:	+852 3922 9366	Telephone	:	+852 2610 1044		
Facsimile	:	+852 2891 0305	Facsimile	:	+852 2610 2021		
Project	:	TUEN MUN SOUTH EXTENSION - BASELINE				Date received	: 26-Aug-2023
Order number	:	60646499	Quote number	:	HKE/1326/2023	Date of issue	: 05-Sep-2023
C-O-C number	:	—				No. of samples	- Received : 38
Site	:	—					- Analysed : 38

This report may not be reproduced except with prior written approval from the testing laboratory.

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 the same work order number. 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 26-Aug-2023 to 05-Sep-2023.

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 HK2333659 :

Sample(s) was/ were submitted by client. Sample(s) arrived laboratory in chilled condition.

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. The result(s) is/are related only to the item(s) tested.

EA025 - The accredited LOR of Total Suspended Solids is 0.5mg/L. Results below this LOR are for reference only.

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	----	----	----	----
W1a Middle Mid-Ebb	26-Aug-2023	HK2333659-003	7.5	----	----	----	----
W1a Middle Mid-Ebb	26-Aug-2023	HK2333659-004	151	----	----	----	----
W2 Middle Mid-Ebb	26-Aug-2023	HK2333659-009	6.9	----	----	----	----
W2 Middle Mid-Ebb	26-Aug-2023	HK2333659-010	8.0	----	----	----	----
W3 Middle Mid-Ebb	26-Aug-2023	HK2333659-015	2.5	----	----	----	----
W3 Middle Mid-Ebb	26-Aug-2023	HK2333659-016	3.2	----	----	----	----
W4 Middle Mid-Ebb	26-Aug-2023	HK2333659-021	2.9	----	----	----	----
W4 Middle Mid-Ebb	26-Aug-2023	HK2333659-022	3.1	----	----	----	----
W5 Surface Mid-Ebb	26-Aug-2023	HK2333659-025	3.3	----	----	----	----
W5 Surface Mid-Ebb	26-Aug-2023	HK2333659-026	2.7	----	----	----	----
W5 Bottom Mid-Ebb	26-Aug-2023	HK2333659-029	3.4	----	----	----	----
W5 Bottom Mid-Ebb	26-Aug-2023	HK2333659-030	2.6	----	----	----	----
W6 Surface Mid-Ebb	26-Aug-2023	HK2333659-031	2.7	----	----	----	----
W6 Surface Mid-Ebb	26-Aug-2023	HK2333659-032	2.7	----	----	----	----
W6 Bottom Mid-Ebb	26-Aug-2023	HK2333659-035	2.9	----	----	----	----
W6 Bottom Mid-Ebb	26-Aug-2023	HK2333659-036	3.0	----	----	----	----
W7 Surface Mid-Ebb	26-Aug-2023	HK2333659-037	4.3	----	----	----	----
W7 Surface Mid-Ebb	26-Aug-2023	HK2333659-038	2.9	----	----	----	----
W7 Bottom Mid-Ebb	26-Aug-2023	HK2333659-041	5.1	----	----	----	----
W7 Bottom Mid-Ebb	26-Aug-2023	HK2333659-042	2.6	----	----	----	----
W8 Surface Mid-Flood	26-Aug-2023	HK2333659-043	2.7	----	----	----	----
W8 Surface Mid-Flood	26-Aug-2023	HK2333659-044	2.5	----	----	----	----
W8 Bottom Mid-Flood	26-Aug-2023	HK2333659-047	2.3	----	----	----	----
W8 Bottom Mid-Flood	26-Aug-2023	HK2333659-048	3.8	----	----	----	----
W9 Middle Mid-Flood	26-Aug-2023	HK2333659-051	2.4	----	----	----	----
W9 Middle Mid-Flood	26-Aug-2023	HK2333659-052	1.9	----	----	----	----
W10 Surface Mid-Flood	26-Aug-2023	HK2333659-055	2.1	----	----	----	----
W10 Surface Mid-Flood	26-Aug-2023	HK2333659-056	2.4	----	----	----	----
W10 Bottom Mid-Flood	26-Aug-2023	HK2333659-059	3.0	----	----	----	----
W10 Bottom Mid-Flood	26-Aug-2023	HK2333659-060	3.7	----	----	----	----
W11 Middle Mid-Flood	26-Aug-2023	HK2333659-063	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	----	----	----	----
W11 Middle Mid-Flood	26-Aug-2023	HK2333659-064		**2.6**	----	----	----	----
W3 Middle Mid-Flood	26-Aug-2023	HK2333659-069		**4.2**	----	----	----	----
W3 Middle Mid-Flood	26-Aug-2023	HK2333659-070		**3.5**	----	----	----	----
W2 Middle Mid-Flood	26-Aug-2023	HK2333659-075		**5.2**	----	----	----	----
W2 Middle Mid-Flood	26-Aug-2023	HK2333659-076		**6.0**	----	----	----	----
W1a Middle Mid-Flood	26-Aug-2023	HK2333659-081		**6.0**	----	----	----	----
W1a Middle Mid-Flood	26-Aug-2023	HK2333659-082		**6.3**	----	----	----	----

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: 5262836)								
HK2333659-003	W1a Middle Mid-Ebb	EA025: Suspended Solids (SS)	----	0.5	mg/L	7.5	8.3	10.8
HK2333659-029	W5 Bottom Mid-Ebb	EA025: Suspended Solids (SS)	----	0.5	mg/L	3.4	3.2	5.2
EA/ED: Physical and Aggregate Properties (QC Lot: 5262837)								
HK2333659-043	W8 Surface Mid-Flood	EA025: Suspended Solids (SS)	----	0.5	mg/L	2.7	3.0	10.5
HK2333659-063	W11 Middle Mid-Flood	EA025: Suspended Solids (SS)	----	0.5	mg/L	3.1	3.5	12.2

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: 5262836)											
EA025: Suspended Solids (SS)	----	0.5	mg/L	<0.5	20 mg/L	105	----	86.6	113	----	----
EA/ED: Physical and Aggregate Properties (QCLot: 5262837)											
EA025: Suspended Solids (SS)	----	0.5	mg/L	<0.5	20 mg/L	103	----	86.6	113	----	----

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

ALS Laboratory Group

ANALYTICAL CHEMISTRY & TESTING SERVICES

CERTIFICATE OF ANALYSIS

Client	:	AECOM ASIA COMPANY LIMITED	Laboratory	:	ALS Technichem (HK) Pty Ltd	Page	: 1 of 5
Contact	:	MR YIU WAH FUNG	Contact	:	Richard Fung	Work Order	: HK2333715
Address	:	12/F, TOWER 2, GRAND CENTRAL PLAZA, NO. 138 SHATIN RURAL COMMITTEE ROAD, SHATIN, N.T. HONG KONG	Address	:	11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong		
E-mail	:	yw.fung@aecom.com	E-mail	:	richard.fung@alsglobal.com		
Telephone	:	+852 3922 9366	Telephone	:	+852 2610 1044		
Facsimile	:	+852 2891 0305	Facsimile	:	+852 2610 2021		
Project	:	TUEN MUN SOUTH EXTENSION - BASELINE				Date received	: 29-Aug-2023
Order number	:	60646499	Quote number	:	HKE/1326/2023	Date of issue	: 07-Sep-2023
C-O-C number	:	—				No. of samples	- Received : 38
Site	:	—					- Analysed : 38

This report may not be reproduced except with prior written approval from the testing laboratory.

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 the same work order number. 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 29-Aug-2023 to 07-Sep-2023.

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 HK2333715 :

Sample(s) was/ were submitted by client. Sample(s) arrived laboratory in chilled condition.

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. The result(s) is/are related only to the item(s) tested.

EA025 - The accredited LOR of Total Suspended Solids is 0.5mg/L. Results below this LOR are for reference only.

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	----	----	----	----
W1a Middle Mid-Ebb	29-Aug-2023	HK2333715-003	2.7	----	----	----	----
W1a Middle Mid-Ebb	29-Aug-2023	HK2333715-004	3.0	----	----	----	----
W2 Middle Mid-Ebb	29-Aug-2023	HK2333715-009	2.7	----	----	----	----
W2 Middle Mid-Ebb	29-Aug-2023	HK2333715-010	2.3	----	----	----	----
W3 Middle Mid-Ebb	29-Aug-2023	HK2333715-015	3.1	----	----	----	----
W3 Middle Mid-Ebb	29-Aug-2023	HK2333715-016	2.9	----	----	----	----
W4 Middle Mid-Ebb	29-Aug-2023	HK2333715-021	2.8	----	----	----	----
W4 Middle Mid-Ebb	29-Aug-2023	HK2333715-022	3.4	----	----	----	----
W5 Surface Mid-Ebb	29-Aug-2023	HK2333715-025	2.4	----	----	----	----
W5 Surface Mid-Ebb	29-Aug-2023	HK2333715-026	2.8	----	----	----	----
W5 Bottom Mid-Ebb	29-Aug-2023	HK2333715-029	3.0	----	----	----	----
W5 Bottom Mid-Ebb	29-Aug-2023	HK2333715-030	3.2	----	----	----	----
W6 Surface Mid-Ebb	29-Aug-2023	HK2333715-031	2.8	----	----	----	----
W6 Surface Mid-Ebb	29-Aug-2023	HK2333715-032	2.5	----	----	----	----
W6 Bottom Mid-Ebb	29-Aug-2023	HK2333715-035	3.6	----	----	----	----
W6 Bottom Mid-Ebb	29-Aug-2023	HK2333715-036	3.0	----	----	----	----
W7 Surface Mid-Ebb	29-Aug-2023	HK2333715-037	2.5	----	----	----	----
W7 Surface Mid-Ebb	29-Aug-2023	HK2333715-038	2.9	----	----	----	----
W7 Bottom Mid-Ebb	29-Aug-2023	HK2333715-041	2.4	----	----	----	----
W7 Bottom Mid-Ebb	29-Aug-2023	HK2333715-042	2.4	----	----	----	----
W8 Surface Mid-Flood	29-Aug-2023	HK2333715-043	2.9	----	----	----	----
W8 Surface Mid-Flood	29-Aug-2023	HK2333715-044	3.2	----	----	----	----
W8 Bottom Mid-Flood	29-Aug-2023	HK2333715-047	3.3	----	----	----	----
W8 Bottom Mid-Flood	29-Aug-2023	HK2333715-048	3.5	----	----	----	----
W9 Middle Mid-Flood	29-Aug-2023	HK2333715-051	3.3	----	----	----	----
W9 Middle Mid-Flood	29-Aug-2023	HK2333715-052	2.3	----	----	----	----
W10 Surface Mid-Flood	29-Aug-2023	HK2333715-055	3.0	----	----	----	----
W10 Surface Mid-Flood	29-Aug-2023	HK2333715-056	2.7	----	----	----	----
W10 Bottom Mid-Flood	29-Aug-2023	HK2333715-059	3.0	----	----	----	----
W10 Bottom Mid-Flood	29-Aug-2023	HK2333715-060	2.7	----	----	----	----
W11 Middle Mid-Flood	29-Aug-2023	HK2333715-063	2.6	----	----	----	----

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	----	----	----	----
W11 Middle Mid-Flood	29-Aug-2023	HK2333715-064	**3.0**	----	----	----	----
W3 Middle Mid-Flood	29-Aug-2023	HK2333715-069	**3.0**	----	----	----	----
W3 Middle Mid-Flood	29-Aug-2023	HK2333715-070	**3.1**	----	----	----	----
W2 Middle Mid-Flood	29-Aug-2023	HK2333715-075	**2.6**	----	----	----	----
W2 Middle Mid-Flood	29-Aug-2023	HK2333715-076	**2.0**	----	----	----	----
W1a Middle Mid-Flood	29-Aug-2023	HK2333715-081	**2.3**	----	----	----	----
W1a Middle Mid-Flood	29-Aug-2023	HK2333715-082	**3.1**	----	----	----	----

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: 5267586)								
HK2333715-003	W1a Middle Mid-Ebb	EA025: Suspended Solids (SS)	----	0.5	mg/L	2.7	3.4	23.0
HK2333715-029	W5 Bottom Mid-Ebb	EA025: Suspended Solids (SS)	----	0.5	mg/L	3.0	3.0	0.0
EA/ED: Physical and Aggregate Properties (QC Lot: 5267587)								
HK2333715-043	W8 Surface Mid-Flood	EA025: Suspended Solids (SS)	----	0.5	mg/L	2.9	3.0	4.2
HK2333715-063	W11 Middle Mid-Flood	EA025: Suspended Solids (SS)	----	0.5	mg/L	2.6	2.6	0.0

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: 5267586)											
EA025: Suspended Solids (SS)	----	0.5	mg/L	<0.5	20 mg/L	99.5	----	86.6	113	----	----
EA/ED: Physical and Aggregate Properties (QCLot: 5267587)											
EA025: Suspended Solids (SS)	----	0.5	mg/L	<0.5	20 mg/L	108	----	86.6	113	----	----

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

ALS Laboratory Group

ANALYTICAL CHEMISTRY & TESTING SERVICES

CERTIFICATE OF ANALYSIS

Client	:	AECOM ASIA COMPANY LIMITED	Laboratory	:	ALS Technichem (HK) Pty Ltd	Page	: 1 of 5
Contact	:	MR YIU WAH FUNG	Contact	:	Richard Fung	Work Order	: HK2334244
Address	:	12/F, TOWER 2, GRAND CENTRAL PLAZA, NO. 138 SHATIN RURAL COMMITTEE ROAD, SHATIN, N.T. HONG KONG	Address	:	11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong		
E-mail	:	yw.fung@aecom.com	E-mail	:	richard.fung@alsglobal.com		
Telephone	:	+852 3922 9366	Telephone	:	+852 2610 1044		
Facsimile	:	+852 2891 0305	Facsimile	:	+852 2610 2021		
Project	:	TUEN MUN SOUTH EXTENSION - BASELINE				Date received	: 31-Aug-2023
Order number	:	60646499	Quote number	:	HKE/1326/2023	Date of issue	: 11-Sep-2023
C-O-C number	:	—				No. of samples	- Received : 38
Site	:	—					- Analysed : 38

This report may not be reproduced except with prior written approval from the testing laboratory.

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 the same work order number. 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 31-Aug-2023 to 11-Sep-2023.

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 HK2334244 :

Sample(s) was/ were submitted by client. Sample(s) arrived laboratory in chilled condition.

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. The result(s) is/are related only to the item(s) tested.

EA025 - The accredited LOR of Total Suspended Solids is 0.5mg/L. Results below this LOR are for reference only.

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	----	----	----	----
W1a Middle Mid-Ebb	31-Aug-2023	HK2334244-003	4.2	----	----	----	----
W1a Middle Mid-Ebb	31-Aug-2023	HK2334244-004	3.3	----	----	----	----
W2 Middle Mid-Ebb	31-Aug-2023	HK2334244-009	3.5	----	----	----	----
W2 Middle Mid-Ebb	31-Aug-2023	HK2334244-010	3.5	----	----	----	----
W3 Middle Mid-Ebb	31-Aug-2023	HK2334244-015	2.9	----	----	----	----
W3 Middle Mid-Ebb	31-Aug-2023	HK2334244-016	3.3	----	----	----	----
W4 Middle Mid-Ebb	31-Aug-2023	HK2334244-021	3.1	----	----	----	----
W4 Middle Mid-Ebb	31-Aug-2023	HK2334244-022	3.3	----	----	----	----
W5 Surface Mid-Ebb	31-Aug-2023	HK2334244-025	3.1	----	----	----	----
W5 Surface Mid-Ebb	31-Aug-2023	HK2334244-026	3.2	----	----	----	----
W5 Bottom Mid-Ebb	31-Aug-2023	HK2334244-029	3.3	----	----	----	----
W5 Bottom Mid-Ebb	31-Aug-2023	HK2334244-030	3.8	----	----	----	----
W6 Surface Mid-Ebb	31-Aug-2023	HK2334244-031	3.8	----	----	----	----
W6 Surface Mid-Ebb	31-Aug-2023	HK2334244-032	2.9	----	----	----	----
W6 Bottom Mid-Ebb	31-Aug-2023	HK2334244-035	2.8	----	----	----	----
W6 Bottom Mid-Ebb	31-Aug-2023	HK2334244-036	2.8	----	----	----	----
W7 Surface Mid-Ebb	31-Aug-2023	HK2334244-037	3.7	----	----	----	----
W7 Surface Mid-Ebb	31-Aug-2023	HK2334244-038	3.3	----	----	----	----
W7 Bottom Mid-Ebb	31-Aug-2023	HK2334244-041	3.0	----	----	----	----
W7 Bottom Mid-Ebb	31-Aug-2023	HK2334244-042	3.0	----	----	----	----
W8 Surface Mid-Flood	31-Aug-2023	HK2334244-043	2.1	----	----	----	----
W8 Surface Mid-Flood	31-Aug-2023	HK2334244-044	1.9	----	----	----	----
W8 Bottom Mid-Flood	31-Aug-2023	HK2334244-047	2.6	----	----	----	----
W8 Bottom Mid-Flood	31-Aug-2023	HK2334244-048	2.6	----	----	----	----
W9 Middle Mid-Flood	31-Aug-2023	HK2334244-051	2.9	----	----	----	----
W9 Middle Mid-Flood	31-Aug-2023	HK2334244-052	2.6	----	----	----	----
W10 Surface Mid-Flood	31-Aug-2023	HK2334244-055	2.4	----	----	----	----
W10 Surface Mid-Flood	31-Aug-2023	HK2334244-056	2.7	----	----	----	----
W10 Bottom Mid-Flood	31-Aug-2023	HK2334244-059	3.0	----	----	----	----
W10 Bottom Mid-Flood	31-Aug-2023	HK2334244-060	2.7	----	----	----	----
W11 Middle Mid-Flood	31-Aug-2023	HK2334244-063	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	----	----	----	----
W11 Middle Mid-Flood	31-Aug-2023	HK2334244-064		**2.6**	----	----	----	----
W3 Middle Mid-Flood	31-Aug-2023	HK2334244-069		**4.0**	----	----	----	----
W3 Middle Mid-Flood	31-Aug-2023	HK2334244-070		**4.1**	----	----	----	----
W2 Middle Mid-Flood	31-Aug-2023	HK2334244-075		**3.2**	----	----	----	----
W2 Middle Mid-Flood	31-Aug-2023	HK2334244-076		**2.9**	----	----	----	----
W1a Middle Mid-Flood	31-Aug-2023	HK2334244-081		**3.1**	----	----	----	----
W1a Middle Mid-Flood	31-Aug-2023	HK2334244-082		**3.4**	----	----	----	----

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: 5275995)								
HK2334244-003	W1a Middle Mid-Ebb	EA025: Suspended Solids (SS)	----	0.5	mg/L	4.2	3.8	10.0
HK2334244-029	W5 Bottom Mid-Ebb	EA025: Suspended Solids (SS)	----	0.5	mg/L	3.3	3.3	0.0
EA/ED: Physical and Aggregate Properties (QC Lot: 5275996)								
HK2334244-043	W8 Surface Mid-Flood	EA025: Suspended Solids (SS)	----	0.5	mg/L	2.1	2.3	9.1
HK2334244-063	W11 Middle Mid-Flood	EA025: Suspended Solids (SS)	----	0.5	mg/L	3.4	3.1	8.5

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: 5275995)											
EA025: Suspended Solids (SS)	----	0.5	mg/L	<0.5	20 mg/L	106	----	86.6	113	----	----
EA/ED: Physical and Aggregate Properties (QCLot: 5275996)											
EA025: Suspended Solids (SS)	----	0.5	mg/L	<0.5	20 mg/L	108	----	86.6	113	----	----

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

ALS Laboratory Group

ANALYTICAL CHEMISTRY & TESTING SERVICES

CERTIFICATE OF ANALYSIS

Client	:	AECOM ASIA COMPANY LIMITED	Laboratory	:	ALS Technichem (HK) Pty Ltd	Page	: 1 of 5
Contact	:	MR YIU WAH FUNG	Contact	:	Richard Fung	Work Order	: HK2334245
Address	:	12/F, TOWER 2, GRAND CENTRAL PLAZA, NO. 138 SHATIN RURAL COMMITTEE ROAD, SHATIN, N.T. HONG KONG	Address	:	11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong		
E-mail	:	yw.fung@aecom.com	E-mail	:	richard.fung@alsglobal.com		
Telephone	:	+852 3922 9366	Telephone	:	+852 2610 1044		
Facsimile	:	+852 2891 0305	Facsimile	:	+852 2610 2021		
Project	:	TUEN MUN SOUTH EXTENSION - BASELINE				Date received	: 14-Sep-2023
Order number	:	60646499	Quote number	:	HKE/1326/2023	Date of issue	: 23-Sep-2023
C-O-C number	:	—				No. of samples	- Received : 38
Site	:	—					- Analysed : 38

This report may not be reproduced except with prior written approval from the testing laboratory.

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 the same work order number. 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 14-Sep-2023 to 22-Sep-2023.

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 HK2334245 :

Sample(s) was/ were submitted by client. Sample(s) arrived laboratory in chilled condition.

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. The result(s) is/are related only to the item(s) tested.

EA025 - The accredited LOR of Total Suspended Solids is 0.5mg/L. Results below this LOR are for reference only.

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	----	----	----	----
W1a Middle Mid-Ebb	14-Sep-2023	HK2334245-003	5.2	----	----	----	----
W1a Middle Mid-Ebb	14-Sep-2023	HK2334245-004	4.9	----	----	----	----
W2 Middle Mid-Ebb	14-Sep-2023	HK2334245-009	3.6	----	----	----	----
W2 Middle Mid-Ebb	14-Sep-2023	HK2334245-010	3.0	----	----	----	----
W3 Middle Mid-Ebb	14-Sep-2023	HK2334245-015	3.8	----	----	----	----
W3 Middle Mid-Ebb	14-Sep-2023	HK2334245-016	3.2	----	----	----	----
W4 Middle Mid-Ebb	14-Sep-2023	HK2334245-021	3.6	----	----	----	----
W4 Middle Mid-Ebb	14-Sep-2023	HK2334245-022	3.1	----	----	----	----
W5 Surface Mid-Ebb	14-Sep-2023	HK2334245-025	2.9	----	----	----	----
W5 Surface Mid-Ebb	14-Sep-2023	HK2334245-026	2.8	----	----	----	----
W5 Bottom Mid-Ebb	14-Sep-2023	HK2334245-029	4.2	----	----	----	----
W5 Bottom Mid-Ebb	14-Sep-2023	HK2334245-030	4.1	----	----	----	----
W6 Surface Mid-Ebb	14-Sep-2023	HK2334245-031	3.3	----	----	----	----
W6 Surface Mid-Ebb	14-Sep-2023	HK2334245-032	3.7	----	----	----	----
W6 Bottom Mid-Ebb	14-Sep-2023	HK2334245-035	3.8	----	----	----	----
W6 Bottom Mid-Ebb	14-Sep-2023	HK2334245-036	3.4	----	----	----	----
W7 Surface Mid-Ebb	14-Sep-2023	HK2334245-037	2.6	----	----	----	----
W7 Surface Mid-Ebb	14-Sep-2023	HK2334245-038	2.9	----	----	----	----
W7 Bottom Mid-Ebb	14-Sep-2023	HK2334245-041	4.0	----	----	----	----
W7 Bottom Mid-Ebb	14-Sep-2023	HK2334245-042	3.7	----	----	----	----
W8 Surface Mid-Flood	14-Sep-2023	HK2334245-043	2.3	----	----	----	----
W8 Surface Mid-Flood	14-Sep-2023	HK2334245-044	2.2	----	----	----	----
W8 Bottom Mid-Flood	14-Sep-2023	HK2334245-047	1.9	----	----	----	----
W8 Bottom Mid-Flood	14-Sep-2023	HK2334245-048	1.8	----	----	----	----
W9 Middle Mid-Flood	14-Sep-2023	HK2334245-051	1.2	----	----	----	----
W9 Middle Mid-Flood	14-Sep-2023	HK2334245-052	1.4	----	----	----	----
W10 Surface Mid-Flood	14-Sep-2023	HK2334245-055	2.9	----	----	----	----
W10 Surface Mid-Flood	14-Sep-2023	HK2334245-056	3.2	----	----	----	----
W10 Bottom Mid-Flood	14-Sep-2023	HK2334245-059	2.3	----	----	----	----
W10 Bottom Mid-Flood	14-Sep-2023	HK2334245-060	2.5	----	----	----	----
W11 Middle Mid-Flood	14-Sep-2023	HK2334245-063	2.5	----	----	----	----

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	----	----	----	----
W11 Middle Mid-Flood	14-Sep-2023	HK2334245-064	**2.4**	----	----	----	----
W3 Middle Mid-Flood	14-Sep-2023	HK2334245-069	**2.3**	----	----	----	----
W3 Middle Mid-Flood	14-Sep-2023	HK2334245-070	**2.7**	----	----	----	----
W2 Middle Mid-Flood	14-Sep-2023	HK2334245-075	**2.8**	----	----	----	----
W2 Middle Mid-Flood	14-Sep-2023	HK2334245-076	**3.0**	----	----	----	----
W1a Middle Mid-Flood	14-Sep-2023	HK2334245-081	**3.8**	----	----	----	----
W1a Middle Mid-Flood	14-Sep-2023	HK2334245-082	**3.4**	----	----	----	----

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: 5302046)								
HK2334245-003	W1a Middle Mid-Ebb	EA025: Suspended Solids (SS)	----	0.5	mg/L	5.2	5.5	6.6
HK2334245-029	W5 Bottom Mid-Ebb	EA025: Suspended Solids (SS)	----	0.5	mg/L	4.2	4.0	4.8
EA/ED: Physical and Aggregate Properties (QC Lot: 5302047)								
HK2334245-043	W8 Surface Mid-Flood	EA025: Suspended Solids (SS)	----	0.5	mg/L	2.3	2.4	6.3
HK2334245-063	W11 Middle Mid-Flood	EA025: Suspended Solids (SS)	----	0.5	mg/L	2.5	2.8	10.3

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: 5302046)											
EA025: Suspended Solids (SS)	----	0.5	mg/L	<0.5	20 mg/L	104	----	86.6	113	----	----
EA/ED: Physical and Aggregate Properties (QCLot: 5302047)											
EA025: Suspended Solids (SS)	----	0.5	mg/L	<0.5	20 mg/L	98.0	----	86.6	113	----	----

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

ALS Laboratory Group

ANALYTICAL CHEMISTRY & TESTING SERVICES

CERTIFICATE OF ANALYSIS

Client	:	AECOM ASIA COMPANY LIMITED	Laboratory	:	ALS Technichem (HK) Pty Ltd	Page	: 1 of 5
Contact	:	MR YIU WAH FUNG	Contact	:	Richard Fung	Work Order	: HK2334246
Address	:	12/F, TOWER 2, GRAND CENTRAL PLAZA, NO. 138 SHATIN RURAL COMMITTEE ROAD, SHATIN, N.T. HONG KONG	Address	:	11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong		
E-mail	:	yw.fung@aecom.com	E-mail	:	richard.fung@alsglobal.com		
Telephone	:	+852 3922 9366	Telephone	:	+852 2610 1044		
Facsimile	:	+852 2891 0305	Facsimile	:	+852 2610 2021		
Project	:	TUEN MUN SOUTH EXTENSION - BASELINE				Date received	: 05-Sep-2023
Order number	:	60646499	Quote number	:	HKE/1326/2023	Date of issue	: 13-Sep-2023
C-O-C number	:	—				No. of samples	- Received : 38
Site	:	—					- Analysed : 38

This report may not be reproduced except with prior written approval from the testing laboratory.

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 the same work order number. 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-2023 to 13-Sep-2023.

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 HK2334246 :

Sample(s) was/ were submitted by client. Sample(s) arrived laboratory in chilled condition.

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. The result(s) is/are related only to the item(s) tested.

EA025 - The accredited LOR of Total Suspended Solids is 0.5mg/L. Results below this LOR are for reference only.

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	----	----	----	----
W1a Middle Mid-Ebb	05-Sep-2023	HK2334246-003	2.9	----	----	----	----
W1a Middle Mid-Ebb	05-Sep-2023	HK2334246-004	2.2	----	----	----	----
W2 Middle Mid-Ebb	05-Sep-2023	HK2334246-009	2.9	----	----	----	----
W2 Middle Mid-Ebb	05-Sep-2023	HK2334246-010	3.0	----	----	----	----
W3 Middle Mid-Ebb	05-Sep-2023	HK2334246-015	2.2	----	----	----	----
W3 Middle Mid-Ebb	05-Sep-2023	HK2334246-016	2.6	----	----	----	----
W4 Middle Mid-Ebb	05-Sep-2023	HK2334246-021	2.8	----	----	----	----
W4 Middle Mid-Ebb	05-Sep-2023	HK2334246-022	2.8	----	----	----	----
W5 Surface Mid-Ebb	05-Sep-2023	HK2334246-025	3.1	----	----	----	----
W5 Surface Mid-Ebb	05-Sep-2023	HK2334246-026	2.7	----	----	----	----
W5 Bottom Mid-Ebb	05-Sep-2023	HK2334246-029	3.3	----	----	----	----
W5 Bottom Mid-Ebb	05-Sep-2023	HK2334246-030	2.7	----	----	----	----
W6 Surface Mid-Ebb	05-Sep-2023	HK2334246-031	2.8	----	----	----	----
W6 Surface Mid-Ebb	05-Sep-2023	HK2334246-032	3.5	----	----	----	----
W6 Bottom Mid-Ebb	05-Sep-2023	HK2334246-035	3.3	----	----	----	----
W6 Bottom Mid-Ebb	05-Sep-2023	HK2334246-036	2.9	----	----	----	----
W7 Surface Mid-Ebb	05-Sep-2023	HK2334246-037	2.2	----	----	----	----
W7 Surface Mid-Ebb	05-Sep-2023	HK2334246-038	2.9	----	----	----	----
W7 Bottom Mid-Ebb	05-Sep-2023	HK2334246-041	1.9	----	----	----	----
W7 Bottom Mid-Ebb	05-Sep-2023	HK2334246-042	2.5	----	----	----	----
W8 Surface Mid-Flood	05-Sep-2023	HK2334246-043	2.0	----	----	----	----
W8 Surface Mid-Flood	05-Sep-2023	HK2334246-044	2.2	----	----	----	----
W8 Bottom Mid-Flood	05-Sep-2023	HK2334246-047	1.9	----	----	----	----
W8 Bottom Mid-Flood	05-Sep-2023	HK2334246-048	2.4	----	----	----	----
W9 Middle Mid-Flood	05-Sep-2023	HK2334246-051	2.1	----	----	----	----
W9 Middle Mid-Flood	05-Sep-2023	HK2334246-052	3.3	----	----	----	----
W10 Surface Mid-Flood	05-Sep-2023	HK2334246-055	2.1	----	----	----	----
W10 Surface Mid-Flood	05-Sep-2023	HK2334246-056	1.8	----	----	----	----
W10 Bottom Mid-Flood	05-Sep-2023	HK2334246-059	2.5	----	----	----	----
W10 Bottom Mid-Flood	05-Sep-2023	HK2334246-060	2.3	----	----	----	----
W11 Middle Mid-Flood	05-Sep-2023	HK2334246-063	2.9	----	----	----	----

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	----	----	----	----
W11 Middle Mid-Flood	05-Sep-2023	HK2334246-064		**2.0**	----	----	----	----
W3 Middle Mid-Flood	05-Sep-2023	HK2334246-069		**2.4**	----	----	----	----
W3 Middle Mid-Flood	05-Sep-2023	HK2334246-070		**2.6**	----	----	----	----
W2 Middle Mid-Flood	05-Sep-2023	HK2334246-075		**2.2**	----	----	----	----
W2 Middle Mid-Flood	05-Sep-2023	HK2334246-076		**1.7**	----	----	----	----
W1a Middle Mid-Flood	05-Sep-2023	HK2334246-081		**3.2**	----	----	----	----
W1a Middle Mid-Flood	05-Sep-2023	HK2334246-082		**2.2**	----	----	----	----

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: 5281255)								
HK2334246-003	W1a Middle Mid-Ebb	EA025: Suspended Solids (SS)	----	0.5	mg/L	2.9	2.9	0.0
HK2334246-029	W5 Bottom Mid-Ebb	EA025: Suspended Solids (SS)	----	0.5	mg/L	3.3	3.3	0.0
EA/ED: Physical and Aggregate Properties (QC Lot: 5281256)								
HK2334246-043	W8 Surface Mid-Flood	EA025: Suspended Solids (SS)	----	0.5	mg/L	2.0	2.0	0.0
HK2334246-063	W11 Middle Mid-Flood	EA025: Suspended Solids (SS)	----	0.5	mg/L	2.9	3.4	14.4

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: 5281255)											
EA025: Suspended Solids (SS)	----	0.5	mg/L	<0.5	20 mg/L	106	----	86.6	113	----	----
EA/ED: Physical and Aggregate Properties (QCLot: 5281256)											
EA025: Suspended Solids (SS)	----	0.5	mg/L	<0.5	20 mg/L	91.0	----	86.6	113	----	----

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

ALS Laboratory Group

ANALYTICAL CHEMISTRY & TESTING SERVICES

CERTIFICATE OF ANALYSIS

Client	:	AECOM ASIA COMPANY LIMITED	Laboratory	:	ALS Technichem (HK) Pty Ltd	Page	: 1 of 5
Contact	:	MR YIU WAH FUNG	Contact	:	Richard Fung	Work Order	: HK2335108
Address	:	12/F, TOWER 2, GRAND CENTRAL PLAZA, NO. 138 SHATIN RURAL COMMITTEE ROAD, SHATIN, N.T. HONG KONG	Address	:	11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong		
E-mail	:	yw.fung@aecom.com	E-mail	:	richard.fung@alsglobal.com		
Telephone	:	+852 3922 9366	Telephone	:	+852 2610 1044		
Facsimile	:	+852 2891 0305	Facsimile	:	+852 2610 2021		
Project	:	TUEN MUN SOUTH EXTENSION - BASELINE				Date received	: 07-Sep-2023
Order number	:	60646499	Quote number	:	HKE/1326/2023	Date of issue	: 15-Sep-2023
C-O-C number	:	—				No. of samples	- Received : 38
Site	:	—					- Analysed : 38

This report may not be reproduced except with prior written approval from the testing laboratory.

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 the same work order number. 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 07-Sep-2023 to 15-Sep-2023.

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 HK2335108 :

Sample(s) was/ were submitted by client. Sample(s) arrived laboratory in chilled condition.

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. The result(s) is/are related only to the item(s) tested.

EA025 - The accredited LOR of Total Suspended Solids is 0.5mg/L. Results below this LOR are for reference only.

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	----	----	----	----
W1a Middle Mid-Ebb	07-Sep-2023	HK2335108-003	2.5	----	----	----	----
W1a Middle Mid-Ebb	07-Sep-2023	HK2335108-004	3.3	----	----	----	----
W2 Middle Mid-Ebb	07-Sep-2023	HK2335108-009	5.4	----	----	----	----
W2 Middle Mid-Ebb	07-Sep-2023	HK2335108-010	3.5	----	----	----	----
W3 Middle Mid-Ebb	07-Sep-2023	HK2335108-015	4.6	----	----	----	----
W3 Middle Mid-Ebb	07-Sep-2023	HK2335108-016	3.6	----	----	----	----
W4 Middle Mid-Ebb	07-Sep-2023	HK2335108-021	3.1	----	----	----	----
W4 Middle Mid-Ebb	07-Sep-2023	HK2335108-022	3.7	----	----	----	----
W5 Surface Mid-Ebb	07-Sep-2023	HK2335108-025	3.4	----	----	----	----
W5 Surface Mid-Ebb	07-Sep-2023	HK2335108-026	3.6	----	----	----	----
W5 Bottom Mid-Ebb	07-Sep-2023	HK2335108-029	5.2	----	----	----	----
W5 Bottom Mid-Ebb	07-Sep-2023	HK2335108-030	3.9	----	----	----	----
W6 Surface Mid-Ebb	07-Sep-2023	HK2335108-031	3.0	----	----	----	----
W6 Surface Mid-Ebb	07-Sep-2023	HK2335108-032	3.0	----	----	----	----
W6 Bottom Mid-Ebb	07-Sep-2023	HK2335108-035	2.3	----	----	----	----
W6 Bottom Mid-Ebb	07-Sep-2023	HK2335108-036	3.7	----	----	----	----
W7 Surface Mid-Ebb	07-Sep-2023	HK2335108-037	5.0	----	----	----	----
W7 Surface Mid-Ebb	07-Sep-2023	HK2335108-038	5.3	----	----	----	----
W7 Bottom Mid-Ebb	07-Sep-2023	HK2335108-041	5.2	----	----	----	----
W7 Bottom Mid-Ebb	07-Sep-2023	HK2335108-042	5.0	----	----	----	----
W8 Surface Mid-Flood	07-Sep-2023	HK2335108-043	6.2	----	----	----	----
W8 Surface Mid-Flood	07-Sep-2023	HK2335108-044	7.6	----	----	----	----
W8 Bottom Mid-Flood	07-Sep-2023	HK2335108-047	4.2	----	----	----	----
W8 Bottom Mid-Flood	07-Sep-2023	HK2335108-048	6.0	----	----	----	----
W9 Middle Mid-Flood	07-Sep-2023	HK2335108-051	3.6	----	----	----	----
W9 Middle Mid-Flood	07-Sep-2023	HK2335108-052	3.2	----	----	----	----
W10 Surface Mid-Flood	07-Sep-2023	HK2335108-055	4.6	----	----	----	----
W10 Surface Mid-Flood	07-Sep-2023	HK2335108-056	4.1	----	----	----	----
W10 Bottom Mid-Flood	07-Sep-2023	HK2335108-059	3.2	----	----	----	----
W10 Bottom Mid-Flood	07-Sep-2023	HK2335108-060	3.7	----	----	----	----
W11 Middle Mid-Flood	07-Sep-2023	HK2335108-063	5.7	----	----	----	----

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	----	----	----	----
W11 Middle Mid-Flood	07-Sep-2023	HK2335108-064	**4.4**	----	----	----	----
W3 Middle Mid-Flood	07-Sep-2023	HK2335108-069	**4.4**	----	----	----	----
W3 Middle Mid-Flood	07-Sep-2023	HK2335108-070	**4.2**	----	----	----	----
W2 Middle Mid-Flood	07-Sep-2023	HK2335108-075	**3.3**	----	----	----	----
W2 Middle Mid-Flood	07-Sep-2023	HK2335108-076	**4.0**	----	----	----	----
W1a Middle Mid-Flood	07-Sep-2023	HK2335108-081	**3.8**	----	----	----	----
W1a Middle Mid-Flood	07-Sep-2023	HK2335108-082	**5.0**	----	----	----	----

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: 5290076)								
HK2335108-003	W1a Middle Mid-Ebb	EA025: Suspended Solids (SS)	----	0.5	mg/L	2.5	2.6	0.0
HK2335108-029	W5 Bottom Mid-Ebb	EA025: Suspended Solids (SS)	----	0.5	mg/L	5.2	5.0	3.5
EA/ED: Physical and Aggregate Properties (QC Lot: 5290077)								
HK2335108-043	W8 Surface Mid-Flood	EA025: Suspended Solids (SS)	----	0.5	mg/L	6.2	7.2	14.9
HK2335108-063	W11 Middle Mid-Flood	EA025: Suspended Solids (SS)	----	0.5	mg/L	5.7	5.3	7.2

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: 5290076)											
EA025: Suspended Solids (SS)	----	0.5	mg/L	<0.5	20 mg/L	106	----	86.6	113	----	----
EA/ED: Physical and Aggregate Properties (QCLot: 5290077)											
EA025: Suspended Solids (SS)	----	0.5	mg/L	<0.5	20 mg/L	103	----	86.6	113	----	----

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

ALS Laboratory Group

ANALYTICAL CHEMISTRY & TESTING SERVICES

CERTIFICATE OF ANALYSIS

Client	:	AECOM ASIA COMPANY LIMITED	Laboratory	:	ALS Technichem (HK) Pty Ltd	Page	: 1 of 5
Contact	:	MR YIU WAH FUNG	Contact	:	Richard Fung	Work Order	: HK2335109
Address	:	12/F, TOWER 2, GRAND CENTRAL PLAZA, NO. 138 SHATIN RURAL COMMITTEE ROAD, SHATIN, N.T. HONG KONG	Address	:	11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong		
E-mail	:	yw.fung@aecom.com	E-mail	:	richard.fung@alsglobal.com		
Telephone	:	+852 3922 9366	Telephone	:	+852 2610 1044		
Facsimile	:	+852 2891 0305	Facsimile	:	+852 2610 2021		
Project	:	TUEN MUN SOUTH EXTENSION - BASELINE				Date received	: 09-Sep-2023
Order number	:	60646499	Quote number	:	HKE/1326/2023	Date of issue	: 15-Sep-2023
C-O-C number	:	—				No. of samples	- Received : 38
Site	:	—					- Analysed : 38

This report may not be reproduced except with prior written approval from the testing laboratory.

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 the same work order number. 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 09-Sep-2023 to 15-Sep-2023.

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 HK2335109 :

Sample(s) was/ were submitted by client. Sample(s) arrived laboratory in chilled condition.

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. The result(s) is/are related only to the item(s) tested.

EA025 - The accredited LOR of Total Suspended Solids is 0.5mg/L. Results below this LOR are for reference only.

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	----	----	----	----
W1a Middle Mid-Ebb	09-Sep-2023	HK2335109-003	4.1	----	----	----	----
W1a Middle Mid-Ebb	09-Sep-2023	HK2335109-004	4.6	----	----	----	----
W2 Middle Mid-Ebb	09-Sep-2023	HK2335109-009	5.0	----	----	----	----
W2 Middle Mid-Ebb	09-Sep-2023	HK2335109-010	5.2	----	----	----	----
W3 Middle Mid-Ebb	09-Sep-2023	HK2335109-015	5.0	----	----	----	----
W3 Middle Mid-Ebb	09-Sep-2023	HK2335109-016	5.2	----	----	----	----
W4 Middle Mid-Ebb	09-Sep-2023	HK2335109-021	5.3	----	----	----	----
W4 Middle Mid-Ebb	09-Sep-2023	HK2335109-022	5.8	----	----	----	----
W5 Surface Mid-Ebb	09-Sep-2023	HK2335109-025	5.8	----	----	----	----
W5 Surface Mid-Ebb	09-Sep-2023	HK2335109-026	5.0	----	----	----	----
W5 Bottom Mid-Ebb	09-Sep-2023	HK2335109-029	5.7	----	----	----	----
W5 Bottom Mid-Ebb	09-Sep-2023	HK2335109-030	4.6	----	----	----	----
W6 Surface Mid-Ebb	09-Sep-2023	HK2335109-031	4.6	----	----	----	----
W6 Surface Mid-Ebb	09-Sep-2023	HK2335109-032	5.2	----	----	----	----
W6 Bottom Mid-Ebb	09-Sep-2023	HK2335109-035	5.3	----	----	----	----
W6 Bottom Mid-Ebb	09-Sep-2023	HK2335109-036	4.2	----	----	----	----
W7 Surface Mid-Ebb	09-Sep-2023	HK2335109-037	4.4	----	----	----	----
W7 Surface Mid-Ebb	09-Sep-2023	HK2335109-038	4.3	----	----	----	----
W7 Bottom Mid-Ebb	09-Sep-2023	HK2335109-041	4.2	----	----	----	----
W7 Bottom Mid-Ebb	09-Sep-2023	HK2335109-042	4.1	----	----	----	----
W8 Surface Mid-Flood	09-Sep-2023	HK2335109-043	3.8	----	----	----	----
W8 Surface Mid-Flood	09-Sep-2023	HK2335109-044	4.1	----	----	----	----
W8 Bottom Mid-Flood	09-Sep-2023	HK2335109-047	4.5	----	----	----	----
W8 Bottom Mid-Flood	09-Sep-2023	HK2335109-048	4.0	----	----	----	----
W9 Middle Mid-Flood	09-Sep-2023	HK2335109-051	4.3	----	----	----	----
W9 Middle Mid-Flood	09-Sep-2023	HK2335109-052	4.3	----	----	----	----
W10 Surface Mid-Flood	09-Sep-2023	HK2335109-055	4.8	----	----	----	----
W10 Surface Mid-Flood	09-Sep-2023	HK2335109-056	4.5	----	----	----	----
W10 Bottom Mid-Flood	09-Sep-2023	HK2335109-059	4.5	----	----	----	----
W10 Bottom Mid-Flood	09-Sep-2023	HK2335109-060	3.2	----	----	----	----
W11 Middle Mid-Flood	09-Sep-2023	HK2335109-063	4.6	----	----	----	----

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	----	----	----	----
W11 Middle Mid-Flood	09-Sep-2023	HK2335109-064		**5.0**	----	----	----	----
W3 Middle Mid-Flood	09-Sep-2023	HK2335109-069		**4.3**	----	----	----	----
W3 Middle Mid-Flood	09-Sep-2023	HK2335109-070		**4.3**	----	----	----	----
W2 Middle Mid-Flood	09-Sep-2023	HK2335109-075		**4.2**	----	----	----	----
W2 Middle Mid-Flood	09-Sep-2023	HK2335109-076		**4.4**	----	----	----	----
W1a Middle Mid-Flood	09-Sep-2023	HK2335109-081		**4.6**	----	----	----	----
W1a Middle Mid-Flood	09-Sep-2023	HK2335109-082		**4.3**	----	----	----	----

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: 5290204)								
HK2335109-003	W1a Middle Mid-Ebb	EA025: Suspended Solids (SS)	----	0.5	mg/L	4.1	4.7	13.6
HK2335109-029	W5 Bottom Mid-Ebb	EA025: Suspended Solids (SS)	----	0.5	mg/L	5.7	5.7	0.0
EA/ED: Physical and Aggregate Properties (QC Lot: 5290205)								
HK2335109-043	W8 Surface Mid-Flood	EA025: Suspended Solids (SS)	----	0.5	mg/L	3.8	4.2	10.7
HK2335109-063	W11 Middle Mid-Flood	EA025: Suspended Solids (SS)	----	0.5	mg/L	4.6	4.4	5.6

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: 5290204)											
EA025: Suspended Solids (SS)	----	0.5	mg/L	<0.5	20 mg/L	92.0	----	86.6	113	----	----
EA/ED: Physical and Aggregate Properties (QCLot: 5290205)											
EA025: Suspended Solids (SS)	----	0.5	mg/L	<0.5	20 mg/L	103	----	86.6	113	----	----

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

ALS Laboratory Group

ANALYTICAL CHEMISTRY & TESTING SERVICES

CERTIFICATE OF ANALYSIS

Client	:	AECOM ASIA COMPANY LIMITED	Laboratory	:	ALS Technichem (HK) Pty Ltd	Page	: 1 of 5
Contact	:	MR YIU WAH FUNG	Contact	:	Richard Fung	Work Order	: HK2335111
Address	:	12/F, TOWER 2, GRAND CENTRAL PLAZA, NO. 138 SHATIN RURAL COMMITTEE ROAD, SHATIN, N.T. HONG KONG	Address	:	11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong		
E-mail	:	yw.fung@aecom.com	E-mail	:	richard.fung@alsglobal.com		
Telephone	:	+852 3922 9366	Telephone	:	+852 2610 1044		
Facsimile	:	+852 2891 0305	Facsimile	:	+852 2610 2021		
Project	:	TUEN MUN SOUTH EXTENSION - BASELINE				Date received	: 12-Sep-2023
Order number	:	60646499	Quote number	:	HKE/1326/2023	Date of issue	: 21-Sep-2023
C-O-C number	:	—				No. of samples	- Received : 38
Site	:	—					- Analysed : 38

This report may not be reproduced except with prior written approval from the testing laboratory.

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 the same work order number. 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 12-Sep-2023 to 21-Sep-2023.

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 HK2335111 :

Sample(s) was/ were submitted by client. Sample(s) arrived laboratory in chilled condition.

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. The result(s) is/are related only to the item(s) tested.

EA025 - The accredited LOR of Total Suspended Solids is 0.5mg/L. Results below this LOR are for reference only.

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	----	----	----	----
W1a Middle Mid-Ebb	12-Sep-2023	HK2335111-003	2.6	----	----	----	----
W1a Middle Mid-Ebb	12-Sep-2023	HK2335111-004	3.2	----	----	----	----
W2 Middle Mid-Ebb	12-Sep-2023	HK2335111-009	3.0	----	----	----	----
W2 Middle Mid-Ebb	12-Sep-2023	HK2335111-010	2.6	----	----	----	----
W3 Middle Mid-Ebb	12-Sep-2023	HK2335111-015	2.3	----	----	----	----
W3 Middle Mid-Ebb	12-Sep-2023	HK2335111-016	2.4	----	----	----	----
W4 Middle Mid-Ebb	12-Sep-2023	HK2335111-021	3.2	----	----	----	----
W4 Middle Mid-Ebb	12-Sep-2023	HK2335111-022	3.1	----	----	----	----
W5 Surface Mid-Ebb	12-Sep-2023	HK2335111-025	2.3	----	----	----	----
W5 Surface Mid-Ebb	12-Sep-2023	HK2335111-026	2.1	----	----	----	----
W5 Bottom Mid-Ebb	12-Sep-2023	HK2335111-029	2.7	----	----	----	----
W5 Bottom Mid-Ebb	12-Sep-2023	HK2335111-030	2.8	----	----	----	----
W6 Surface Mid-Ebb	12-Sep-2023	HK2335111-031	2.6	----	----	----	----
W6 Surface Mid-Ebb	12-Sep-2023	HK2335111-032	3.0	----	----	----	----
W6 Bottom Mid-Ebb	12-Sep-2023	HK2335111-035	2.1	----	----	----	----
W6 Bottom Mid-Ebb	12-Sep-2023	HK2335111-036	2.3	----	----	----	----
W7 Surface Mid-Ebb	12-Sep-2023	HK2335111-037	2.1	----	----	----	----
W7 Surface Mid-Ebb	12-Sep-2023	HK2335111-038	2.3	----	----	----	----
W7 Bottom Mid-Ebb	12-Sep-2023	HK2335111-041	2.7	----	----	----	----
W7 Bottom Mid-Ebb	12-Sep-2023	HK2335111-042	2.5	----	----	----	----
W8 Surface Mid-Flood	12-Sep-2023	HK2335111-043	2.1	----	----	----	----
W8 Surface Mid-Flood	12-Sep-2023	HK2335111-044	2.5	----	----	----	----
W8 Bottom Mid-Flood	12-Sep-2023	HK2335111-047	3.1	----	----	----	----
W8 Bottom Mid-Flood	12-Sep-2023	HK2335111-048	2.8	----	----	----	----
W9 Middle Mid-Flood	12-Sep-2023	HK2335111-051	3.0	----	----	----	----
W9 Middle Mid-Flood	12-Sep-2023	HK2335111-052	2.9	----	----	----	----
W10 Surface Mid-Flood	12-Sep-2023	HK2335111-055	2.4	----	----	----	----
W10 Surface Mid-Flood	12-Sep-2023	HK2335111-056	2.8	----	----	----	----
W10 Bottom Mid-Flood	12-Sep-2023	HK2335111-059	3.0	----	----	----	----
W10 Bottom Mid-Flood	12-Sep-2023	HK2335111-060	3.0	----	----	----	----
W11 Middle Mid-Flood	12-Sep-2023	HK2335111-063	2.4	----	----	----	----

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	----	----	----	----
W11 Middle Mid-Flood	12-Sep-2023	HK2335111-064	**2.3**	----	----	----	----
W3 Middle Mid-Flood	12-Sep-2023	HK2335111-069	**3.0**	----	----	----	----
W3 Middle Mid-Flood	12-Sep-2023	HK2335111-070	**2.9**	----	----	----	----
W2 Middle Mid-Flood	12-Sep-2023	HK2335111-075	**3.0**	----	----	----	----
W2 Middle Mid-Flood	12-Sep-2023	HK2335111-076	**3.4**	----	----	----	----
W1a Middle Mid-Flood	12-Sep-2023	HK2335111-081	**3.2**	----	----	----	----
W1a Middle Mid-Flood	12-Sep-2023	HK2335111-082	**3.6**	----	----	----	----

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: 5296180)								
HK2335111-003	W1a Middle Mid-Ebb	EA025: Suspended Solids (SS)	----	0.5	mg/L	2.6	3.0	14.0
HK2335111-029	W5 Bottom Mid-Ebb	EA025: Suspended Solids (SS)	----	0.5	mg/L	2.7	3.1	15.5
EA/ED: Physical and Aggregate Properties (QC Lot: 5296181)								
HK2335111-043	W8 Surface Mid-Flood	EA025: Suspended Solids (SS)	----	0.5	mg/L	2.1	2.4	11.2
HK2335111-063	W11 Middle Mid-Flood	EA025: Suspended Solids (SS)	----	0.5	mg/L	2.4	2.7	11.8

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: 5296180)											
EA025: Suspended Solids (SS)	----	0.5	mg/L	<0.5	20 mg/L	95.5	----	86.6	113	----	----
EA/ED: Physical and Aggregate Properties (QCLot: 5296181)											
EA025: Suspended Solids (SS)	----	0.5	mg/L	<0.5	20 mg/L	102	----	86.6	113	----	----

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

ALS Laboratory Group

ANALYTICAL CHEMISTRY & TESTING SERVICES

CERTIFICATE OF ANALYSIS

Client	:	AECOM ASIA COMPANY LIMITED	Laboratory	:	ALS Technichem (HK) Pty Ltd	Page	: 1 of 5
Contact	:	MR YIU WAH FUNG	Contact	:	Richard Fung	Work Order	: HK2336087
Address	:	12/F, TOWER 2, GRAND CENTRAL PLAZA, NO. 138 SHATIN RURAL COMMITTEE ROAD, SHATIN, N.T. HONG KONG	Address	:	11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong		
E-mail	:	yw.fung@aecom.com	E-mail	:	richard.fung@alsglobal.com		
Telephone	:	+852 3922 9366	Telephone	:	+852 2610 1044		
Facsimile	:	+852 2891 0305	Facsimile	:	+852 2610 2021		
Project	:	TUEN MUN SOUTH EXTENSION - BASELINE				Date received	: 16-Sep-2023
Order number	:	60646499	Quote number	:	HKE/1326/2023	Date of issue	: 25-Sep-2023
C-O-C number	:	—				No. of samples	- Received : 38
Site	:	—					- Analysed : 38

This report may not be reproduced except with prior written approval from the testing laboratory.

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 the same work order number. 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 16-Sep-2023 to 25-Sep-2023.

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 HK2336087 :

Sample(s) was/ were submitted by client. Sample(s) arrived laboratory in chilled condition.

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. The result(s) is/are related only to the item(s) tested.

EA025 - The accredited LOR of Total Suspended Solids is 0.5mg/L. Results below this LOR are for reference only.

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	----	----	----	----
W1a Middle Mid-Ebb	16-Sep-2023	HK2336087-003	2.6	----	----	----	----
W1a Middle Mid-Ebb	16-Sep-2023	HK2336087-004	2.9	----	----	----	----
W2 Middle Mid-Ebb	16-Sep-2023	HK2336087-009	2.3	----	----	----	----
W2 Middle Mid-Ebb	16-Sep-2023	HK2336087-010	2.4	----	----	----	----
W3 Middle Mid-Ebb	16-Sep-2023	HK2336087-015	2.2	----	----	----	----
W3 Middle Mid-Ebb	16-Sep-2023	HK2336087-016	2.0	----	----	----	----
W4 Middle Mid-Ebb	16-Sep-2023	HK2336087-021	2.4	----	----	----	----
W4 Middle Mid-Ebb	16-Sep-2023	HK2336087-022	2.2	----	----	----	----
W5 Surface Mid-Ebb	16-Sep-2023	HK2336087-025	2.8	----	----	----	----
W5 Surface Mid-Ebb	16-Sep-2023	HK2336087-026	3.1	----	----	----	----
W5 Bottom Mid-Ebb	16-Sep-2023	HK2336087-029	3.8	----	----	----	----
W5 Bottom Mid-Ebb	16-Sep-2023	HK2336087-030	4.2	----	----	----	----
W6 Surface Mid-Ebb	16-Sep-2023	HK2336087-031	3.8	----	----	----	----
W6 Surface Mid-Ebb	16-Sep-2023	HK2336087-032	3.4	----	----	----	----
W6 Bottom Mid-Ebb	16-Sep-2023	HK2336087-035	3.6	----	----	----	----
W6 Bottom Mid-Ebb	16-Sep-2023	HK2336087-036	4.0	----	----	----	----
W7 Surface Mid-Ebb	16-Sep-2023	HK2336087-037	2.7	----	----	----	----
W7 Surface Mid-Ebb	16-Sep-2023	HK2336087-038	3.2	----	----	----	----
W7 Bottom Mid-Ebb	16-Sep-2023	HK2336087-041	3.0	----	----	----	----
W7 Bottom Mid-Ebb	16-Sep-2023	HK2336087-042	3.3	----	----	----	----
W8 Surface Mid-Flood	16-Sep-2023	HK2336087-043	4.0	----	----	----	----
W8 Surface Mid-Flood	16-Sep-2023	HK2336087-044	3.6	----	----	----	----
W8 Bottom Mid-Flood	16-Sep-2023	HK2336087-047	3.9	----	----	----	----
W8 Bottom Mid-Flood	16-Sep-2023	HK2336087-048	3.7	----	----	----	----
W9 Middle Mid-Flood	16-Sep-2023	HK2336087-051	3.6	----	----	----	----
W9 Middle Mid-Flood	16-Sep-2023	HK2336087-052	4.0	----	----	----	----
W10 Surface Mid-Flood	16-Sep-2023	HK2336087-055	3.8	----	----	----	----
W10 Surface Mid-Flood	16-Sep-2023	HK2336087-056	3.6	----	----	----	----
W10 Bottom Mid-Flood	16-Sep-2023	HK2336087-059	6.0	----	----	----	----
W10 Bottom Mid-Flood	16-Sep-2023	HK2336087-060	5.8	----	----	----	----
W11 Middle Mid-Flood	16-Sep-2023	HK2336087-063	4.1	----	----	----	----

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	----	----	----	----
W11 Middle Mid-Flood	16-Sep-2023	HK2336087-064		**4.0**	----	----	----	----
W3 Middle Mid-Flood	16-Sep-2023	HK2336087-069		**5.0**	----	----	----	----
W3 Middle Mid-Flood	16-Sep-2023	HK2336087-070		**5.4**	----	----	----	----
W2 Middle Mid-Flood	16-Sep-2023	HK2336087-075		**4.4**	----	----	----	----
W2 Middle Mid-Flood	16-Sep-2023	HK2336087-076		**4.2**	----	----	----	----
W1a Middle Mid-Flood	16-Sep-2023	HK2336087-081		**3.8**	----	----	----	----
W1a Middle Mid-Flood	16-Sep-2023	HK2336087-082		**4.2**	----	----	----	----

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: 5305391)								
HK2336087-003	W1a Middle Mid-Ebb	EA025: Suspended Solids (SS)	----	0.5	mg/L	2.6	3.0	12.6
HK2336087-029	W5 Bottom Mid-Ebb	EA025: Suspended Solids (SS)	----	0.5	mg/L	3.8	3.4	11.3
EA/ED: Physical and Aggregate Properties (QC Lot: 5305392)								
HK2336087-043	W8 Surface Mid-Flood	EA025: Suspended Solids (SS)	----	0.5	mg/L	4.0	4.3	9.1
HK2336087-063	W11 Middle Mid-Flood	EA025: Suspended Solids (SS)	----	0.5	mg/L	4.1	4.5	9.9

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: 5305391)											
EA025: Suspended Solids (SS)	----	0.5	mg/L	<0.5	20 mg/L	97.0	----	86.6	113	----	----
EA/ED: Physical and Aggregate Properties (QCLot: 5305392)											
EA025: Suspended Solids (SS)	----	0.5	mg/L	<0.5	20 mg/L	102	----	86.6	113	----	----

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

ALS Laboratory Group

ANALYTICAL CHEMISTRY & TESTING SERVICES

CERTIFICATE OF ANALYSIS

Client	:	AECOM ASIA COMPANY LIMITED	Laboratory	:	ALS Technichem (HK) Pty Ltd	Page	: 1 of 5
Contact	:	MR YIU WAH FUNG	Contact	:	Richard Fung	Work Order	: HK2336088
Address	:	12/F, TOWER 2, GRAND CENTRAL PLAZA, NO. 138 SHATIN RURAL COMMITTEE ROAD, SHATIN, N.T. HONG KONG	Address	:	11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong		
E-mail	:	yw.fung@aecom.com	E-mail	:	richard.fung@alsglobal.com		
Telephone	:	+852 3922 9366	Telephone	:	+852 2610 1044		
Facsimile	:	+852 2891 0305	Facsimile	:	+852 2610 2021		
Project	:	TUEN MUN SOUTH EXTENSION - BASELINE				Date received	: 19-Sep-2023
Order number	:	60646499	Quote number	:	HKE/1326/2023	Date of issue	: 28-Sep-2023
C-O-C number	:	—				No. of samples	- Received : 38
Site	:	—					- Analysed : 38

This report may not be reproduced except with prior written approval from the testing laboratory.

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 the same work order number. 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 19-Sep-2023 to 27-Sep-2023.

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 HK2336088 :

Sample(s) was/ were submitted by client. Sample(s) arrived laboratory in chilled condition.

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. The result(s) is/are related only to the item(s) tested.

EA025 - The accredited LOR of Total Suspended Solids is 0.5mg/L. Results below this LOR are for reference only.

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	----	----	----	----
W1a Middle Mid-Ebb	19-Sep-2023	HK2336088-003	3.4	----	----	----	----
W1a Middle Mid-Ebb	19-Sep-2023	HK2336088-004	3.9	----	----	----	----
W2 Middle Mid-Ebb	19-Sep-2023	HK2336088-009	2.8	----	----	----	----
W2 Middle Mid-Ebb	19-Sep-2023	HK2336088-010	2.7	----	----	----	----
W3 Middle Mid-Ebb	19-Sep-2023	HK2336088-015	3.7	----	----	----	----
W3 Middle Mid-Ebb	19-Sep-2023	HK2336088-016	4.0	----	----	----	----
W4 Middle Mid-Ebb	19-Sep-2023	HK2336088-021	3.4	----	----	----	----
W4 Middle Mid-Ebb	19-Sep-2023	HK2336088-022	3.2	----	----	----	----
W5 Surface Mid-Ebb	19-Sep-2023	HK2336088-025	2.4	----	----	----	----
W5 Surface Mid-Ebb	19-Sep-2023	HK2336088-026	2.8	----	----	----	----
W5 Bottom Mid-Ebb	19-Sep-2023	HK2336088-029	3.0	----	----	----	----
W5 Bottom Mid-Ebb	19-Sep-2023	HK2336088-030	3.3	----	----	----	----
W6 Surface Mid-Ebb	19-Sep-2023	HK2336088-031	2.7	----	----	----	----
W6 Surface Mid-Ebb	19-Sep-2023	HK2336088-032	3.2	----	----	----	----
W6 Bottom Mid-Ebb	19-Sep-2023	HK2336088-035	3.2	----	----	----	----
W6 Bottom Mid-Ebb	19-Sep-2023	HK2336088-036	3.0	----	----	----	----
W7 Surface Mid-Ebb	19-Sep-2023	HK2336088-037	3.0	----	----	----	----
W7 Surface Mid-Ebb	19-Sep-2023	HK2336088-038	3.4	----	----	----	----
W7 Bottom Mid-Ebb	19-Sep-2023	HK2336088-041	2.3	----	----	----	----
W7 Bottom Mid-Ebb	19-Sep-2023	HK2336088-042	2.6	----	----	----	----
W8 Surface Mid-Flood	19-Sep-2023	HK2336088-043	2.7	----	----	----	----
W8 Surface Mid-Flood	19-Sep-2023	HK2336088-044	3.1	----	----	----	----
W8 Bottom Mid-Flood	19-Sep-2023	HK2336088-047	4.0	----	----	----	----
W8 Bottom Mid-Flood	19-Sep-2023	HK2336088-048	4.1	----	----	----	----
W9 Middle Mid-Flood	19-Sep-2023	HK2336088-051	3.0	----	----	----	----
W9 Middle Mid-Flood	19-Sep-2023	HK2336088-052	3.4	----	----	----	----
W10 Surface Mid-Flood	19-Sep-2023	HK2336088-055	3.4	----	----	----	----
W10 Surface Mid-Flood	19-Sep-2023	HK2336088-056	3.6	----	----	----	----
W10 Bottom Mid-Flood	19-Sep-2023	HK2336088-059	3.1	----	----	----	----
W10 Bottom Mid-Flood	19-Sep-2023	HK2336088-060	2.8	----	----	----	----
W11 Middle Mid-Flood	19-Sep-2023	HK2336088-063	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	----	----	----	----
W11 Middle Mid-Flood	19-Sep-2023	HK2336088-064		**3.6**	----	----	----	----
W3 Middle Mid-Flood	19-Sep-2023	HK2336088-069		**3.2**	----	----	----	----
W3 Middle Mid-Flood	19-Sep-2023	HK2336088-070		**3.7**	----	----	----	----
W2 Middle Mid-Flood	19-Sep-2023	HK2336088-075		**2.6**	----	----	----	----
W2 Middle Mid-Flood	19-Sep-2023	HK2336088-076		**3.0**	----	----	----	----
W1a Middle Mid-Flood	19-Sep-2023	HK2336088-081		**2.5**	----	----	----	----
W1a Middle Mid-Flood	19-Sep-2023	HK2336088-082		**2.7**	----	----	----	----

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: 5311283)								
HK2336088-003	W1a Middle Mid-Ebb	EA025: Suspended Solids (SS)	----	0.5	mg/L	3.4	3.8	10.5
HK2336088-029	W5 Bottom Mid-Ebb	EA025: Suspended Solids (SS)	----	0.5	mg/L	3.0	2.8	8.7
EA/ED: Physical and Aggregate Properties (QC Lot: 5311284)								
HK2336088-043	W8 Surface Mid-Flood	EA025: Suspended Solids (SS)	----	0.5	mg/L	2.7	2.4	13.7
HK2336088-063	W11 Middle Mid-Flood	EA025: Suspended Solids (SS)	----	0.5	mg/L	3.4	3.6	5.8

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: 5311283)											
EA025: Suspended Solids (SS)	----	0.5	mg/L	<0.5	20 mg/L	100	----	86.6	113	----	----
EA/ED: Physical and Aggregate Properties (QCLot: 5311284)											
EA025: Suspended Solids (SS)	----	0.5	mg/L	<0.5	20 mg/L	95.5	----	86.6	113	----	----

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

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

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

is accredited by the Hong Kong Accreditation Service (HKAS) to ISO/IEC 17025:2017
for performing specific laboratory activities as listed in the scope of accreditation within the test category of
獲香港認可處根據ISO/IEC 17025:2017認可
進行載於認可範圍內下述測試類別中的指定實驗所活動

Environmental Testing
環境測試

This accreditation to ISO/IEC 17025:2017 demonstrates technical competence for a defined scope and the implementation of a management system relevant to laboratory operation (see joint IAF-ILAC-ISO Communiqué).
此項 ISO/IEC 17025:2017 的認可資格證明此實驗所具備指定範疇內所須的技術能力並實施一套與實驗所運作相關的管理體系(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 HKAS is affixed hereto by the authority of the HKAS Executive
現經香港認可處執行機關授權在此蓋上香港認可處的印章

SHUM Wai-leung, Executive Administrator
執行幹事 沈偉良
Issue Date : 28 February 2020
簽發日期：二零二零年二月二十八日

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

This certificate is issued subject to the terms and conditions laid down by HKAS
本證書按照香港認可處訂立的條款及條件發出

L001934

Appendix 2.4

Baseline Water Quality Monitoring Results

Water Quality Monitoring Results at W1a - Mid-Ebb Tide

Date	Weather Condition	Sea Condition**	Sampling Time	Water Depth (m)	Sampling Depth (m)		Temperature (°C)		Salinity (ppt)		pH		DO Saturation (%)		Dissolved Oxygen (mg/L)		Turbidity(NTU)		Suspended Solids (mg/L)	
							Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average
22-Aug-23	Fine	Moderate	15:50	1.5	Middle	0.8	28.5	28.6	26.5	26.5	7.91	7.91	74.70	74.70	5.01	5.01	1.4	1.4	3.5	3.3
							28.7		26.4		7.90		74.70		5.00		1.4		3.1	
24-Aug-23	Cloudy	Moderate	17:10	1.2	Middle	0.6	30.3	30.3	19.8	19.9	7.51	7.52	35.90	35.50	2.42	2.40	7.5	7.5	4.2	4.1
							30.3		20.0		7.52		35.10		2.37		7.5		4.0	
26-Aug-23	Fine	Moderate	8:41	1.5	Middle	0.8	30.8	30.8	20.8	20.8	7.29	7.30	45.70	46.40	3.23	3.24	9.7	9.5	7.5	7.5
							30.7		20.9		7.30		47.10		3.25		9.2		151.0***	
29-Aug-23	Fine	Moderate	11:20	1.4	Middle	0.7	29.5	29.3	21.4	21.5	7.75	7.75	55.90	54.75	3.80	3.73	2.2	2.3	2.7	2.9
							29.2		21.6		7.74		53.60		3.65		2.4		3.0	
31-Aug-23	Cloudy	Moderate	12:30	1.2	Middle	0.6	27.0	27.0	28.6	28.2	7.81	7.83	49.80	50.40	3.39	3.44	3.7	3.7	4.2	3.8
							27.1		27.9		7.84		51.00		3.48		3.7		3.3	
5-Sep-23	Fine	Moderate	16:06	1.6	Middle	0.8	28.4	28.4	25.4	25.6	7.84	7.84	66.00	65.60	4.47	4.44	3.8	3.8	2.9	2.6
							28.4		25.8		7.83		65.20		4.40		3.7		2.2	
7-Sep-23	Rainy	Moderate	6:35	1.6	Middle	0.8	27.8	27.8	21.4	21.4	7.61	7.61	41.70	41.30	2.92	2.89	4.9	4.7	2.5	2.9
							27.8		21.4		7.61		40.90		2.85		4.5		3.3	
9-Sep-23	Cloudy	Moderate	9:36	1.5	Middle	0.7	27.5	27.6	19.4	19.3	7.45	7.45	42.20	41.20	2.99	2.92	2.4	2.4	4.1	4.4
							27.6		19.1		7.44		40.20		2.85		2.3		4.6	
12-Sep-23	Fine	Moderate	12:25	1.6	Middle	0.8	28.4	28.3	10.0	10.2	7.32	7.34	21.00	20.75	1.45	1.44	4.6	4.5	2.6	2.9
							28.1		10.4		7.35		20.50		1.42		4.4		3.2	
14-Sep-23	Fine	Moderate	13:20	1.7	Middle	0.9	28.6	28.5	22.7	22.9	7.43	7.43	30.70	30.80	2.12	2.11	6.2	6.1	5.2	5.1
							28.5		23.0		7.43		30.90		2.10		5.9		4.9	
16-Sep-23	Fine	Moderate	14:33	1.6	Middle	0.8	27.9	27.9	23.4	23.6	7.62	7.62	38.00	38.20	2.62	2.63	6.2	6.0	2.6	2.8
							27.9		23.7		7.62		38.40		2.64		5.8		2.9	
19-Sep-23	Sunny	Moderate	15:02	1.3	Middle	0.8	27.7	27.7	24.3	24.7	7.77	7.76	52.30	51.45	3.59	3.53	4.3	4.2	3.4	3.7
							27.6		25.1		7.75		50.60		3.47		4.0		3.9	

Remark: * DA: Depth-Averaged
**** Calm: Small or no wave; Moderate: Between calm and rough; Rough: White capped or rougher**
***** The result was invalid due to abnormal vaule**

Water Quality Monitoring Results at W1a - Mid-Flood Tide

Date	Weather Condition	Sea Condition**	Sampling Time	Water Depth (m)	Sampling Depth (m)		Temperature (°C)		Salinity (ppt)		pH		DO Saturation (%)		Dissolved Oxygen (mg/L)		Turbidity(NTU)		Suspended Solids (mg/L)	
							Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average
22-Aug-23	Fine	Moderate	10:14	1.4	Middle	0.7	28.9 28.4	28.6	26.2 26.5	26.4	7.90 7.90	7.90	75.20 74.30	74.75	5.02 4.98	5.00	1.4 1.5	1.5	3.0 3.4	3.2
24-Aug-23	Cloudy	Moderate	12:45	1.4	Middle	0.7	30.3 30.3	30.3	21.6 21.7	21.6	7.52 7.52	7.52	37.70 37.80	37.75	2.51 2.52	2.52	6.7 6.8	6.8	5.2 4.9	5.1
26-Aug-23	Fine	Moderate	20:32	1.5	Middle	0.7	29.7 29.8	29.8	22.1 22.0	22.1	7.57 7.57	7.57	50.40 48.60	49.50	3.59 3.34	3.47	10.7 10.4	10.6	6.0 6.3	6.2
29-Aug-23	Fine	Moderate	4:50	1.3	Middle	0.7	29.3 29.2	29.2	21.9 21.5	21.7	7.74 7.75	7.75	59.10 57.60	58.35	4.02 3.92	3.97	1.6 1.6	1.6	2.3 3.1	2.7
31-Aug-23	Cloudy	Moderate	6:50	1.3	Middle	0.7	27.0 27.0	27.0	27.6 28.4	28.0	7.83 7.85	7.84	51.90 52.00	51.95	3.54 3.54	3.54	4.5 4.4	4.5	3.1 3.4	3.3
5-Sep-23	Fine	Moderate	11:14	1.5	Middle	0.8	28.6 28.3	28.4	21.8 22.1	22.0	7.75 7.83	7.79	65.40 64.70	65.05	4.49 4.38	4.44	5.4 5.3	5.4	3.2 2.2	2.7
7-Sep-23	Rainy	Moderate	18:05	1.5	Middle	0.8	28.0 27.9	27.9	17.6 18.4	18.0	7.52 7.53	7.53	35.50 35.40	35.45	2.52 2.53	2.53	5.1 5.3	5.2	3.8 5.0	4.4
9-Sep-23	Cloudy	Moderate	21:31	1.5	Middle	0.8	27.8 27.8	27.8	14.8 13.6	14.2	7.36 7.38	7.37	32.70 30.30	31.50	2.41 2.21	2.31	3.4 3.4	3.4	4.6 4.3	4.5
12-Sep-23	Fine	Moderate	18:29	1.5	Middle	0.8	28.0 27.7	27.9	20.0 20.8	20.4	7.31 7.36	7.34	33.00 32.20	32.60	2.29 2.24	2.27	4.8 4.5	4.7	3.2 3.6	3.4
14-Sep-23	Fine	Moderate	19:03	1.6	Middle	0.8	28.0 28.0	28.0	23.6 23.6	23.6	7.56 7.57	7.57	31.90 31.70	31.80	2.21 2.16	2.19	5.7 6.1	5.9	3.8 3.4	3.6
16-Sep-23	Fine	Moderate	19:42	1.5	Middle	0.8	27.9 27.8	27.9	21.7 21.9	21.8	7.49 7.52	7.51	38.00 35.40	36.70	2.64 2.46	2.55	5.4 5.7	5.6	3.8 4.2	4.0
19-Sep-23	Sunny	Moderate	10:02	1.5	Middle	0.8	27.8 27.8	27.8	22.9 24.3	23.6	7.60 7.76	7.68	50.60 50.10	50.35	3.61 3.44	3.53	3.9 4.1	4.0	2.5 2.7	2.6

Remark: * DA: Depth-Averaged
**** Calm: Small or no wave; Moderate: Between calm and rough; Rough: White capped or rougher**
***** The result was invalid due to abnormal vaule**

Water Quality Monitoring Results at W2 - Mid-Ebb Tide

Date	Weather Condition	Sea Condition**	Sampling Time	Water Depth (m)	Sampling Depth (m)		Temperature (°C)		Salinity (ppt)		pH		DO Saturation (%)		Dissolved Oxygen (mg/L)		Turbidity(NTU)		Suspended Solids (mg/L)	
							Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average
22-Aug-23	Fine	Moderate	16:02	2.2	Middle	1.1	28.5 28.4	28.4	26.6 26.7	26.6	7.91 7.91	7.91	75.00 74.80	74.90	5.03 5.02	5.03	1.5 1.5	1.5	3.2 2.9	3.1
24-Aug-23	Cloudy	Moderate	17:21	2.0	Middle	1.0	29.6 29.7	29.6	25.5 25.0	25.2	7.79 7.80	7.80	68.30 73.10	70.70	4.53 4.85	4.69	3.1 3.1	3.1	2.6 2.2	2.4
26-Aug-23	Fine	Moderate	8:30	2.1	Middle	1.1	29.6 30.4	30.0	25.0 24.6	24.8	7.68 7.66	7.67	54.20 55.90	55.05	3.59 3.67	3.63	8.8 7.9	8.4	6.9 8.0	7.5
29-Aug-23	Fine	Moderate	11:31	2.3	Middle	1.2	28.5 28.7	28.6	24.9 24.7	24.8	7.82 7.82	7.82	57.30 53.70	55.50	3.88 3.62	3.75	2.3 2.0	2.2	2.7 2.3	2.5
31-Aug-23	Cloudy	Moderate	12:40	2.0	Middle	1.0	27.0 27.0	27.0	28.6 28.7	28.6	7.86 7.86	7.86	51.20 51.40	51.30	3.49 3.50	3.50	3.9 3.9	3.9	3.5 3.5	3.5
5-Sep-23	Fine	Moderate	16:20	2.2	Middle	1.1	28.2 28.2	28.2	25.8 26.0	25.9	7.83 7.84	7.84	65.60 66.70	66.15	4.44 4.51	4.48	2.4 2.5	2.5	2.9 3.0	3.0
7-Sep-23	Rainy	Moderate	6:23	2.4	Middle	1.2	27.5 27.5	27.5	23.8 24.1	23.9	7.66 7.71	7.69	45.60 46.70	46.15	3.16 3.22	3.19	2.9 2.9	2.9	5.4 3.5	4.5
9-Sep-23	Cloudy	Moderate	9:25	2.3	Middle	1.2	27.4 27.2	27.3	23.5 23.8	23.7	7.60 7.65	7.63	46.10 47.50	46.80	3.21 3.30	3.26	2.5 2.7	2.6	5.0 5.2	5.1
12-Sep-23	Fine	Moderate	12:13	2.3	Middle	1.2	27.8 27.5	27.6	21.4 24.1	22.7	7.48 7.49	7.49	32.80 28.70	30.75	2.42 2.12	2.27	3.7 3.5	3.6	3.0 2.6	2.8
14-Sep-23	Fine	Moderate	13:08	2.1	Middle	1.1	28.0 28.5	28.2	24.9 22.9	23.9	7.62 7.57	7.60	32.70 33.40	33.05	2.19 2.24	2.22	4.9 5.3	5.1	3.6 3.0	3.3
16-Sep-23	Fine	Moderate	14:20	2.2	Middle	1.1	27.7 27.8	27.7	24.1 24.4	24.2	7.59 7.64	7.62	41.60 42.30	41.95	2.86 2.90	2.88	3.7 3.5	3.6	2.3 2.4	2.4
19-Sep-23	Sunny	Moderate	15:15	2.1	Middle	1.1	27.6 27.6	27.6	24.9 25.3	25.1	7.75 7.77	7.76	51.10 53.50	52.30	3.51 3.66	3.59	3.2 3.4	3.3	2.8 2.7	2.8

Remark: * DA: Depth-Averaged
**** Calm: Small or no wave; Moderate: Between calm and rough; Rough: White capped or rougher**

Water Quality Monitoring Results at W2 - Mid-Flood Tide

Date	Weather Condition	Sea Condition**	Sampling Time	Water Depth (m)	Sampling Depth (m)		Temperature (°C)		Salinity (ppt)		pH		DO Saturation (%)		Dissolved Oxygen (mg/L)		Turbidity(NTU)		Suspended Solids (mg/L)	
							Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average
22-Aug-23	Fine	Moderate	10:02	2.0	Middle	1.0	28.6 28.5	28.5	26.5 26.6	26.5	7.90 7.90	7.90	76.10 77.20	76.65	5.10 5.18	5.14	1.5 1.6	1.6	2.7 2.4	2.6
24-Aug-23	Cloudy	Moderate	12:20	2.0	Middle	1.0	29.6 29.6	29.6	25.3 25.1	25.2	7.79 7.77	7.78	68.60 70.70	69.65	4.55 4.69	4.62	3.5 3.5	3.5	3.2 3.5	3.4
26-Aug-23	Fine	Moderate	20:41	2.0	Middle	1.0	30.1 29.4	29.8	24.7 25.5	25.1	7.71 7.71	7.71	60.50 57.60	59.05	3.94 3.83	3.89	7.8 8.2	8.0	5.2 6.0	5.6
29-Aug-23	Fine	Moderate	4:40	1.8	Middle	0.9	28.7 28.7	28.7	24.4 24.3	24.3	7.75 7.73	7.74	54.60 56.70	55.65	3.69 3.83	3.76	1.6 1.6	1.6	2.6 2.0	2.3
31-Aug-23	Cloudy	Moderate	6:31	2.0	Middle	1.0	26.9 26.9	26.9	28.5 28.5	28.5	7.86 7.86	7.86	58.40 60.00	59.20	3.97 4.08	4.03	4.1 4.1	4.1	3.2 2.9	3.1
5-Sep-23	Fine	Moderate	11:02	2.2	Middle	1.1	28.3 28.3	28.3	25.6 25.8	25.7	7.84 7.83	7.84	68.00 67.20	67.60	4.61 4.55	4.58	4.2 3.9	4.1	2.2 1.7	2.0
7-Sep-23	Rainy	Moderate	18:16	2.0	Middle	1.0	27.8 27.6	27.7	22.7 24.1	23.4	7.56 7.64	7.60	33.00 35.70	34.35	2.29 2.45	2.37	3.6 3.6	3.6	3.3 4.0	3.7
9-Sep-23	Cloudy	Moderate	21:42	2.0	Middle	1.0	27.6 27.5	27.5	21.1 23.1	22.1	7.43 7.44	7.44	27.10 29.20	28.15	1.90 2.02	1.96	3.7 4.0	3.9	4.2 4.4	4.3
12-Sep-23	Fine	Moderate	18:43	2.2	Middle	1.1	27.6 27.2	27.4	22.7 24.5	23.6	7.51 7.56	7.54	38.30 36.30	37.30	2.69 2.55	2.62	3.5 3.7	3.6	3.0 3.4	3.2
14-Sep-23	Fine	Moderate	19:14	2.2	Middle	1.1	28.1 27.8	27.9	25.1 25.5	25.3	7.65 7.65	7.65	35.30 34.70	35.00	2.35 2.33	2.34	6.3 6.5	6.4	2.8 3.0	2.9
16-Sep-23	Fine	Moderate	19:54	2.0	Middle	1.0	27.7 27.9	27.8	25.1 24.3	24.7	7.69 7.53	7.61	39.40 36.30	37.85	2.69 2.51	2.60	3.1 3.3	3.2	4.4 4.2	4.3
19-Sep-23	Sunny	Moderate	9:50	2.0	Middle	1.0	27.7 27.7	27.7	24.8 25.0	24.9	7.78 7.76	7.77	54.70 52.10	53.40	3.76 3.57	3.67	3.4 3.2	3.3	2.6 3.0	2.8

Remark: * DA: Depth-Averaged
**** Calm: Small or no wave; Moderate: Between calm and rough; Rough: White capped or rougher**

Water Quality Monitoring Results at W3 - Mid-Ebb Tide

Date	Weather Condition	Sea Condition**	Sampling Time	Water Depth (m)	Sampling Depth (m)		Temperature (°C)		Salinity (ppt)		pH		DO Saturation (%)		Dissolved Oxygen (mg/L)		Turbidity(NTU)		Suspended Solids (mg/L)	
							Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average
22-Aug-23	Fine	Moderate	16:12	2.8	Middle	1.4	28.5 28.3	28.4	26.6 26.7	26.6	7.91 7.91	7.91	74.60 74.20	74.40	5.01 4.98	5.00	1.6 1.6	1.6	2.2 2.5	2.4
24-Aug-23	Cloudy	Moderate	17:38	2.4	Middle	1.2	29.0 28.9	29.0	25.6 25.6	25.6	7.93 7.94	7.94	85.50 86.10	85.80	5.71 5.76	5.74	1.9 1.9	1.9	3.4 3.4	3.4
26-Aug-23	Fine	Moderate	8:21	2.6	Middle	1.3	29.4 29.4	29.4	25.0 25.2	25.1	7.92 7.94	7.93	88.70 88.10	88.40	5.91 5.86	5.89	2.6 2.9	2.8	2.5 3.2	2.9
29-Aug-23	Fine	Moderate	11:42	2.6	Middle	1.3	28.9 28.7	28.8	24.0 24.1	24.1	7.85 7.86	7.86	81.20 86.00	83.60	5.49 5.82	5.66	1.6 1.6	1.6	3.1 2.9	3.0
31-Aug-23	Cloudy	Moderate	12:48	2.3	Middle	1.2	26.9 26.9	26.9	28.4 28.7	28.6	7.85 7.86	7.86	50.90 51.00	50.95	3.46 3.47	3.47	4.1 4.0	4.1	2.9 3.3	3.1
5-Sep-23	Fine	Moderate	16:31	2.6	Middle	1.3	28.2 28.1	28.2	26.2 26.2	26.2	7.87 7.86	7.87	68.70 67.80	68.25	4.65 4.59	4.62	2.2 2.2	2.2	2.2 2.6	2.4
7-Sep-23	Rainy	Moderate	6:13	2.8	Middle	1.4	27.5 27.4	27.4	24.2 24.6	24.4	7.72 7.73	7.73	55.00 53.30	54.15	3.80 3.69	3.75	2.0 2.4	2.2	4.6 3.6	4.1
9-Sep-23	Cloudy	Moderate	9:15	2.9	Middle	1.5	27.1 27.1	27.1	24.2 24.2	24.2	7.69 7.69	7.69	49.50 49.50	49.50	3.44 3.45	3.45	3.0 3.0	3.0	5.0 5.2	5.1
12-Sep-23	Fine	Moderate	12:03	2.7	Middle	1.4	27.5 27.6	27.5	23.9 23.8	23.8	7.47 7.46	7.47	23.10 21.50	22.30	1.61 1.48	1.55	4.4 4.2	4.3	2.3 2.4	2.4
14-Sep-23	Fine	Moderate	12:57	2.6	Middle	1.3	27.9 27.8	27.8	24.9 25.1	25.0	7.74 7.75	7.75	43.10 42.70	42.90	2.89 2.86	2.88	4.3 4.3	4.3	3.8 3.2	3.5
16-Sep-23	Fine	Moderate	14:09	2.7	Middle	1.4	27.8 27.7	27.7	24.2 25.1	24.7	7.63 7.66	7.65	56.30 53.00	54.65	3.87 3.64	3.76	2.2 2.6	2.4	2.2 2.0	2.1
19-Sep-23	Sunny	Moderate	15:24	2.5	Middle	1.3	27.6 27.5	27.5	25.7 25.7	25.7	7.81 7.82	7.82	56.10 57.50	56.80	3.84 3.94	3.89	2.8 2.7	2.8	3.7 4.0	3.9

Remark: * DA: Depth-Averaged
**** Calm: Small or no wave; Moderate: Between calm and rough; Rough: White capped or rougher**

Water Quality Monitoring Results at W3 - Mid-Flood Tide

Date	Weather Condition	Sea Condition**	Sampling Time	Water Depth (m)	Sampling Depth (m)		Temperature (°C)		Salinity (ppt)		pH		DO Saturation (%)		Dissolved Oxygen (mg/L)		Turbidity(NTU)		Suspended Solids (mg/L)	
							Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average
22-Aug-23	Fine	Moderate	9:52	2.6	Middle	1.3	28.4 28.4	28.4	26.4 26.5	26	7.87 7.89	7.88	68.50 70.70	69.60	4.60 4.74	4.67	1.5 1.5	1.5	1.6 1.9	1.8
24-Aug-23	Cloudy	Moderate	12:10	2.5	Middle	1.3	29.0 28.9	28.9	25.8 26.0	25.9	7.90 7.90	7.90	79.10 80.20	79.65	5.27 5.36	5.32	2.3 2.3	2.3	3.1 3.5	3.3
26-Aug-23	Fine	Moderate	20:51	2.5	Middle	1.3	29.8 29.6	29.7	23.8 24.4	24.1	7.85 7.89	7.87	81.80 81.90	81.85	5.45 5.45	5.45	2.6 2.8	2.7	4.2 3.5	3.9
29-Aug-23	Fine	Moderate	4:31	2.5	Middle	1.3	28.5 28.4	28.4	24.2 24.4	24.3	7.99 7.99	7.99	86.70 85.80	86.25	5.89 5.83	5.86	1.3 1.4	1.4	3.0 3.1	3.1
31-Aug-23	Cloudy	Moderate	6:22	2.4	Middle	1.2	26.9 26.9	26.9	28.5 28.6	28.5	7.85 7.85	7.85	52.80 55.30	54.05	3.59 3.76	3.68	4.1 4.1	4.1	4.0 4.1	4.1
5-Sep-23	Fine	Moderate	10:49	2.4	Middle	1.2	28.2 28.2	28.2	26.3 26.3	26.3	7.83 7.83	7.83	62.90 65.40	64.15	4.30 4.43	4.37	2.0 1.8	1.9	2.4 2.6	2.5
7-Sep-23	Rainy	Moderate	18:25	2.8	Middle	1.4	27.5 27.6	27.5	24.6 24.3	24.4	7.65 7.66	7.66	35.50 35.90	35.70	2.44 2.48	2.46	5.4 4.8	5.1	4.4 4.2	4.3
9-Sep-23	Cloudy	Moderate	21:51	2.5	Middle	1.3	27.4 27.4	27.4	23.4 23.8	23.6	7.48 7.46	7.47	25.60 25.60	25.60	1.78 1.78	1.78	4.6 5.0	4.8	4.3 4.3	4.3
12-Sep-23	Fine	Moderate	18:53	2.5	Middle	1.3	27.4 27.4	27.4	23.6 24.0	23.8	7.49 7.52	7.51	28.40 29.40	28.90	1.97 2.04	2.01	3.9 4.1	4.0	3.0 2.9	3.0
14-Sep-23	Fine	Moderate	19:23	2.6	Middle	1.3	27.9 27.8	27.9	24.6 24.9	24.8	7.72 7.74	7.73	41.50 41.50	41.50	2.79 2.78	2.79	3.1 3.3	3.2	2.3 2.7	2.5
16-Sep-23	Fine	Moderate	20:04	2.4	Middle	1.2	27.6 27.7	27.6	25.4 25.1	25.2	7.71 7.71	7.71	42.60 43.50	43.05	2.92 2.98	2.95	4.2 3.9	4.1	5.0 5.4	5.2
19-Sep-23	Sunny	Moderate	9:39	2.5	Middle	1.3	27.6 27.6	27.6	26.1 26.1	26.1	7.78 7.77	7.78	52.40 55.10	53.75	3.66 3.78	3.72	2.4 2.1	2.3	3.2 3.7	3.5

Remark: * DA: Depth-Averaged
**** Calm: Small or no wave; Moderate: Between calm and rough; Rough: White capped or rougher**

Water Quality Monitoring Results at W4 - Mid-Ebb Tide

Date	Weather Condition	Sea Condition**	Sampling Time	Water Depth (m)	Sampling Depth (m)		Temperature (^{o}C)		Salinity (ppt)		pH		DO Saturation (%)		Dissolved Oxygen (mg/L)		Turbidity(NTU)		Suspended Solids (mg/L)	
							Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average
22-Aug-23	Fine	Moderate	16:20	2.8	Middle	1.4	28.3 28.4	28.3	26.7 26.6	26.6	7.91 7.91	7.91	74.60 74.70	74.65	5.01 5.02	5.02	1.8 1.6	1.7	2.4 2.4	2.4
24-Aug-23	Cloudy	Moderate	17:43	2.6	Middle	1.3	28.9 28.9	28.9	25.4 25.4	25.4	7.93 7.92	7.93	84.80 85.90	85.35	5.68 5.76	5.72	1.9 1.8	1.9	3.1 2.8	3.0
26-Aug-23	Fine	Moderate	8:12	2.9	Middle	1.5	29.3 29.4	29.3	25.3 25.5	25.4	7.91 7.93	7.92	85.90 86.00	85.95	5.72 5.72	5.72	2.9 3.2	3.1	2.9 3.1	3.0
29-Aug-23	Fine	Moderate	11:50	2.7	Middle	1.4	28.8 28.7	28.7	24.1 24.3	24.2	7.87 7.88	7.88	81.70 81.20	81.45	5.53 5.50	5.52	1.6 1.6	1.6	2.8 3.4	3.1
31-Aug-23	Cloudy	Moderate	12:56	2.5	Middle	1.3	27.0 26.9	26.9	28.6 28.6	28.6	7.85 7.86	7.86	60.90 58.70	59.80	4.14 3.99	4.07	3.7 3.7	3.7	3.1 3.3	3.2
5-Sep-23	Fine	Moderate	16:39	2.7	Middle	1.4	28.1 28.1	28.1	26.1 26.2	26.2	7.87 7.87	7.87	69.20 69.00	69.10	4.69 4.67	4.68	2.3 2.5	2.4	2.8 2.8	2.8
7-Sep-23	Rainy	Moderate	6:04	2.9	Middle	1.5	27.4 27.3	27.3	24.9 25.3	25.1	7.73 7.70	7.72	44.00 45.10	44.55	3.04 3.11	3.08	3.1 3.3	3.2	3.1 3.7	3.4
9-Sep-23	Cloudy	Moderate	9:06	2.9	Middle	1.5	27.2 27.0	27.1	24.3 24.9	24.6	7.69 7.68	7.69	47.20 47.50	47.35	3.28 3.29	3.29	3.1 3.2	3.2	5.3 5.8	5.6
12-Sep-23	Fine	Moderate	11:55	2.8	Middle	1.4	27.7 27.6	27.7	24.0 24.1	24.0	7.37 7.43	7.40	24.20 23.50	23.85	1.72 1.63	1.68	6.1 5.7	5.9	3.2 3.1	3.2
14-Sep-23	Fine	Moderate	12:46	2.7	Middle	1.4	27.7 27.8	27.7	25.4 25.5	25.5	7.73 7.74	7.74	40.90 41.60	41.25	2.76 2.79	2.78	3.1 3.1	3.1	3.6 3.1	3.4
16-Sep-23	Fine	Moderate	14:00	2.6	Middle	1.3	27.6 27.7	27.7	25.6 25.6	25.6	7.60 7.64	7.62	39.30 37.50	38.40	2.69 2.56	2.63	3.5 3.4	3.5	2.4 2.2	2.3
19-Sep-23	Sunny	Moderate	15:33	2.7	Middle	1.4	27.6 27.6	27.6	25.6 25.7	25.7	7.82 7.82	7.82	58.40 58.10	58.25	4.00 3.98	3.99	2.9 3.2	3.1	3.4 3.2	3.3

Remark: * DA: Depth-Averaged

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

Water Quality Monitoring Results at W5 - Mid-Ebb Tide

Date	Weather Condition	Sea Condition**	Sampling Time	Water Depth (m)	Sampling Depth (m)		Temperature (^{o}C)		Salinity (ppt)		pH		DO Saturation (%)		issolved Oxygen (mg/l		Turbidity(NTU)			Suspended Solids (mg/L)		
							Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*
22-Aug-23	Fine	Moderate	16:27	3.2	Surface	1	28.4 28.3	28.4	26.6 26.7	26.7	7.90 7.89	7.90	72.60 72.10	72.35	4.87 4.84	4.86	1.6 1.7	1.7	1.8	2.1 2.3	2.2	2.6
					Bottom	2.2	28.2 28.1	28.2	26.8 26.9	26.8	7.90 7.90	7.90	70.80 68.70	69.75	4.76 4.62	4.69	1.8 1.9	1.9		3.1 2.8	3.0	
24-Aug-23	Cloudy	Moderate	17:48	3.1	Surface	1	28.9 28.8	28.9	25.1 25.4	25.2	7.93 7.91	7.92	82.00 83.50	82.75	5.50 5.60	5.55	1.7 1.8	1.8	1.8	2.9 3.1	3.0	4.3
					Bottom	2.1	28.7 28.8	28.8	25.9 25.3	25.6	7.91 7.92	7.92	78.10 78.60	78.35	5.23 5.27	5.25	1.8 1.7	1.8		5.8 5.4	5.6	
26-Aug-23	Fine	Moderate	8:05	3.3	Surface	1	29.6 29.5	29.6	22.5 22.5	22.5	7.96 7.96	7.96	94.10 94.50	94.30	6.34 6.29	6.32	2.3 2.2	2.3	2.4	3.3 2.7	3.0	3.0
					Bottom	2.3	29.5 29.5	29.5	24.8 24.7	24.8	7.97 7.96	7.97	82.20 84.40	83.30	5.57 5.71	5.64	2.6 2.5	2.6		3.4 2.6	3.0	
29-Aug-23	Fine	Moderate	11:58	3.3	Surface	1	29.0 28.9	28.9	23.1 23.5	23.3	7.80 7.87	7.84	72.00 75.80	73.90	4.87 5.14	5.01	1.9 1.7	1.8	2.0	2.4 2.8	2.6	2.9
					Bottom	2.3	28.5 28.2	28.4	25.6 25.9	25.7	7.78 7.75	7.77	66.90 63.30	65.10	4.50 4.28	4.39	2.2 2.0	2.1		3.0 3.2	3.1	
31-Aug-23	Cloudy	Moderate	13:02	3.0	Surface	1	26.8 26.9	26.8	28.7 28.7	28.7	7.88 7.88	7.88	60.50 58.90	59.70	4.12 4.01	4.07	4.1 4.2	4.2	4.1	3.1 3.2	3.2	3.4
					Bottom	2.0	26.7 26.8	26.8	28.8 28.7	28.7	7.87 7.88	7.88	61.40 59.90	60.65	4.18 4.08	4.13	4.1 4.1	4.1		3.3 3.8	3.6	
5-Sep-23	Fine	Moderate	16:47	3.3	Surface	1	28.1 28.0	28.0	26.2 26.4	26.3	7.86 7.86	7.86	67.00 66.10	66.55	4.53 4.48	4.51	2.0 2.2	2.1	2.3	3.1 2.7	2.9	3.0
					Bottom	2.3	27.8 27.9	27.9	26.7 26.4	26.5	7.86 7.86	7.86	64.40 66.10	65.25	4.36 4.48	4.42	2.5 2.6	2.6		3.3 2.7	3.0	
7-Sep-23	Rainy	Moderate	5:56	3.1	Surface	1	27.6 27.5	27.5	23.2 23.3	23.2	7.65 7.69	7.67	43.00 42.40	42.70	3.01 2.93	2.97	2.6 3.0	2.8	3.3	3.4 3.6	3.5	4.0
					Bottom	2.1	27.4 27.5	27.4	25.1 24.7	24.9	7.64 7.54	7.59	38.20 39.60	38.90	2.63 2.76	2.70	3.9 3.8	3.9		5.2 3.9	4.6	
9-Sep-23	Cloudy	Moderate	8:59	3.2	Surface	1	27.4 27.2	27.3	21.6 22.8	22.2	7.50 7.59	7.55	47.20 43.60	45.40	3.35 3.04	3.20	2.9 3.2	3.1	3.2	5.8 5.0	5.4	5.3
					Bottom	2.2	27.2 27.2	27.2	25.1 24.9	25.0	7.66 7.64	7.65	45.00 44.80	44.90	3.11 3.14	3.13	3.4 3.4	3.4		5.7 4.6	5.2	
12-Sep-23	Fine	Moderate	11:48	3.4	Surface	1	27.7 27.8	27.8	20.0 20.0	20.0	7.39 7.36	7.38	24.10 20.60	22.35	1.70 1.44	1.57	4.4 4.3	4.4	5.0	2.3 2.1	2.2	2.5
					Bottom	2.4	27.5 27.4	27.4	25.2 25.6	25.4	7.27 7.36	7.32	18.10 24.60	21.35	1.51 1.69	1.60	5.6 5.8	5.7		2.7 2.8	2.8	
14-Sep-23	Fine	Moderate	12:36	3.2	Surface	1	27.9 27.9	27.9	23.8 23.8	23.8	7.76 7.76	7.76	43.80 43.80	43.80	2.95 2.94	2.95	2.8 2.5	2.7	2.8	2.9 2.8	2.9	3.5
					Bottom	2.2	27.7 27.8	27.8	25.1 24.9	25.0	7.76 7.77	7.77	41.00 40.40	40.70	2.77 2.74	2.76	3.1 2.8	3.0		4.2 4.1	4.2	
16-Sep-23	Fine	Moderate	13:52	3.3	Surface	1	27.8 27.8	27.8	23.7 24.8	24.3	7.66 7.65	7.66	37.90 35.40	36.65	2.60 2.43	2.52	3.2 3.0	3.1	3.5	2.8 3.1	3.0	3.5
					Bottom	2.3	27.7 27.8	27.7	25.2 24.4	24.8	7.48 7.27	7.38	28.40 31.40	29.90	1.94 2.16	2.05	4.0 3.9	4.0		3.8 4.2	4.0	
19-Sep-23	Sunny	Moderate	15:40	3.3	Surface	1	27.5 27.4	27.4	25.7 26.1	25.9	7.82 7.82	7.82	56.20 55.00	55.60	3.85 3.77	3.81	2.9 3.1	3.0	3.0	2.4 2.8	2.6	2.9
					Bottom	2.3	27.4 27.3	27.4	26.1 26.4	26.3	7.82 7.82	7.82	56.30 55.10	55.70	3.85 3.77	3.81	2.8 3.1	3.0		3.0 3.3	3.2	

Remark: * DA: Depth-Averaged

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

Water Quality Monitoring Results at W6 - Mid-Ebb Tide

Date	Weather Condition	Sea Condition**	Sampling Time	Water Depth (m)	Sampling Depth (m)		Temperature (^{o}C)		Salinity (ppt)		pH		DO Saturation (%)		issolved Oxygen (mg/		Turbidity(NTU)			Suspended Solids (mg/L)		
							Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*
22-Aug-23	Fine	Moderate	16:34	3.2	Surface	1	28.4 28.4	28.4	26.7 26.7	26.7	7.90 7.90	7.90	72.40 73.90	73.15	4.86 4.96	4.91	1.7 1.9	1.8	1.8	2.9 2.6	2.8	3.6
					Bottom	2.2	28.4 28.3	28.3	26.7 26.8	26.7	7.90 7.89	7.90	71.60 69.20	70.40	4.81 4.65	4.73	1.8 1.9	1.9		4.5 4.2	4.4	
24-Aug-23	Cloudy	Moderate	17:55	3.1	Surface	1	28.9 28.9	28.9	24.6 24.6	24.6	7.94 7.94	7.94	85.00 85.40	85.20	5.72 5.74	5.73	1.7 1.6	1.7	1.7	3.2 3.2	3.2	3.1
					Bottom	2.1	28.8 28.8	28.8	25.6 25.1	25.3	7.93 7.94	7.94	83.70 82.40	83.05	5.61 5.53	5.57	1.6 1.7	1.7		3.0 2.9	3.0	
26-Aug-23	Fine	Moderate	7:58	3.4	Surface	1	29.3 29.4	29.3	22.8 22.7	22.7	7.97 7.97	7.97	87.20 91.50	89.35	5.89 6.17	6.03	3.1 2.6	2.9	3.5	2.7 2.7	2.7	2.8
					Bottom	2.4	29.1 28.8	28.9	26.1 26.6	26.3	7.85 7.80	7.83	77.40 78.90	78.15	5.16 5.22	5.19	3.9 4.2	4.1		2.9 3.0	3.0	
29-Aug-23	Fine	Moderate	12:05	3.2	Surface	1	28.9 28.9	28.9	23.8 23.4	23.6	7.89 7.89	7.89	77.80 80.60	79.20	5.26 5.46	5.36	1.5 1.4	1.5	1.9	2.8 2.5	2.7	3.0
					Bottom	2.2	28.5 28.6	28.6	25.6 24.5	25.1	7.78 7.79	7.79	70.40 71.30	70.85	4.74 4.82	4.78	2.5 2.3	2.4		3.6 3.0	3.3	
31-Aug-23	Cloudy	Moderate	13:06	3.0	Surface	1	26.7 26.8	26.7	28.8 28.8	28.8	7.89 7.89	7.89	64.10 60.80	62.45	4.37 4.15	4.26	4.5 4.6	4.6	4.5	3.8 2.9	3.4	3.1
					Bottom	2.0	26.7 26.7	26.7	28.8 28.9	28.8	7.89 7.89	7.89	62.10 67.80	64.95	4.24 4.63	4.44	4.5 4.5	4.5		2.8 2.8	2.8	
5-Sep-23	Fine	Moderate	16:55	3.2	Surface	1	28.0 28.0	28.0	26.3 26.4	26.4	7.86 7.86	7.86	67.10 66.80	66.95	4.54 4.52	4.53	2.6 2.6	2.6	2.7	2.8 3.5	3.2	3.1
					Bottom	2.2	28.1 28.0	28.0	26.3 26.5	26.4	7.87 7.86	7.87	67.70 64.80	66.25	4.58 4.39	4.49	2.7 2.8	2.8		3.3 2.9	3.1	
7-Sep-23	Rainy	Moderate	5:48	3.2	Surface	1	27.5 27.5	27.5	23.0 23.3	23.1	7.66 7.67	7.67	45.00 42.60	43.80	3.10 2.95	3.03	3.6 3.5	3.6	3.7	3.0 3.0	3.0	3.0
					Bottom	2.2	27.4 27.3	27.4	25.4 25.6	25.5	7.62 7.71	7.67	40.00 41.10	40.55	2.76 2.83	2.80	3.7 4.1	3.9		2.3 3.7	3.0	
9-Sep-23	Cloudy	Moderate	8:51	3.1	Surface	1	27.2 27.2	27.2	22.3 22.1	22.2	7.58 7.60	7.59	48.90 43.90	46.40	3.38 3.08	3.23	3.1 3.1	3.1	3.1	4.6 5.2	4.9	4.8
					Bottom	2.1	27.3 27.0	27.1	25.3 26.0	25.6	7.59 7.67	7.63	44.00 43.40	43.70	3.03 2.99	3.01	3.0 3.2	3.1		5.3 4.2	4.8	
12-Sep-23	Fine	Moderate	11:40	3.3	Surface	1	27.7 27.7	27.7	12.0 12.0	12.0	7.37 7.47	7.42	22.60 22.10	22.35	1.57 1.61	1.59	5.2 5.2	5.2	5.4	2.6 3.0	2.8	2.5
					Bottom	2.3	27.7 27.7	27.7	24.7 25.1	24.9	7.08 7.41	7.25	23.10 22.90	23.00	1.58 1.57	1.58	5.3 5.7	5.5		2.1 2.3	2.2	
14-Sep-23	Fine	Moderate	12:29	3.4	Surface	1	27.7 27.8	27.8	24.0 23.9	23.9	7.77 7.77	7.77	42.20 43.70	42.95	2.85 2.95	2.90	3.3 2.8	3.1	3.5	3.3 3.7	3.5	3.6
					Bottom	2.4	27.5 27.5	27.5	25.8 25.8	25.8	7.71 7.68	7.70	39.10 40.40	39.75	2.62 2.70	2.66	4.1 3.9	4.0		3.8 3.4	3.6	
16-Sep-23	Fine	Moderate	13:43	3.4	Surface	1	27.8 27.9	27.8	24.4 23.7	24.0	7.60 7.61	7.61	38.00 37.60	37.80	2.60 2.58	2.59	3.8 3.9	3.9	4.1	3.8 3.4	3.6	3.7
					Bottom	2.4	27.6 27.6	27.6	25.2 25.5	25.3	7.62 7.49	7.56	35.60 33.00	34.30	2.45 2.27	2.36	4.5 4.2	4.4		3.6 4.0	3.8	
19-Sep-23	Sunny	Moderate	15:47	3.2	Surface	1	27.4 27.4	27.4	26.0 26.1	26.0	7.82 7.81	7.82	56.60 54.50	55.55	3.87 3.73	3.80	3.4 3.2	3.3	3.4	2.7 3.2	3.0	3.0
					Bottom	2.2	27.5 27.4	27.4	26.3 26.0	26.1	7.82 7.83	7.83	55.50 58.50	57.00	3.80 4.00	3.90	3.3 3.6	3.5		3.2 3.0	3.1	

Remark: * DA: Depth-Averaged

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

Water Quality Monitoring Results at W7 - Mid-Ebb Tide

Date	Weather Condition	Sea Condition**	Sampling Time	Water Depth (m)	Sampling Depth (m)		Temperature (^{o}C)		Salinity (ppt)		pH		DO Saturation (%)		issolved Oxygen (mg/l		Turbidity(NTU)			Suspended Solids (mg/L)		
							Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*
22-Aug-23	Fine	Moderate	16:42	3.5	Surface	1	28.3 28.3	28.3	26.7 26.7	26.7	7.89 7.89	7.89	71.00 69.90	70.45	4.77 4.70	4.74	1.7 1.8	1.8	1.9	2.9 2.6	2.8	3.0
					Bottom	2.5	28.3 28.2	28.2	26.8 26.9	26.9	7.90 7.89	7.90	69.60 70.40	70.00	4.68 4.74	4.71	1.9 2.0	2.0		3.4 3.0	3.2	
24-Aug-23	Cloudy	Moderate	18:05	3.5	Surface	1	28.8 28.7	28.8	24.9 25.5	25.2	7.93 7.89	7.91	80.30 77.00	78.65	5.41 5.17	5.29	1.9 1.8	1.9	1.9	2.9 2.4	2.7	3.3
					Bottom	2.5	28.7 28.6	28.6	25.5 26.6	26.1	7.91 7.86	7.89	77.60 76.10	76.85	5.21 5.11	5.16	1.9 1.8	1.9		3.7 4.0	3.9	
26-Aug-23	Fine	Moderate	7:50	3.5	Surface	1	29.1 29.5	29.3	23.4 23.1	23.2	7.95 7.92	7.94	88.80 90.90	89.85	5.92 6.11	6.02	2.3 2.1	2.2	2.6	4.3 2.9	3.6	3.7
					Bottom	2.5	29.4 29.0	29.2	26.1 26.5	26.3	7.90 7.88	7.89	84.70 87.40	86.05	5.72 5.81	5.77	2.8 3.0	2.9		5.1 2.6	3.9	
29-Aug-23	Fine	Moderate	12:14	3.4	Surface	1	28.8 28.6	28.7	23.8 24.1	23.9	7.91 7.88	7.90	77.70 75.70	76.70	5.26 5.13	5.20	1.8 2.0	1.9	2.5	2.5 2.9	2.7	2.6
					Bottom	2.4	28.3 28.4	28.4	25.8 25.1	25.4	7.77 7.78	7.78	65.90 68.60	67.25	4.45 4.64	4.55	3.2 3.0	3.1		2.4 2.4	2.4	
31-Aug-23	Cloudy	Moderate	13:20	3.4	Surface	1	26.6 26.6	26.6	28.8 28.9	28.8	7.88 7.89	7.89	57.60 59.90	58.75	3.93 4.08	4.01	4.2 4.2	4.2	4.2	3.7 3.3	3.5	3.3
					Bottom	2.4	26.6 26.6	26.6	29.0 29.1	29.0	7.88 7.89	7.89	58.30 62.00	60.15	3.98 4.23	4.11	4.2 4.2	4.2		3.0 3.0	3.0	
5-Sep-23	Fine	Moderate	17:02	3.6	Surface	1	28.0 28.0	28.0	26.3 26.3	26.3	7.86 7.86	7.86	66.20 65.90	66.05	4.49 4.47	4.48	2.3 2.2	2.3	2.5	2.2 2.9	2.6	2.4
					Bottom	2.6	28.0 28.0	28.0	26.5 26.5	26.5	7.86 7.86	7.86	66.10 65.60	65.85	4.48 4.45	4.47	2.7 2.7	2.7		1.9 2.5	2.2	
7-Sep-23	Rainy	Moderate	5:39	3.4	Surface	1	27.7 27.5	27.6	23.6 23.2	23.4	7.69 7.64	7.67	42.70 45.10	43.90	2.95 3.13	3.04	4.7 4.5	4.6	6.2	5.0 5.3	5.2	5.1
					Bottom	2.4	27.3 27.2	27.2	26.2 26.1	26.2	7.73 7.65	7.69	46.60 44.60	45.60	3.13 3.10	3.12	7.8 7.7	7.8		5.2 5.0	5.1	
9-Sep-23	Cloudy	Moderate	8:42	3.4	Surface	1	27.6 27.3	27.5	21.9 21.4	21.7	7.58 7.49	7.54	38.80 42.90	40.85	2.71 3.02	2.87	2.9 3.0	3.0	4.5	4.4 4.3	4.4	4.3
					Bottom	2.4	27.0 26.9	26.9	26.9 26.7	26.8	7.69 7.70	7.70	48.70 44.00	46.35	3.21 3.03	3.12	6.3 5.9	6.1		4.2 4.1	4.2	
12-Sep-23	Fine	Moderate	11:33	3.5	Surface	1	27.5 27.8	27.7	17.8 17.7	17.8	7.47 7.48	7.48	33.40 32.70	33.05	2.32 2.26	2.29	4.4 4.8	4.6	5.5	2.1 2.3	2.2	2.4
					Bottom	2.5	27.6 27.6	27.6	25.1 25.5	25.3	7.24 7.23	7.24	24.40 28.50	26.45	1.68 2.02	1.85	6.6 6.3	6.5		2.7 2.5	2.6	
14-Sep-23	Fine	Moderate	12:22	3.5	Surface	1	27.6 27.8	27.7	23.8 24.0	23.9	7.73 7.71	7.72	41.30 42.70	42.00	2.79 2.88	2.84	3.1 2.8	3.0	3.4	2.6 2.9	2.8	3.3
					Bottom	2.5	27.4 27.6	27.5	25.9 25.9	25.9	7.70 7.68	7.69	41.20 41.40	41.30	2.77 2.79	2.78	3.9 3.8	3.9		4.0 3.7	3.9	
16-Sep-23	Fine	Moderate	13:35	3.5	Surface	1	27.7 27.6	27.7	24.9 25.3	25.1	7.65 7.68	7.67	43.80 43.30	43.55	2.99 2.96	2.98	5.1 5.4	5.3	5.6	2.7 3.2	3.0	3.1
					Bottom	2.5	27.7 27.6	27.6	25.5 25.4	25.5	7.45 7.65	7.55	41.70 40.90	41.30	2.94 2.80	2.87	6.0 5.7	5.9		3.0 3.3	3.2	
19-Sep-23	Sunny	Moderate	15:56	3.4	Surface	1	27.4 27.5	27.4	25.9 26.0	25.9	7.83 7.82	7.83	57.50 55.80	56.65	3.94 3.82	3.88	2.7 2.6	2.7	3.1	3.0 3.4	3.2	2.8
					Bottom	2.4	27.5 27.5	27.5	26.1 26.2	26.1	7.83 7.82	7.83	56.70 56.60	56.65	3.88 3.87	3.88	3.4 3.5	3.5		2.3 2.6	2.5	

Remark: * DA: Depth-Averaged

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

Water Quality Monitoring Results at W8 - Mid-Flood Tide

Date	Weather Condition	Sea Condition**	Sampling Time	Water Depth (m)	Sampling Depth (m)		Temperature (^{o}C)		Salinity (ppt)		pH		DO Saturation (%)		issolved Oxygen (mg/		Turbidity(NTU)			Suspended Solids (mg/L)		
							Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*
22-Aug-23	Fine	Moderate	9:30	3.8	Surface	1	28.2 28.2	28.2	26.5 26.5	26.5	7.80 7.79	7.80	66.00 62.70	64.35	4.46 4.23	4.35	1.9 1.7	1.8	2.2	3.0 2.6	2.8	2.5
					Bottom	2.8	27.8 27.8	27.8	27.3 27.0	27.1	7.78 7.79	7.79	61.40 61.70	61.55	4.15 4.17	4.16	2.7 2.4	2.6		2.1 2.4	2.3	
24-Aug-23	Cloudy	Moderate	11:40	3.6	Surface	1	28.7 28.7	28.7	24.7 24.8	24.8	7.88 7.88	7.88	79.90 79.80	79.85	5.39 5.38	5.39	2.1 2.1	2.1	2.2	2.1 2.3	2.2	2.6
					Bottom	2.6	28.7 28.4	28.5	25.6 26.7	26.1	7.88 7.85	7.87	76.50 73.30	74.90	5.14 4.92	5.03	2.3 2.1	2.2		3.1 2.9	3.0	
26-Aug-23	Fine	Moderate	21:17	3.9	Surface	1	29.3 29.3	29.3	22.9 23.0	22.9	7.96 7.93	7.95	73.80 74.70	74.25	4.98 5.04	5.01	3.7 3.5	3.6	4.6	2.7 2.5	2.6	2.8
					Bottom	2.9	29.3 29.4	29.3	24.5 25.5	25.0	7.30 7.41	7.36	58.30 61.20	59.75	3.90 4.07	3.99	5.5 5.8	5.7		2.3 3.8	3.1	
29-Aug-23	Fine	Moderate	4:05	3.7	Surface	1	28.3 28.3	28.3	24.9 24.7	24.8	7.98 7.98	7.98	78.80 79.40	79.10	5.35 5.39	5.37	1.6 1.6	1.6	1.9	2.9 3.2	3.1	3.2
					Bottom	2.7	27.9 28.0	28.0	26.0 26.1	26.1	7.87 7.89	7.88	70.80 69.40	70.10	4.80 4.70	4.75	2.2 2.1	2.2		3.3 3.5	3.4	
31-Aug-23	Cloudy	Moderate	6:01	3.5	Surface	1	26.7 26.7	26.7	28.5 28.4	28.5	7.86 7.85	7.86	58.40 59.80	59.10	3.99 4.08	4.04	4.2 4.1	4.2	4.2	2.1 1.9	2.0	2.3
					Bottom	2.5	26.6 26.7	26.6	28.9 29.0	29.0	7.86 7.86	7.86	58.50 61.40	59.95	3.99 4.19	4.09	4.2 4.1	4.2		2.6 2.6	2.6	
5-Sep-23	Fine	Moderate	10:23	3.5	Surface	1	28.1 28.1	28.1	25.0 25.7	25.4	7.79 7.78	7.79	65.30 64.50	64.90	4.44 4.38	4.41	2.7 2.4	2.6	2.9	2.0 2.2	2.1	2.1
					Bottom	2.5	27.8 27.7	27.8	26.1 26.5	26.3	7.79 7.74	7.77	62.30 61.70	62.00	4.26 4.23	4.25	3.2 3.3	3.3		1.9 2.4	2.2	
7-Sep-23	Rainy	Moderate	18:55	3.3	Surface	1	27.5 27.8	27.7	22.8 22.7	22.7	7.62 7.56	7.59	34.40 34.70	34.55	2.40 2.41	2.41	4.3 4.8	4.6	5.2	6.2 7.6	6.9	6.0
					Bottom	2.3	27.4 27.5	27.5	25.8 25.7	25.7	7.52 7.69	7.61	33.70 33.50	33.60	2.31 2.29	2.30	5.8 5.8	5.8		4.2 6.0	5.1	
9-Sep-23	Cloudy	Moderate	22:22	3.6	Surface	1	27.5 27.4	27.5	22.6 21.4	22.0	7.43 7.44	7.44	28.00 26.90	27.45	1.95 1.91	1.93	5.1 4.9	5.0	5.5	3.8 4.1	4.0	4.1
					Bottom	2.6	27.5 27.3	27.4	25.8 26.0	25.9	7.56 7.28	7.42	24.30 23.50	23.90	1.66 1.61	1.64	5.8 6.0	5.9		4.5 4.0	4.3	
12-Sep-23	Fine	Moderate	19:22	3.6	Surface	1	27.1 27.0	27.1	22.1 23.1	22.6	7.57 7.51	7.54	27.80 27.90	27.85	1.95 1.95	1.95	3.4 3.6	3.5	4.0	2.1 2.5	2.3	2.6
					Bottom	2.6	27.2 27.0	27.1	26.7 26.8	26.7	7.60 7.33	7.47	27.20 29.40	28.30	1.86 2.02	1.94	4.5 4.4	4.5		3.1 2.8	3.0	
14-Sep-23	Fine	Moderate	19:50	3.5	Surface	1	27.6 27.6	27.6	24.3 24.3	24.3	7.77 7.76	7.77	38.40 38.70	38.55	2.60 2.62	2.61	3.7 3.6	3.7	4.4	2.3 2.2	2.3	2.1
					Bottom	2.5	27.6 27.7	27.7	25.6 25.1	25.4	7.50 7.44	7.47	35.00 34.10	34.55	2.35 2.30	2.33	5.3 5.1	5.2		1.9 1.8	1.9	
16-Sep-23	Fine	Moderate	20:32	3.6	Surface	1	27.6 27.9	27.7	24.1 22.8	23.5	7.65 7.53	7.59	39.30 38.70	39.00	2.70 2.68	2.69	3.0 3.4	3.2	3.5	4.0 3.6	3.8	3.8
					Bottom	2.6	27.6 27.6	27.6	25.7 25.5	25.6	7.58 7.68	7.63	41.40 40.10	40.75	2.83 2.74	2.79	3.7 3.9	3.8		3.9 3.7	3.8	
19-Sep-23	Sunny	Moderate	9:10	3.9	Surface	1	27.7 27.6	27.6	23.5 24.9	24.2	7.78 7.77	7.78	59.60 61.30	60.45	4.08 4.20	4.14	3.2 3.3	3.3	3.7	2.7 3.1	2.9	3.5
					Bottom	2.9	27.5 27.6	27.6	25.7 25.2	25.5	7.70 7.78	7.74	57.20 58.20	57.70	3.98 4.02	4.00	4.2 3.9	4.1		4.0 4.1	4.1	

Remark: * DA: Depth-Averaged

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

Water Quality Monitoring Results at W9 - Mid-Flood Tide

Date	Weather Condition	Sea Condition**	Sampling Time	Water Depth (m)	Sampling Depth (m)		Temperature (^{o}C)		Salinity (ppt)		pH		DO Saturation (%)		Dissolved Oxygen (mg/L)		Turbidity(NTU)		Suspended Solids (mg/L)	
							Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average
22-Aug-23	Fine	Moderate	9:35	2.8	Middle	1.4	28.6 28.4	28.5	26.5 26.5	26.5	7.90 7.90	7.90	74.90 75.20	75.05	5.02 5.04	5.03	1.5 1.5	1.5	1.7 1.9	1.8
24-Aug-23	Cloudy	Moderate	11:48	2.7	Middle	1.4	28.8 28.8	28.8	25.2 25.2	25.2	7.91 7.91	7.91	83.00 83.00	83.00	5.57 5.57	5.57	1.8 1.8	1.8	2.5 2.3	2.4
26-Aug-23	Fine	Moderate	21:11	2.7	Middle	1.4	29.5 29.7	29.6	23.4 23.9	23.6	7.89 7.87	7.88	84.40 83.40	83.90	5.66 5.57	5.62	2.7 3.0	2.9	2.4 1.9	2.2
29-Aug-23	Fine	Moderate	4:12	2.8	Middle	1.4	28.4 28.2	28.3	24.8 25.1	24.9	7.98 7.98	7.98	84.10 83.50	83.80	5.71 5.67	5.69	1.5 1.4	1.5	3.3 2.3	2.8
31-Aug-23	Cloudy	Moderate	6:05	2.6	Middle	1.3	26.7 26.7	26.7	28.8 28.8	28.8	7.88 7.87	7.88	61.50 59.90	60.70	4.19 4.08	4.14	4.5 4.5	4.5	2.9 2.6	2.8
5-Sep-23	Fine	Moderate	10:30	2.7	Middle	1.4	28.3 28.3	28.3	25.8 25.8	25.8	7.84 7.84	7.84	67.40 67.90	67.65	4.56 4.59	4.58	2.3 2.0	2.2	2.1 3.3	2.7
7-Sep-23	Rainy	Moderate	18:47	2.8	Middle	1.4	27.6 27.5	27.6	23.9 25.1	24.5	7.65 7.68	7.67	32.40 32.90	32.65	2.24 2.25	2.25	4.5 5.5	5.0	3.6 3.2	3.4
9-Sep-23	Cloudy	Moderate	22:14	2.9	Middle	1.5	27.4 27.3	27.3	23.6 24.7	24.1	7.49 7.52	7.51	24.20 24.50	24.35	1.68 1.69	1.69	4.5 4.8	4.7	4.3 4.3	4.3
12-Sep-23	Fine	Moderate	19:16	2.9	Middle	1.5	27.4 27.1	27.3	24.9 25.2	25.0	7.57 7.58	7.58	27.10 28.40	27.75	1.87 1.96	1.92	4.2 3.8	4.0	3.0 2.9	3.0
14-Sep-23	Fine	Moderate	19:44	2.5	Middle	1.3	27.9 27.7	27.8	24.8 24.6	24.7	7.73 7.74	7.74	41.30 41.00	41.15	2.77 2.76	2.77	3.5 3.4	3.5	1.2 1.4	1.3
16-Sep-23	Fine	Moderate	20:25	2.6	Middle	1.3	27.7 27.8	27.8	24.2 25.6	24.9	7.68 7.71	7.70	38.10 38.70	38.40	2.62 2.64	2.63	3.6 3.5	3.6	3.6 4.0	3.8
19-Sep-23	Sunny	Moderate	9:17	2.7	Middle	1.4	27.7 27.6	27.7	25.0 25.0	25.0	7.77 7.77	7.77	55.40 54.70	55.05	3.79 3.75	3.77	1.8 1.8	1.8	3.0 3.4	3.2

Remark: * DA: Depth-Averaged

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

Water Quality Monitoring Results at W10 - Mid-Flood Tide

Date	Weather Condition	Sea Condition**	Sampling Time	Water Depth (m)	Sampling Depth (m)		Temperature (^{o}C)		Salinity (ppt)		pH		DO Saturation (%)		Dissolved Oxygen (mg/l		Turbidity(NTU)			Suspended Solids (mg/L)		
							Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*
22-Aug-23	Fine	Moderate	9:40	3.2	Surface	1	28.5 28.6	28.5	26.4 26.2	26.3	7.89 7.88	7.89	71.80 69.90	70.85	4.81 4.69	4.75	1.4 1.5	1.5	1.7	<1.0 <1.0	<1	1.8
					Bottom	2.2	28.1 28.1	28.1	27.0 26.9	26.9	7.88 7.89	7.89	67.90 69.70	68.80	4.58 4.69	4.64	2.0 2.0	2.0		1.6 1.9	1.8	
24-Aug-23	Cloudy	Moderate	11:54	3.1	Surface	1	28.9 28.7	28.8	25.1 25.7	25.4	7.91 7.89	7.90	81.70 77.50	79.60	5.48 5.20	5.34	2.1 2.1	2.1	2.1	3.5 3.1	3.3	3.6
					Bottom	2.1	28.8 28.7	28.7	25.6 26.0	25.8	7.89 7.88	7.89	78.50 76.70	77.60	5.26 5.15	5.21	2.1 2.1	2.1		3.8 4.1	4.0	
26-Aug-23	Fine	Moderate	21:05	3.1	Surface	1	29.6 29.4	29.5	22.0 23.0	22.5	7.94 7.93	7.94	79.50 77.80	78.65	5.25 5.23	5.24	2.0 2.3	2.2	2.9	2.1 2.4	2.3	2.8
					Bottom	2.1	29.1 29.0	29.0	26.1 26.2	26.2	7.76 7.71	7.74	56.80 57.60	57.20	3.80 3.84	3.82	3.4 3.7	3.6		3.0 3.7	3.4	
29-Aug-23	Fine	Moderate	4:18	3.2	Surface	1	28.3 28.1	28.2	24.7 25.1	24.9	7.96 7.94	7.95	83.40 81.60	82.50	5.67 5.54	5.61	1.5 1.7	1.6	1.7	3.0 2.7	2.9	2.9
					Bottom	2.2	28.0 28.2	28.1	25.6 25.1	25.3	7.96 7.95	7.96	78.10 80.10	79.10	5.30 5.44	5.37	1.8 1.7	1.8		3.0 2.7	2.9	
31-Aug-23	Cloudy	Moderate	6:09	3.0	Surface	1	26.7 26.9	26.8	28.4 28.4	28.4	7.87 7.86	7.87	60.80 57.50	59.15	4.15 3.92	4.04	4.4 4.2	4.3	4.2	2.4 2.7	2.6	2.7
					Bottom	2.0	26.7 26.7	26.7	28.8 28.7	28.7	7.88 7.87	7.88	63.30 59.70	61.50	4.32 4.07	4.20	4.1 4.2	4.2		3.0 2.7	2.9	
5-Sep-23	Fine	Moderate	10:36	3.1	Surface	1	28.2 28.3	28.2	25.8 26.0	25.9	7.84 7.85	7.85	65.10 66.20	65.65	4.40 4.48	4.44	2.1 2.1	2.1	2.3	2.1 1.8	2.0	2.2
					Bottom	2.1	28.0 27.9	27.9	26.3 26.4	26.3	7.84 7.84	7.84	64.60 64.60	64.60	4.38 4.38	4.38	2.5 2.6	2.6		2.5 2.3	2.4	
7-Sep-23	Rainy	Moderate	18:41	3.1	Surface	1	27.6 27.7	27.7	22.1 22.1	22.1	7.60 7.58	7.59	31.00 34.30	32.65	2.20 2.37	2.29	4.3 4.2	4.3	5.0	4.6 4.1	4.4	3.9
					Bottom	2.1	27.4 27.7	27.6	25.6 25.9	25.8	7.67 7.71	7.69	30.60 33.00	31.80	2.11 2.25	2.18	5.8 5.8	5.8		3.2 3.7	3.5	
9-Sep-23	Cloudy	Moderate	22:08	3.1	Surface	1	27.4 27.5	27.4	21.8 21.8	21.8	7.49 7.45	7.47	23.50 25.10	24.30	1.72 1.76	1.74	4.2 4.4	4.3	5.1	4.8 4.5	4.7	4.3
					Bottom	2.1	27.6 27.2	27.4	26.0 26.1	26.1	7.58 7.51	7.55	26.40 24.60	25.50	1.80 1.68	1.74	5.7 6.0	5.9		4.5 3.2	3.9	
12-Sep-23	Fine	Moderate	19:10	3.2	Surface	1	27.3 27.0	27.2	21.4 23.8	22.6	7.42 7.53	7.48	29.50 29.90	29.70	2.10 2.09	2.10	3.1 3.3	3.2	3.5	2.4 2.8	2.6	2.8
					Bottom	2.2	27.1 26.8	27.0	26.8 27.0	26.9	7.63 7.66	7.65	29.50 29.10	29.30	2.02 2.00	2.01	3.9 3.6	3.8		3.0 3.0	3.0	
14-Sep-23	Fine	Moderate	19:37	3.2	Surface	1	27.8 27.7	27.7	23.8 24.2	24.0	7.76 7.76	7.76	40.30 39.80	40.05	2.69 2.68	2.69	2.9 2.7	2.8	3.4	2.9 3.2	3.1	2.7
					Bottom	2.2	27.5 27.5	27.5	25.9 25.9	25.9	7.65 7.67	7.66	34.50 33.80	34.15	2.32 2.28	2.30	4.0 3.8	3.9		2.3 2.5	2.4	
16-Sep-23	Fine	Moderate	20:19	3.3	Surface	1	27.8 27.9	27.8	22.3 22.3	22.3	7.56 7.55	7.56	36.20 40.90	38.55	2.52 2.80	2.66	3.7 3.4	3.6	3.7	3.8 3.6	3.7	4.8
					Bottom	2.3	27.7 27.7	27.7	25.1 25.8	25.4	7.69 7.72	7.71	34.30 37.00	35.65	2.38 2.52	2.45	3.7 4.0	3.9		6.0 5.8	5.9	
19-Sep-23	Sunny	Moderate	9:24	3.3	Surface	1	27.5 27.6	27.6	25.3 25.6	25.5	7.79 7.80	7.80	55.20 55.50	55.35	3.78 3.80	3.79	2.7 2.7	2.7	3.1	3.4 3.6	3.5	3.2
					Bottom	2.3	27.5 27.6	27.6	25.8 25.6	25.7	7.80 7.79	7.80	56.30 54.50	55.40	3.85 3.73	3.79	3.6 3.5	3.6		3.1 2.8	3.0	

Remark: * DA: Depth-Averaged

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

Water Quality Monitoring Results at W11 - Mid-Flood Tide

Date	Weather Condition	Sea Condition**	Sampling Time	Water Depth (m)	Sampling Depth (m)		Temperature (^{o}C)		Salinity (ppt)		pH		DO Saturation (%)		Dissolved Oxygen (mg/L)		Turbidity(NTU)		Suspended Solids (mg/L)	
							Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average
22-Aug-23	Fine	Moderate	9:45	2.8	Middle	1.4	28.5 28.2	28.4	26.6 26.7	26.6	7.89 7.88	7.89	70.50 69.30	69.90	4.73 4.66	4.70	1.6 1.7	1.7	2.2 2.4	2.3
24-Aug-23	Cloudy	Moderate	11:59	2.7	Middle	1.4	29.0 29.0	29.0	25.6 25.8	25.7	7.89 7.89	7.89	75.90 81.40	78.65	5.07 5.43	5.25	2.1 2.1	2.1	2.4 2.6	2.5
26-Aug-23	Fine	Moderate	20:59	2.8	Middle	1.4	29.7 29.5	29.6	24.4 24.8	24.6	7.82 7.81	7.82	75.90 73.50	74.70	5.05 4.89	4.97	3.4 3.5	3.5	3.1 2.6	2.9
29-Aug-23	Fine	Moderate	4:24	2.6	Middle	1.3	28.4 28.4	28.4	24.5 24.6	24.6	7.99 7.99	7.99	85.50 85.30	85.40	5.81 5.79	5.80	1.4 1.4	1.4	2.6 3.0	2.8
31-Aug-23	Cloudy	Moderate	6:14	2.6	Middle	1.3	26.9 26.9	26.9	28.6 28.6	28.6	7.87 7.87	7.87	64.10 61.70	62.90	4.37 4.21	4.29	3.9 3.9	3.9	3.4 2.6	3.0
5-Sep-23	Fine	Moderate	10:41	2.6	Middle	1.3	28.1 28.3	28.2	25.8 25.9	25.9	7.84 7.84	7.84	64.60 64.80	64.70	4.38 4.39	4.39	1.8 1.8	1.8	2.9 2.0	2.5
7-Sep-23	Rainy	Moderate	18:35	2.7	Middle	1.4	27.5 27.5	27.5	25.0 24.2	24.6	7.68 7.65	7.67	34.30 33.50	33.90	2.35 2.31	2.33	4.2 3.8	4.0	5.7 4.4	5.1
9-Sep-23	Cloudy	Moderate	22:02	2.7	Middle	1.4	27.3 27.2	27.3	24.2 24.6	24.4	7.49 7.52	7.51	24.90 25.60	25.25	1.72 1.77	1.75	5.6 4.7	5.2	4.6 5.0	4.8
12-Sep-23	Fine	Moderate	19:02	2.7	Middle	1.4	27.4 27.4	27.4	24.3 24.3	24.3	7.54 7.54	7.54	30.60 30.70	30.65	2.12 2.13	2.13	3.7 3.4	3.6	2.4 2.3	2.4
14-Sep-23	Fine	Moderate	19:30	2.8	Middle	1.4	27.8 27.7	27.7	25.2 25.2	25.2	7.70 7.70	7.70	38.40 38.60	38.50	2.58 2.59	2.59	3.6 3.7	3.7	2.5 2.4	2.5
16-Sep-23	Fine	Moderate	20:13	2.6	Middle	1.3	27.6 27.7	27.7	25.7 23.8	24.8	7.73 7.64	7.69	41.00 38.90	39.95	2.80 2.68	2.74	2.9 2.6	2.8	4.1 4.0	4.1
19-Sep-23	Sunny	Moderate	9:31	2.7	Middle	1.4	27.7 27.6	27.6	25.0 25.2	25.1	7.79 7.78	7.79	54.90 54.20	54.55	3.77 3.71	3.74	1.8 1.9	1.9	3.4 3.6	3.5

Remark: * DA: Depth-Averaged

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

Appendix 2.5

Derived Action and Limit Levels for Water Quality (Wet Season)

Appendix 2.5 Derived Action and Limit Levels for Water Quality (Wet Season)

Stations	Action Level		Limit Level	
	Mid-Ebb	Mid-Flood	Mid-Ebb	Mid-Flood
Dissolved Oxygen (DO)				
W1a	Control Station	<2.21 mg/L	Control Station	<2.17 mg/L
W2	<2.2 mg/L	<2.06 mg/L	<2.14 mg/L	<1.93 mg/L
W3	<1.8 mg/L	<1.81 mg/L	<1.51 mg/L	<1.78 mg/L
W4	<1.85 mg/L	-	<1.65 mg/L	-
W5	<1.81 mg/L (Surface)	-	<1.5 mg/L (Surface)	-
	<1.73 mg/L (Bottom)	-	<1.55 mg/L (Bottom)	-
W6	<1.76 mg/L (Surface)	-	<1.58 mg/L (Surface)	-
	<1.68 mg/L (Bottom)	-	<1.57 mg/L (Bottom)	-
W7	<2.38 mg/L (Surface)	-	<2.27 mg/L (Surface)	-
	<2.13 mg/L (Bottom)	-	<1.76 mg/L (Bottom)	-
W8	-	Control Station	-	Control Station
	-		-	
W9	-	<1.72 mg/L	-	<1.68 mg/L
W10	-	<1.81 mg/L (Surface)	-	<1.73 mg/L (Surface)
	-	<1.83 mg/L (Bottom)	-	<1.71 mg/L (Bottom)
W11	-	<1.82 mg/L	-	<1.73 mg/L
Suspended Solid (SS)				
W1a	Control Station	<5.88 mg/L	Control Station	<6.23 mg/L
	120% of upstream control station at the same tide of the same day		130% of upstream control station at the same tide of the same day	
W2	<6.68 mg/L	<5.08 mg/L	<7.75 mg/L	<5.82 mg/L
	120% of upstream control station at the same tide of the same day		130% of upstream control station at the same tide of the same day	
W3	<4.94 mg/L	<4.91 mg/L	<5.15 mg/L	<5.31 mg/L
	120% of upstream control station at the same tide of the same day		130% of upstream control station at the same tide of the same day	
W4	<5.06 mg/L	-	<5.69 mg/L	-
	120% of upstream control station at the same tide of the same day		130% of upstream control station at the same tide of the same day	
W5	<5.6 mg/L	-	<5.8 mg/L	-
	120% of upstream control station at the same tide of the same day		130% of upstream control station at the same tide of the same day	
W6	<4.57 mg/L	-	<5.25 mg/L	-
	120% of upstream control station at the same tide of the same day		130% of upstream control station at the same tide of the same day	
W7	<5.07 mg/L	-	<5.25 mg/L	-
	120% of upstream control station at the same tide of the same day		130% of upstream control station at the same tide of the same day	
W8	-	Control Station	-	Control Station
W9	-	<4.26 mg/L	-	<4.3 mg/L
	120% of upstream control station at the same tide of the same day		130% of upstream control station at the same tide of the same day	
W10	-	<4.75 mg/L	-	<5.91 mg/L
	120% of upstream control station at the same tide of the same day		130% of upstream control station at the same tide of the same day	
W11	-	<4.94 mg/L	-	<5.54 mg/L
	120% of upstream control station at the same tide of the same day		130% of upstream control station at the same tide of the same day	
Turbidity				
W1a	Control Station	<9.86 NTU	Control Station	<10.63 NTU
	120% of upstream control station at the same tide of the same day		130% of upstream control station at the same tide of the same day	
W2	<7.51 NTU	<7.61 NTU	<8.59 NTU	<8.11 NTU
	120% of upstream control station at the same tide of the same day		130% of upstream control station at the same tide of the same day	
W3	<4.3 NTU	<4.97 NTU	<4.38 NTU	<5.31 NTU
	120% of upstream control station at the same tide of the same day		130% of upstream control station at the same tide of the same day	
W4	<5.4 NTU	-	<6.01 NTU	-
	120% of upstream control station at the same tide of the same day		130% of upstream control station at the same tide of the same day	
W5	<4.37 NTU	-	<5.71 NTU	-
	120% of upstream control station at the same tide of the same day		130% of upstream control station at the same tide of the same day	
W6	<5.2 NTU	-	<5.51 NTU	-
	120% of upstream control station at the same tide of the same day		130% of upstream control station at the same tide of the same day	
W7	<6.5 NTU	-	<7.75 NTU	-
	120% of upstream control station at the same tide of the same day		130% of upstream control station at the same tide of the same day	
W8	-	Control Station	-	Control Station
W9	-	<4.76 NTU	-	<5.34 NTU
	120% of upstream control station at the same tide of the same day		130% of upstream control station at the same tide of the same day	
W10	-	<5.77 NTU	-	<5.91 NTU
	120% of upstream control station at the same tide of the same day		130% of upstream control station at the same tide of the same day	
W11	-	<4.63 NTU	-	<5.39 NTU
	120% of upstream control station at the same tide of the same day		130% of upstream control station at the same tide of the same day	

Remark:
"-" denotes the water quality monitoring is not required at the corresponding tide.

Appendix 2.6

Summary of EPD Water Quality Monitoring Data between 2020 and 2022

Summary of EPD Water Quality Monitoring Data for 2020 (Wet Season)

Water Control Zone	Station	Date	Sample No	Suspended Solids (mg/L)	Dissolved Oxygen (mg/L)	Turbidity (NTU)
North Western	TN3	4/8/2020	1	4.5	4.2	4.1
North Western	TN3	5/22/2020	1	19	5.7	19.6
North Western	TN3	6/18/2020	1	14	5.8	5
North Western	TN3	7/6/2020	1	4.7	6.6	2.9
North Western	TN3	9/9/2020	1	5.5	3.4	3.7
North Western	TN3	10/23/2020	1	15	4.2	3.1
North Western	TN6	4/8/2020	1	6.7	5	2.6
North Western	TN6	5/22/2020	1	4.2	4.9	3.9
North Western	TN6	6/18/2020	1	12	9.1	3.8
North Western	TN6	7/6/2020	1	4.6	7	1.9
North Western	TN6	8/12/2020	1	19	5.4	21.9
North Western	TN6	9/9/2020	1	3.6	3.3	2.7
North Western	TN6	10/23/2020	1	14	4.6	2.7

Summary of EPD monitoring data for 2020 (Dry Season)

Water Control Zone	Station	Date	Sample No	Suspended Solids (mg/L)	Dissolved Oxygen (mg/L)	Turbidity (NTU)
North Western	TN3	1/9/2020	1	11	3.1	3.8
North Western	TN3	11/4/2020	1	2.5	4.7	2.9
North Western	TN6	1/9/2020	1	13	4.5	3.3
North Western	TN6	3/25/2020	1	4.9	6.1	3.4
North Western	TN6	11/4/2020	1	2.6	4.2	2.5
North Western	TN6	12/9/2020	1	9.9	3.5	3

Summary of EPD monitoring data for 2021 (Wet Season)

Water Control Zone	Station	Date	Sample No	Suspended Solids (mg/L)	Dissolved Oxygen (mg/L)	Turbidity (NTU)
North Western	TN3	4/7/2021	1	4.4	4.9	2.2
North Western	TN3	5/24/2021	1	7.4	7.4	2.9
North Western	TN3	6/11/2021	1	4.1	6.3	1.8
North Western	TN3	7/8/2021	1	9.6	7.8	2.5
North Western	TN3	8/20/2021	1	3.3	4.4	4.2
North Western	TN3	9/2/2021	1	7.2	5.8	4.5
North Western	TN3	10/18/2021	1	3.8	5.4	2.8
North Western	TN6	4/7/2021	1	3.5	5.2	1.2
North Western	TN6	5/24/2021	1	6	7.9	2.2
North Western	TN6	6/11/2021	1	3.4	7.2	1.9
North Western	TN6	7/8/2021	1	5.4	6.8	3
North Western	TN6	8/20/2021	1	8.9	3.6	4
North Western	TN6	9/2/2021	1	3.4	4.1	3.3
North Western	TN6	10/18/2021	1	3.6	5.5	3.5

Summary of EPD monitoring data for 2021 (Dry Season)

Water Control Zone	Station	Date	Sample No	Suspended Solids (mg/L)	Dissolved Oxygen (mg/L)	Turbidity (NTU)
North Western	TN3	2/19/2021	1	20	3.7	2.2
North Western	TN3	3/25/2021	1	20	7.3	2.9
North Western	TN3	11/1/2021	1	4.6	4.6	2.4
North Western	TN3	12/1/2021	1	3.2	6.6	2.7
North Western	TN6	1/27/2021	1	1.6	4.3	2.7
North Western	TN6	2/19/2021	1		4.4	1.9
North Western	TN6	3/25/2021	1	18	6.4	2
North Western	TN6	11/1/2021	1	3	4.2	2.2
North Western	TN6	12/1/2021	1	3.8	5.9	2.3

Summary of EPD monitoring data for 2022 (Wet Season)

Water Control Zone	Station	Date	Sample No	Suspended Solids (mg/L)	Dissolved Oxygen (mg/L)	Turbidity (NTU)
North Western	TN3	4/25/2022	1	5.7	5.5	2.8
North Western	TN3	5/13/2022	1		7.5	22
North Western	TN3	6/23/2022	1	5.6	4.2	3.2
North Western	TN3	7/4/2022	1	8.8	5.9	6.3
North Western	TN3	8/19/2022	1	3.1	4.3	4.9
North Western	TN3	9/5/2022	1	3	1.9	6.4
North Western	TN3	10/10/2022	1	4	5.2	2.6
North Western	TN6	4/25/2022	1	5.2	7	2
North Western	TN6	5/13/2022	1	20	6.6	13.8
North Western	TN6	6/23/2022	1	3.2	3.6	2.2
North Western	TN6	7/4/2022	1	4.3	6.2	4.9
North Western	TN6	8/19/2022	1	3.5	4.1	3.3
North Western	TN6	9/5/2022	1	7.2	2.5	7.2
North Western	TN6	10/10/2022	1	4.2	5.5	2.5

Summary of EPD monitoring data for 2022 (Dry Season)

Water Control Zone	Station	Date	Sample No	Suspended Solids (mg/L)	Dissolved Oxygen (mg/L)	Turbidity (NTU)
North Western	TN3	1/17/2022	1	2.5	2.4	4.2
North Western	TN3	2/21/2022	1	19	9.5	11.7
North Western	TN3	11/14/2022	1	2.9	3.9	2.7
North Western	TN3	12/12/2022	1	10	5	2.4
North Western	TN6	1/17/2022	1	5.1	2.9	3.7
North Western	TN6	2/17/2022	1	2.7	3.8	2.6
North Western	TN6	3/28/2022	1		5.6	17.9
North Western	TN6	11/14/2022	1	2.6	4.6	2.8
North Western	TN6	12/12/2022	1	6.8	4.9	1.8

Note:

The measured SS level at TN3 on 13/5/2022 with concentration of 31mg/L and TN6 on 19/2/2021 and 28/3/2022 with concentration of 30mg/L and 46mg/L respectively were abnormally high and thus they were not considered in the calculation.

Appendix 2.7

Background Water Quality Conditions in Wet and Dry Season (2020 – 2022)

Appendix 2.6 - Background Water Quality Conditions in Wet and Dry Seasons (2020 - 2022)

Background SS conditions at EPD monitoring station TN3 and 6 – 2020 to 2022

SS (mg/L)	TN3 & TN6		
	Avg.	Min.	Max.
Wet Season 2020	9.8	3.6	19.0
Dry Season 2020	7.3	2.5	13.0
Variation in Avg.	-25.0%	-	-
Wet Season 2021	5.3	3.3	9.6
Dry Season 2021	9.3	1.6	20.0
Variation in Avg.	75.5%	-	-
Wet Season 2022	6.0	3.0	20.0
Dry Season 2022	6.5	2.5	19.0
Variation in Avg.	7.8%	-	-
Mean Variation %	19.4%	-	-

Background DO conditions at EPD monitoring station TN3 and 6 – 2020 to 2022

DO (mg/L)	TN3 & TN6		
	Avg.	Min.	Max.
Wet Season 2020	5.3	3.3	9.1
Dry Season 2020	4.4	3.1	6.1
Variation in Avg.	-18.3%	-	-
Wet Season 2021	5.9	3.6	7.9
Dry Season 2021	5.3	3.7	7.3
Variation in Avg.	-10.4%	-	-
Wet Season 2022	5.0	1.9	7.5
Dry Season 2022	4.7	2.4	9.5
Variation in Avg.	-5.3%	-	-
Mean Variation %	-11.3%	-	-

Background Turbidity conditions at EPD monitoring station TN3 and 6 – 2020 to 2022

Turbidity (NTU)	TN3 & TN6		
	Avg.	Min.	Max.
Wet Season 2020	6.0	1.9	21.9
Dry Season 2020	3.2	2.5	3.8
Variation in Avg.	-47.4%	-	-
Wet Season 2021	2.9	1.2	4.5
Dry Season 2021	2.4	1.9	2.9
Variation in Avg.	-17.2%	-	-
Wet Season 2022	6.0	2.0	22.0
Dry Season 2022	5.5	1.8	17.9
Variation in Avg.	-7.9%	-	-
Mean Variation %	-24.2%	-	-

Note:

The measured SS level at TN3 on 13/5/2022 with concentration of 31mg/L and TN6 on 19/2/2021 and 28/3/2022 with concentration of 30mg/L and 46mg/L respectively were abnormally high and thus they were not considered in the calculation.

Appendix 2.8

Derived Action and Limit Levels for Water Quality (Dry Season)

Appendix 2.8 Derived Action and Limit Levels for Water Quality (Dry Season)

Stations	Action Level		Limit Level	
	Mid-Ebb	Mid-Flood	Mid-Ebb	Mid-Flood
Dissolved Oxygen (DO)				
W1a	Control Station	<1.96 mg/L	Control Station	<1.93 mg/L
W2	<1.95 mg/L	<1.83 mg/L	<1.89 mg/L	<1.71 mg/L
W3	<1.59 mg/L	<1.6 mg/L	<1.34 mg/L	<1.58 mg/L
W4	<1.64 mg/L	-	<1.46 mg/L	-
W5	<1.61 mg/L (Surface)	-	<1.33 mg/L (Surface)	-
	<1.53 mg/L (Bottom)	-	<1.38 mg/L (Bottom)	-
W6	<1.56 mg/L (Surface)	-	<1.4 mg/L (Surface)	-
	<1.49 mg/L (Bottom)	-	<1.39 mg/L (Bottom)	-
W7	<2.11 mg/L (Surface)	-	<2.02 mg/L (Surface)	-
	<1.89 mg/L (Bottom)	-	<1.56 mg/L (Bottom)	-
W8	-	Control Station	-	Control Station
W9	-	<1.52 mg/L	-	<1.49 mg/L
W10	-	<1.61 mg/L (Surface)	-	<1.53 mg/L (Surface)
	-	<1.62 mg/L (Bottom)	-	<1.51 mg/L (Bottom)
W11	-	<1.62 mg/L	-	<1.54 mg/L
Suspended Solid (SS)				
W1a	Control Station	<7.02 mg/L	Control Station	<7.44 mg/L
	120% of upstream control station at the same tide of the same day		130% of upstream control station at the same tide of the same day	
W2	<7.97 mg/L	<6.07 mg/L	<9.25 mg/L	<6.94 mg/L
	120% of upstream control station at the same tide of the same day		130% of upstream control station at the same tide of the same day	
W3	<5.9 mg/L	<5.86 mg/L	<6.15 mg/L	<6.34 mg/L
	120% of upstream control station at the same tide of the same day		130% of upstream control station at the same tide of the same day	
W4	<6.04 mg/L	-	<6.79 mg/L	-
	120% of upstream control station at the same tide of the same day		130% of upstream control station at the same tide of the same day	
W5	<6.68 mg/L	-	<6.93 mg/L	-
	120% of upstream control station at the same tide of the same day		130% of upstream control station at the same tide of the same day	
W6	<5.45 mg/L	-	<6.27 mg/L	-
	120% of upstream control station at the same tide of the same day		130% of upstream control station at the same tide of the same day	
W7	<6.05 mg/L	-	<6.27 mg/L	-
	120% of upstream control station at the same tide of the same day		130% of upstream control station at the same tide of the same day	
W8	-	Control Station	-	Control Station
W9	-	<5.08 mg/L	-	<5.13 mg/L
	120% of upstream control station at the same tide of the same day		130% of upstream control station at the same tide of the same day	
W10	-	<5.67 mg/L	-	<7.06 mg/L
	120% of upstream control station at the same tide of the same day		130% of upstream control station at the same tide of the same day	
W11	-	<5.9 mg/L	-	<6.61 mg/L
	120% of upstream control station at the same tide of the same day		130% of upstream control station at the same tide of the same day	
Turbidity				
W1a	<6.78 NTU	<7.47 NTU	<7.27 NTU	<8.06 NTU
	120% of upstream control station at the same tide of the same day		130% of upstream control station at the same tide of the same day	
W2	<5.69 NTU	<5.76 NTU	<6.51 NTU	<6.15 NTU
	120% of upstream control station at the same tide of the same day		130% of upstream control station at the same tide of the same day	
W3	<3.26 NTU	<3.77 NTU	<3.32 NTU	<4.02 NTU
	120% of upstream control station at the same tide of the same day		130% of upstream control station at the same tide of the same day	
W4	<4.09 NTU	-	<4.55 NTU	-
	120% of upstream control station at the same tide of the same day		130% of upstream control station at the same tide of the same day	
W5	<3.31 NTU	-	<4.33 NTU	-
	120% of upstream control station at the same tide of the same day		130% of upstream control station at the same tide of the same day	
W6	<3.94 NTU	-	<4.18 NTU	-
	120% of upstream control station at the same tide of the same day		130% of upstream control station at the same tide of the same day	
W7	<4.92 NTU	-	<5.88 NTU	-
	120% of upstream control station at the same tide of the same day		130% of upstream control station at the same tide of the same day	
W8	-	Control Station	-	Control Station
W9	-	<3.6 NTU	-	<4.05 NTU
	120% of upstream control station at the same tide of the same day		130% of upstream control station at the same tide of the same day	
W10	-	<4.37 NTU	-	<4.48 NTU
	120% of upstream control station at the same tide of the same day		130% of upstream control station at the same tide of the same day	
W11	-	<3.51 NTU	-	<4.09 NTU
	120% of upstream control station at the same tide of the same day		130% of upstream control station at the same tide of the same day	

Remark:
"-" denotes the water quality monitoring is not required at the corresponding tide.