MATERIALAB CONSULTANTS LIMITED



: 15 January 2018

BY HAND

Our Ref.: MCL/ED/0033/2018/C

Date

Room 723 & 725, 7/F, Block B, Profit Industrial Building, 1-15 Kwai Fung Crescent, Kwai Fong,

Hong Kong

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Website: www.materialab-consultant.com

The EIA Ordinance Register Office, **Environmental Protection Department** 27/F., Southorn Centre, 130 Hennessy Road, Wanchai, Hong Kong

Attn.: Mr. Matthew Tang

Dear Sir,

Agreement No. CE 21/2014 (EP) **Environmental Monitoring and Audit (EM&A) for Operation of** Tai Po Sewage Treatment Works Stage V Phase 2B - Investigation EP Condition 6.6 - Monthly EM&A Report

Pursuant to Condition 6.6 of the Environmental Permit (EP No. EP-265/2007/A) for the captioned contract, we are pleased to submit the certified Monthly EM&A Report for May 2016 for your retention.

Should you require further information, please do not hesitate to contact our Mr. Vincent Lu at 3565 4371 or the undersigned at 3565 4114.

Assuring you of our best attention at all times.

Yours faithfully, for and on behalf of MATERIALAB - WASTE & ENVIRONMENTAL TECHNOLOGIES JOINT VENTURE

Colin Yung

Environmental Team Leader

CY/vI

DSD - Ms. Suki Pun C.C.

Mott MacDonald - Ms. Dulcie Chan, Mr. Thomas Chan



Mr. WONG Sui Kan

Chief Engineer/Sewerage Projects Drainage Services Department Projects and Development Branch Sewerage Projects Division 44/F, Revenue Tower, 5 Gloucester Road, Wan Chai, Hong Kong

Contract No. SPW 09/2016

Independent Environmental Checker for Environmental Monitoring and Audit for Operation of Tai Po Sewage Treatment Works Stage 5 Phase 2B

EP Condition 6.6 - Monthly EM&A Report

16 January 2018

TC/DC/dc/377000/03/02/L -010

Our Reference

20/F AIA Kowloon Tower Landmark East 100 How Ming Street Kwun Tong Kowloon Hong Kong

T +852 2828 5757 F +852 2827 1823 mottmac.hk Dear Sir,

With reference to the ET's letter ref: MCL/ED/0032/2018/C dated 15 January 2018 associated with the Monthly EM&A Report for May 2016 (Rev.4), we have no further comment.

This letter serves as verification of the captioned submission in line with the requirements as set out in the EM&A Manual.

Should you have any queries, please feel free to contact the undersigned at 2828 5970.

Yours faithfully

FOR MOTT MACDONALD HONG KONG LIMITED

Dulcie Chan

Independent Environmental Checker

T 2828 5970

Dulcie.Chan@mottmac.com

MATERIALAB CONSULTANTS LIMITED



: 15 January 2018

BY HAND

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Mott MacDonald Hong Kong Limited 20/F, AIA Kowloon Tower Landmark East 100 Hau Ming Street Kwun Tong, Kowloon Hong Kong

Attn.: Ms. Dulcie Chan, IEC

Dear Madam.

Agreement No. CE 21/2014 (EP)
Environmental Monitoring and Audit (EM&A) for Operation of
Tai Po Sewage Treatment Works Stage V Phase 2B – Investigation
EP Condition 6.6 – Monthly EM&A Report

Pursuant to Condition 6.6 of the Environmental Permit (EP No. EP-265/2007/A) for the captioned contract, we are pleased to submit the certified Monthly EM&A Report for May 2016 for your onward submission.

Should you require further information, please do not hesitate to contact our Mr. Vincent Lu at 3565 4371 or the undersigned at 3565 4114.

Assuring you of our best attention at all times.

Yours faithfully, for and on behalf of MATERIALAB – WASTE & ENVIRONMENTAL TECHNOLOGIES JOINT VENTURE

Colin Yung

Environmental Team Leader

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Report No.: 0151/15/ED/0704

Monthly EM&A Report May 2016

Client

: Drainage Services Department

Project

: Agreement No. CE 21/2014(EP)

Environmental Monitoring and Audit (EM&A) for Operation of Tai Po Sewage Treatment Works Stage V Phase 2B – Investigation

Report No.

: 0151/15/ED/0704

Prepared by:

L.M. Kwok & Vincent Lu

Certified by:

Colin Yung

Environmental Team Leader

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Report No.: 0151/15/ED/0704

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Report No.: 0151/15/ED/0704

EXECUTIVE SUMMARY

This Monthly Environmental Monitoring and Audit (EM&A) Report is prepared for Agreement No. CE 21/2014 (EP) – "Environmental Monitoring and Audit for Operation of Tai Po Sewage Treatment Works Stage V Phase 2B – Investigation" (hereafter referred to as "the Assignment") for the Drainage Services Department (DSD) of Hong Kong Special Administrative Region. MateriaLab – Waste & Environmental Technologies Joint Venture (hereafter referred to as "MLAB") was appointed as the Environmental Team by DSD.

The Assignment is part of the Tai Po Sewage Treatment Works (TPSTW) Stage V extension (hereinafter referred as "the Project") which is a Designated Project under Schedule 2 of the Environmental Impact Assessment (EIA) Ordinance (Cap. 499) and for which an EIA Report (Register No. AEIAR-145/2009) was prepared and approved. The Environmental Permit (EP) for TPSTW Stage V, namely No. EP-265/2007 was issued in March 2007. A Variation Environmental Permit (VEP) EP-265/2007/A was issued on 30 April 2014. These documents are available through the EIA Ordinance Register.

Commencement of the Assignment took place on 9 June 2015 while the operation phase of EM&A programme commenced on 1 March 2016.

This is the third Monthly EM&A Report for the Assignment which summaries the progress of the EM&A programme during the reporting period from 01 May 2016 to 31 May 2016 (the "reporting period"). The monthly EM&A programme was undertaken in accordance with the EM&A Manual for TPSTW Stage V. According to the EM&A Manual, air quality and marine water quality are the key environmental concerns from the Project.

Breaches of Action and Limit Levels

There was no air quality monitoring conducted during the reporting period and therefore, no air quality monitoring result is reported.

Due to high influent, the screened sewage was overflowed from Tai Po Sewage Treatment Works to Tolo Harbour on 10 May 2016 from 8:20am to 9:55am with a total discharge volume of 5,172m³. In accordance with the EM&A Manual, daily marine water quality impact monitoring was conducted from 11 May to 17 May 2016. Based on the monitoring results, the overall water quality in Tolo Harbour was considered acceptable during the monitoring period. The results did not reveal any evidence showing that the overflow event from TPSTW has caused any adverse water quality impact to the surrounding water body.

Complaint Log

There were no complaints received in relation to the environmental impact during the reporting period.

Notifications of Summons and Successful Prosecutions

There were no notifications of summons or prosecutions received during this reporting period.

Reporting Changes

There was no reporting change during the reporting period.

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Future key issues

There were no construction activities and no future key issue is reported during this reporting period.

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Report No.: 0151/15/ED/0704

1. INTRODUCTION

1.1 **Background**

- 1.1.1 Tai Po Sewage Treatment Works (TPSTW) is located within the Tai Po Industrial Estate. It currently comprises four Stages; I. II. IVA and IVB works. The TPSTW Stage V aims to upgrade the existing TPSTW to provide additional sewage treatment capacity from the present design flow of 88,000 m³/day to 130,000 m³/day to meet the demands of both existing and future developments and to meet the revised discharge license requirements. The TPSTW Stage V will be implemented in two phases, i.e. Phase 1 and Phase 2. The design capacity of Phase 1 is 100,000 m³/day and Phase 2 is 130,000 m³/day.
- The TPSTW Stage V is a Designated Project under the Environmental Impact Assessment 1.1.2 Ordinance (Cap. 449). A study of Environmental Impact Assessment has been carried out to evaluate the environmental impacts associated with the project. An EIA Report and Environmental Monitoring and Audit (EM&A) Manual were approved by the Environmental Protection Department on 28 October 2004. An Environmental Permit (EP) No.EP-202/2007 and a Variation Environmental Permit (VEP) No. EP-202/2007A were issued on 22 March 2007 and 30 April 2014 for TPSTW Stage V Phase 2B (hereafter referred to as "the Project") to DSD as the Permit Holder. The EP stipulates that an EM&A programme is required to ensure the mitigation measures recommended in the EIA Report and the EM&A Manual, are implemented during the construction and operation of the Project.

1.2 **Project Description**

MateriaLab – Waste and Environmental Technologies Joint Venture (MLAB) was commissioned by DSD to undertake the EM&A services of the Project including Odour Monitoring, Odour Complaint Register and Marine Water Quality Monitoring during the operation phase, under the Agreement No. CE 21/2014 (EP) Environmental Monitoring and Audit for Tai Po Sewage Treatment Works Stage V Phase 2B – Investigation (hereafter referred to as "the Assignment").

1.3 **Project Organisation**

1.3.1 The Project Organisation for Environmental Works is shown in Appendix A. The contact person and telephone numbers of key personnel for the captioned project are shown in Table **1.1**.

Table 1.1 Contact Persons and Telephone Numbers of Key Personnel

Party	Role	Position	Contact Person	Telephone No.	Fax No.
DSD	DSD SP Division		Ms. Suki Pun	2594 7472	2519 3615
Mott MacDonald	IEC	IEC	Ms. Dulcie Chan	2828 5970	2827 1823
MLAB	Environmental Team	Environmental Team Leader	Mr. Colin Yung	3565 4114	2450 8032

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2. **AIR QUAILITY MONITORING**

2.1 **Monitoring Locations**

2.1.1 There was no air quality monitoring conducted during the reporting period and therefore, no air quality monitoring result is reported.

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3. MARINE WATER QUALITY MONITORING

3.1 Monitoring Requirements

Tolo Harbour Marine Water Quality Impact Monitoring

- 3.3.1 In accordance with Section 4.46 of the EM&A Manual, marine water quality monitoring at six designated monitoring stations should be carried out during the operation phase of the Project under the following conditions:
 - · Leakage of submarine pipeline is confirmed;
 - Emergency discharge of untreated sewage;
 - Emergency discharge of treated effluent during shutdown of Tai Po Effluent Pumping Station; and
 - Maintenance of Tolo Harbour Effluent Export Scheme (THEES).
- 3.3.2 Due to high influent, the screened sewage was overflowed from Tai Po Sewage Treatment Works to Tolo Harbour on 10 May 2016 from 08:20 to 09:55 with a total discharge volume of 5172m³. In accordance with the EM&A Manual, daily marine water quality impact monitoring was conducted from 11 May to 17 May 2016. EPD and WSD were informed of the overflow event on 10 May 2016. ET has reminded SPD/DSD to inform AFCD of any emergency discharge or THEES maintenance events.

Water Quality Monitoring at Seawater Intakes

3.3.3 In accordance with Section 4.52 of the EM&A Manual, a water quality monitoring programme shall be conducted at the WSD Seawater Intakes at Tai Po and Sha Tin during the first wet season after commissioning of the Project, namely June 2016, July 2016 and August 2016. Thus, no WSD Seawater Intake Water Quality Monitoring result is reported in this reporting period.

3.2 Methodology

Tolo Harbour Marine Water Quality Impact Monitoring

- 3.2.1 The multifunctional meter (Model YSI 6920) was deployed to measure dissolved oxygen (DO) concentration, DO saturation, temperature, salinity, pH and turbidity.
- 3.2.2 Water samples were collected by water samplers and were stored in polyethylene bottles, where they were taken to a HOKLAS accredited laboratory for analysis of suspended solids (SS), biological oxygen demand (BOD), total inorganic nitrogen (TIN), Ammonia Nitrogen(NH₃-N), chlorophyll-a and E. coli. Table 3.1 summaries the equipment used in marine water quality monitoring. Table 3.2 summaries the laboratory test method for each laboratory test parameter and its associated limit of reporting.

Table 3.1 Equipment for Marine Water Quality Monitoring

Equipment	Manufacturer / Model	Serial Number	Calibration Date	Next Calibration Date
Water	Van Dorn	N/A	N/A	N/A
Sampler				
Multifunctional	YSI 6920	000109DF	31 March 2016	30 June 2016
Meter				

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Table 3.2 Laboratory Test Method for Each Laboratory Test Parameter and Its Associated Limit of Reporting

Parameter	Test Method ¹	Reporting Limit
SS	APHA 2540 D	0.5 mg/L
BOD	APHA 5210B	1 mg/L
NH ₃ -N	APHA 4500NH ₃ : H	0.005 mg/L
TIN	APHA 4500NH₃: G, APHA 4500NO₃: I	0.005 mg/L
Chlorophyll-a	APHA 10200 H2&H3	0.001 mg/L
E. coli	DoE Section 7.8 & 7.9 plus in-situ urease test	1 cfu/100ml

Note: Test method refers to Standard Methods for the Examination of Water and Wastewater the American Public Health Association (APHA).

- 3.2.3 During each monitoring event, water quality monitoring was conducted at mid-flood and midebb tides and the interval between two monitoring events was less than 36 hours. All in-situ measurements and samplings were conducted at three water depths, namely 1 m below water surface, mid-depth and 1 m above seabed, except where the water depth was less than 6 m, in which case the mid-depth station was omitted. Only mid-depth station was monitored if the water depth was less than 3 m.
- 3.2.4 At each sampling depth, duplicate readings of DO concentration, DO saturation, salinity, turbidity, pH and temperature were taken. The probes were retrieved out of the water after the first measurement and re-deployed for the second measurement.
- 3.2.5 Water samples were collected by water samplers and were stored in polyethylene bottles. Sampling bottles were pre-rinsed with the same water samples. The sample bottles were then packed into a cool-box (kept at 4°C) and delivered immediately to a HOKLAS accredited laboratory ALS Technichem (HK) Pty Limited (ALS) for the analysis of SS, BOD, TIN, NH₃-N, chlorophyll-a and E. coli.

3.3 Monitoring Locations

Tolo Harbour Marine Water Quality Impact Monitoring

3.3.1 In accordance with the EM&A Manual, the measurements were taken at all designated impact and control stations as summarized in **Table 3.3**. The locations of the monitoring stations are shown in **Figure 3.1**.

Table 3.3 Tolo Harbour Water Quality Monitoring Stations

Station	Description	Easting	Northing
W1	WSD Seawater Intake at Tai Po	837688.18	834676.19
W2	WSD Seawater Intake at Sha Tin	840222.64	830058.70
FC2	Yim Tin Tsai Marine Fish Culture Zone	839321.74	834828.84
G1	Gradient Station	838474.91	834702.06
C1	Pak Sha Tau Corals	843778.51	834659.42
C12	Gruff Head Corals (Control Station)	851027.82	837940.83

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3.4 Monitoring Parameter, Frequency and Duration

Tolo Harbour Marine Water Quality Impact Monitoring

3.2.1 The monitoring parameters, frequency and duration of Tolo Harbour Water Quality Impact Monitoring are summarised in **Table 3.4**.

Table 3.4 Tolo Harbour Water Quality Monitoring Parameters, Frequency and Duration

Monitoring Stations	Parameter, unit	Frequency	No. of Depths
Impact Stations: W1, W2, FC2, C1	 Depth, m pH Temperature, °C Salinity, ppt DO, mg/L 	For emergency discharge of untreated sewage: Daily monitoring at least 1 week	 3 water depths: 1m below water surface, mid-depth and 1m above sea bed If water depth is less than 3m, mid-depth
Gradient Stations: G1	DO Saturation, %Turbidity, NTUSS, mg/LE.coli, cfu/100ml	after the normal plant operation is restored.	sampling only If water depth is between 3-6m, omit mid-depth sampling
Control Stations: C12	 Ammonia-Nitrogen, mg/L Total Inorganic Nitrogen, mg/L BOD5, mg-O2/L Chlorophyll-a, mg/L 		

3.5 Event and action plan

Tolo Harbour Marine Water Quality Impact Monitoring

3.5.1 The event and action plan for emergency discharge / accidental spillage at Tolo Harbour is provided in **Appendix B**.

3.6 Quality Assurance / Quality Control

Tolo Harbour Marine Water Quality Impact Monitoring

- 3.6.1 The Multifunctional Meter (YSI 6920) used in marine water quality monitoring was checked, calibrated and certified by a laboratory accredited under HOKLAS before use and subsequently re-calibrated at 3-monthly intervals throughout all stages of the water quality monitoring. The copy of the calibration certificate for the Multifunctional Meter (YSI 6920) is attached in **Appendix C**.
- 3.6.2 Before each round of monitoring, the dissolved oxygen probe of YSI 6920 was calibrated with wet bulb method.
- 3.6.3 During the measurement of DO concentration, DO saturation, salinity, turbidity, pH and temperature, if the difference between the first and second readings of each set was more than 25% of the value of the first reading, the reading was discarded and further readings were taken.

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3.6.4 During water sampling by water samplers, for QA/QC purpose, one duplicate sample from each batch of 20 samples was analysed as required by the HOKLAS. QA/QC results are shown in **Appendix D**.

3.7 Monitoring Results

Tolo Harbour Marine Water Quality Impact Monitoring

- 3.7.1 Due to high influent, the screened sewage was overflowed from Tai Po Sewage Treatment Works to Tolo Harbour on 10 May 2016 from 8:20am to 9:55am with a total discharge volume of 5172m³. At the same day, rainstorm (122mm) was recorded by Hong Kong Observatory.
- 3.7.2 The marine water quality impact monitoring was conducted from 11 May to 17 May 2016 on a daily basis. A summary of the monitoring results is presented in Table 3.4. Details of the marine water quality monitoring results are presented in **Appendix E**. Graphical presentations of the results are presented in **Appendix F**.
- 3.7.3 The levels of E. coli, dissolved oxygen (bottom level) and BOD were within baseline range. Ammonia Nitrogen and Total Inorganic Nitrogen level was slightly below baseline level on one day. Dissolved oxygen level (surface & middle) during mid-flood tide was slightly higher than maximum baseline level on one day. They would not result in adverse impact to seawater.
- 3.7.4 The depth-averaged pH levels measured were higher than the baseline range at all monitoring stations, including the control station C12. The graphs in Appendix F show no appreciable difference between impact and control stations, hence the higher pH compared to baseline is likely due to natural fluctuation.
- 3.7.5 Referring to the graph in Appendix F, the suspended solid level exceeded the maximum baseline level from 13 to 15 May. Control station C12 also had exceedance on 15 May, including both mid-flood and mid-ebb tide. The suspended solid level was then restored to baseline level on 16 May. The increase in suspended solid level was most likely a result of natural fluctuation and did not cause any adverse impact to seawater.
- 3.7.6 The chlorophyll-a level exceeded the maximum baseline level during mid-ebb and mid-flood tide. The chlorophyll-a level in the two control station also exceeded the maximum baseline level. The chlorophyll-a levels in all monitoring station had restored to baseline levels by the end of the monitoring period. The change of chlorophyll-a level may be a result of increased nutrient loading from surface runoff during the rainstorm event that occurred on 10 May 2016.
- 3.7.7 The depth-averaged temperature level was slightly lower than the minimum baseline level, including control station C12. Referring to the graphs in Appendix F, there was no appreciable difference between impact and control stations, hence the lower temperature is likely due to natural fluctuation.
- 3.7.8 Referring to the graph in Appendix F, the depth-averaged salinity level was slightly lower than the minimum baseline level at some of the monitoring stations. The lower level of salinity may be result in the increased fresh water loading from surface runoff during the rainstorm occurred on 10 May 2016. It was not related to any adverse impact of the overflow of treated effluent from TPSTW.
- 3.7.9 With reference to the graph in Appendix F, the turbidity level in stations W1 exceeded maximum baseline level on certain dates. No exceedance was found in other monitoring stations, except the turbidity in control stations C12 at some dates were slightly lower than

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baseline level. The higher turbidity level is likely due to natural fluctuation and it was restored to baseline level on 17 May so it was not related to any adverse impact of the overflow of treated effluent from TPSTW.

Table 3.5 Summary of the Water Quality Monitoring Results (from 11 May to 17 May 2016)

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Locat	ion	Temperature (°C)	рН	Salinity (ppt)	DO (Surface & Middle) (mg/L)	DO (Bottom) (mg/L)	Turbidity (NTU)	E-Coli (cfu/100 ml)	NH ₃ -N (mg/L)	TIN (mg/L)	SS (mg/L)	BOD (mg/L)	Chlorophyll- a (mg/L)
Mid-Ebb 7	Γide												
	Max	25.6	8.5	30.3	7.4	6.4	4.5	82	0.031	0.090	13.4	2.0	0.018
C1	Min	23.4	8.4	27.2	6.4	3.9	0.6	0	0.000	0.006	2.5	1.0	0.006
	Mean	24.3	8.4	28.5	7.0	5.0	2.2	4	0.013	0.040	5.9	1.5	0.011
	Max	25.2	8.5	30.5	7.8	6.4	4.7	42	0.030	0.091	10.1	1.7	0.018
C12	Min	23.3	8.3	28.1	6.0	3.5	0.4	0	0.000	0.012	1.3	0.0	0.002
(control Station)	Mean	24.4	8.4	29.6	6.9	5.1	1.9	6	0.014	0.043	4.4	0.9	0.007
	Max	25.2	8.5	28.4	8.2	4.6	5.9	118	0.066	0.207	12.5	2.7	0.022
FC2	Min	23.6	8.3	25.4	6.5	2.9	2.3	0	0.000	0.005	3.5	2.0	0.009
	Mean	24.6	8.4	27.3	7.4	3.8	3.9	6	0.024	0.071	7.1	2.3	0.016
	Max	25.2	8.5	30.5	8.3	4.6	7.0	174	0.076	0.245	10.3	3.3	0.027
G1	Min	23.8	8.4	25.5	6.5	2.9	2.0	0	0.000	0.004	2.7	1.3	0.007
	Mean	24.5	8.4	28.5	7.3	3.6	3.1	5	0.028	0.083	6.5	2.2	0.016
	Max	26.2	8.5	26.9	9.9	3.6	14.4	93	0.029	0.182	6.7	5.0	0.021
W1	Min	23.7	8.4	23.8	6.8	3.1	2.8	1	0.000	0.019	2.5	1.0	0.007
	Mean	25.1	8.4	25.5	8.2	3.4	8.0	3	0.005	0.049	4.2	2.9	0.012
	Max	25.4	8.5	28.2	9.8	5.1	7.0	85	0.079	0.243	12.9	2.0	0.017
W2	Min	24.0	8.3	23.4	6.8	2.8	2.2	2	0.011	0.028	4.3	1.0	0.006
	Mean	24.8	8.4	26.5	8.9	3.5	3.7	15	0.058	0.121	7.4	1.8	0.012
Defined	Max	29.5	8.0	33.7	9.9	9.2	8.5	595	0.27	0.430	7.0	6.0	0.012
Baseline	Min	24.8	7.1	26.1	6.3	0.8	1.0	0	0.01	0.010	2.0	1.0	0.003

Note:

- · The max, min and mean results and baseline levels are depth-averaged values
- · Mean results of E.coli are geometric mean
- There may be discrepancies in the mean values with those derived from Appendix E, due to rounding errors

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Locati	on	Temperature (°C)	рН	Salinity (ppt)	DO (Surface & Middle) (mg/L)	DO (Bottom) (mg/L)	Turbidity (NTU)	E-Coli (cfu/100 ml)	NH ₃ -N (mg/L)	TIN (mg/L)	SS (mg/L)	BOD (mg/L)	Chlorophyll- a (mg/L)
Mid-Floo	d Tide)											
	Max	25.3	8.5	30.4	7.4	6.6	4.7	63	0.035	0.090	12.6	2.0	0.019
C1	Min	23.5	8.3	27.2	6.4	3.9	0.5	0	0.000	0.010	2.5	1.0	0.005
	Mear	24.2	8.4	28.9	6.9	5.3	2.5	21	0.015	0.043	5.9	1.6	0.010
C12	Max	25.4	8.5	30.5	7.7	6.3	5.4	22	0.032	0.091	9.2	1.7	0.014
(control	Min	23.2	8.3	28.1	5.8	3.3	0.5	0	0.000	0.012	1.7	0.0	0.002
Station)	Mear	24.4	8.4	29.6	6.8	4.9	1.7	11	0.016	0.045	4.6	0.9	0.006
	Max	25.3	8.5	28.0	8.2	4.6	5.9	90	0.066	0.229	10.6	3.0	0.022
FC2	Min	23.5	8.3	25.7	6.5	2.8	1.8	0	0.000	0.005	3.6	1.3	0.008
	Mear	24.5	8.4	27.2	7.4	3.8	4.0	7	0.029	0.077	6.3	2.2	0.016
	Max	25.2	8.5	30.8	7.7	4.6	6.8	138	0.072	0.245	12.8	3.3	0.024
G1	Min	23.8	8.4	25.7	6.5	2.8	1.8	0	0.004	0.008	3.7	1.3	0.007
	Mear	24.6	8.5	28.7	7.2	3.5	3.1	7	0.031	0.080	6.6	2.3	0.017
	Max	26.3	8.6	27.0	9.9	7.7	15.6	90	0.070	0.193	14.9	5.0	0.030
W1	Min	23.6	8.3	23.9	8.2	3.1	1.7	10	0.028	0.036	3.4	1.5	0.009
	Mear	25.1	8.5	25.5	9.1	4.1	8.1	38	0.052	0.113	8.0	2.3	0.020
	Max	25.5	8.6	28.3	10.8	5.0	7.8	108	0.075	0.210	14.9	2.5	0.027
W2	Min	23.8	8.4	22.9	6.9	2.7	2.5	1	0.014	0.029	3.8	1.5	0.006
	Mear	24.8	8.5	26.4	8.9	3.5	4.0	32	0.048	0.105	7.3	1.9	0.015
Defined	Max	29.5	8.0	33.7	9.9	9.2	8.5	595	0.27	0.430	7.0	6.0	0.012
Baseline	Min	24.8	7.1	26.1	6.3	0.8	1.0	0	0.01	0.010	2.0	1.0	0.003
Level	Mear	n 26.8	7.7	30.8	7.8	5.0	3.6	6	0.06	0.090	4.0	2.0	0.008

Note:

- · The max, min and mean results and baseline levels are depth-averaged values
- · Mean results of E.coli are geometric mean
- There may be discrepancies in the mean values with those derived from Appendix E, due to rounding errors
- 3.7.10 It was confirmed that the overflow event stopped when sewage volume resumed to normal and mitigation measures required as per EM&A Manual to minimize the risk of overflow or emergency discharge had been implemented. Based on the findings of the water quality monitoring, it was confirmed that the overflow event had not resulted in adverse water quality impacts and the baseline was confirmed to be restored.

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ADVICE ON THE SOLID AND LIQUID WASTE MANAGEMENT STATUS 4.

- 4.1.1 TPSTW had registered as a chemical waste producer for this Project. The license number of Chemical Waste Producer Registration is 0014-727-D2226-15 which is presented in Appendix H.
- TPSTW is reminded that chemical waste should be properly handled and stored temporarily in designated chemical waste storage area on site in accordance with the Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes. TPSTW should also engage a licensed waste collector to collect the chemical waste for proper disposal.
- Sludge cake of TPSTW was temporarily stored within the dewatering house. Normally, all the 4.1.3 sludge cake was disposed to Sludge Treatment Facility (STF). If STF breaks down, the sludge cake will be disposed to WENT landfill.

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Report No.: 0151/15/ED/0704

5. IMPLEMENTATION STATUS OF ENVIRONMENTAL MITIGATION MEASURES

- A summary of the Implementation Schedule of Environmental Mitigation Measures (EMIS) for 5.1.1 operation phase is presented in Appendix G. Most of the necessary mitigation measures at this stage of works were implemented properly.
- Implementation status of operational landfill gas monitoring was confirmed with operation team of TPSTW. There is no accumulation of landfill gas at area for normal occupation inside TPSTW. When confined space works were being conducted, gas monitoring was performed before entry in accordance with Code of Practice on Safety and Health at Work in Confined Spaces.

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6. SUMMARY OF COMPLAINTS, NOTIFICATION OF SUMMONS AND SUCCESSFUL **PROSECUTIONS**

There was no complaint received in relation to the environmental impact or notifications of 6.1.1 summons or prosecutions received during this reporting period.

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7. **CONCLUSION AND RECOMMENDATIONS**

- 7.1.1 There was no air quality monitoring conducted during the reporting period and therefore, no air quality monitoring result is reported.
- Due to high influent, the screened sewage was overflowed from Tai Po Sewage Treatment Works to Tolo Harbour on 10 May 2016 from 8:20am to 9:55am with a total discharge volume of 5,172m3. In accordance with the EM&A Manual, daily marine water quality impact monitoring was conducted from 11 May to 17 May 2016.
- Based on the monitoring results, the overall water quality in Tolo Harbour was considered acceptable during the monitoring period. The results did not reveal any evidence showing that the overflow event from TPSTW has caused any adverse marine water quality impact to the surrounding water body.

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Figure 3.1

Tolo Harbour Water Quality Monitoring Stations

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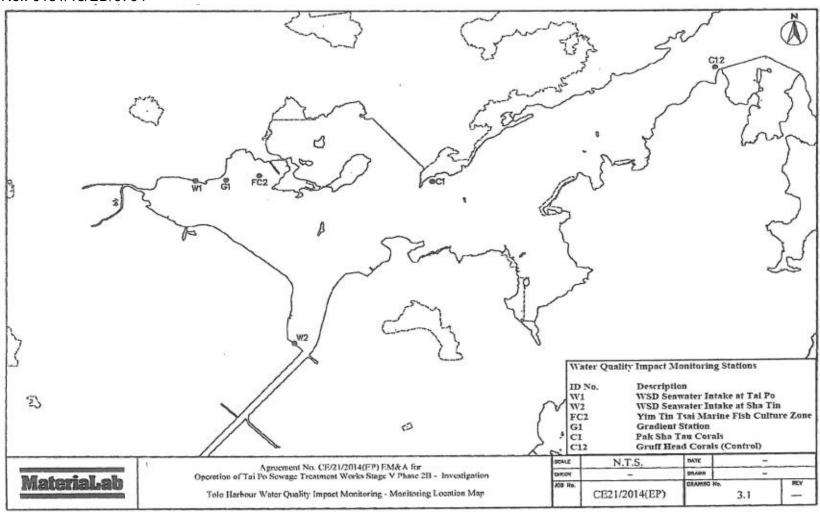
Hong Kong.

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Appendix A

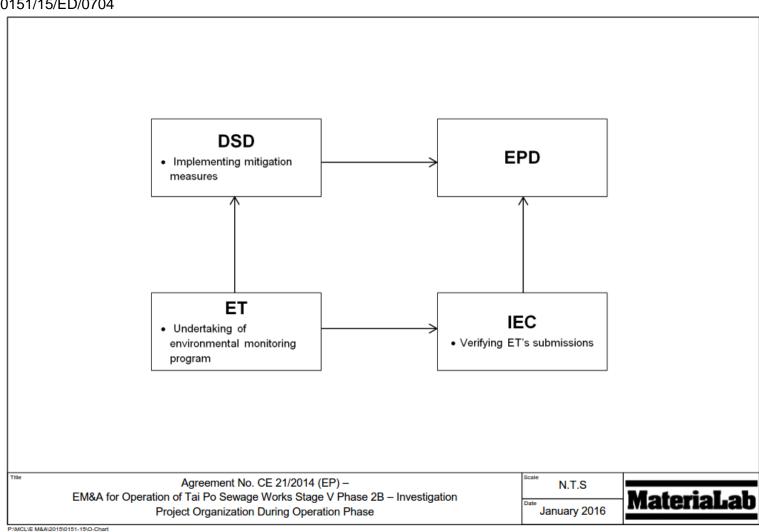
Project Organisation Chart

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Appendix B

Event / Action Plan for Emergency Discharge / Accidental Spillage at Tolo Harbour

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Event	Action Plan					
Pipe leakage as detected by dye test	 Carry out investigation to determine the reason of such detection and identify the location of any leakage. If pipe leakage is confirmed, inform EPD and WSD. Determine possible remedial measures such as pipe repairing work. Ensure remedial actions are properly implemented. Assess effectiveness of the remedial actions and keep EPD, AFCD and WSD informed of the results. If leakage continues, consider what portion of the work is responsible and reassess the remedial actions. Arrange meeting with EPD, AFCD and WSD to discuss the required remedial actions if necessary and ensure all necessary remedial actions are properly implemented. Conduct daily effluent and marine water monitoring (as discussed in Sections 4.6 to 4.11 and 4.45 to 4.51) until the baseline water quality levels are restored or at least 1 week after the leakage is abated. The monitoring data collected in Item 8 above shall be compared with the baseline data collected under normal operation of the Project to identify the degree of impact caused by the pipe leakage. 					
Failure of power supply, treatment units or equipment	 Investigate the reason of failure. Determine possible remedial measures and identify the need of emergency discharge. If emergency discharge is required, inform EPD and WSD. Ensure remedial measures are implemented. Assess the effectiveness of the implemented remedial measures and identify alternative measures if necessary. Discuss with EPD, AFCD and WSD for the required remedial actions if necessary and ensure all necessary remedial actions are properly implemented. Conduct daily effluent and marine water monitoring (as discussed in Sections 4.6 to 4.11 and 4.45 to 4.51) until the baseline water quality levels are restored or at least 1 week after normal plant operation is resumed (whichever is longer). The monitoring data collected in Item 7 above shall be compared with the baseline data collected under normal operation of the Project to identify the degree of impact caused by the emergency discharge (if any). 					
THEES Maintenance period	 Inform EPD, WSD and AFCD of the maintenance event before any discharge. Conduct daily effluent and marine water monitoring (as discussed in Sections 4.6 to 4.11 and 4.45 to 4.51) until the baseline water quality levels are restored or at least 4 weeks after termination of the maintenance period (whichever is longer). Install silt curtains at Tai Po and Shatin seawater intakes during the whole discharge period until the baseline water quality levels are restored. The monitoring data collected in Item 2 above shall be compared with the baseline data collected under normal operation of the Project to identify the degree of impact caused by the THEES maintenance discharge. 					

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Appendix C

Calibration Certificate

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

REPORT OF EQUIPMENT PERFORMANCE CHECK/CALIBRATION

CONTACT:

MR IVAN LEUNG

ALS TECHNICHEM (HK) PTY LTD

CLIENT: ADDRESS:

11/F., CHUNG SHUN KNITTING CENTRE,

1-3 WING YIP STREET,

KWAI CHUNG,

N.T., HONG KONG

WORK ORDER: HK1612311

SUB-BATCH:

LABORATORY:

www.alsglobal.com

HONG KONG

DATE RECEIVED:

31/03/2016

DATE OF ISSUE:

06/04/2016

COMMENTS

The performance of the equipment stated in this report is checked with independent reference material and results compared against a calibrated secondary source.

The "Tolerance Limit" quoted is the acceptance criteria applicable for similar equipment used by the ALS Hong Kong laboratory or quoted from relevant international standards.

The "Next Calibration Date" is recommended according to best practice principals as practised by the ALS Hong Kong laboratory or quoted from relevant international standards.

Scope of Test:

Conductivity, Dissolved Oxygen, pH, Salinity, Turbidity and Temperature

Equipment Type:

Multifunctional Meter

Brand Name:

Serial No.:

Model No.:

6920 000109DF

YSI

Equipment No.:

Date of Calibration: 31 March, 2016

NOTES

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

> Mr. Fung Lim Chee, Richard General Manager

> Greater China & Hong Kong

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Report No.: 0151/15/ED/0704

REPORT OF EQUIPMENT PERFORMANCE CHECK/CALIBRATION

Work Order: Sub-Batch: HK1612311

ALS TECHNICHEM (HK) PTY LTD Client:

06/04/2016 Date of Issue:

Equipment Type: Multifunctional Meter

Brand Name: 6920 Model No.: 000109DF Serial No .: Equipment No.:

Date of Calibration: 31 March, 2016

Date of next Calibration: 30 June, 2016

Parameters:

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

Expected Reading (uS/cm)	Displayed Reading (uS/cm)	Tolerance (%)
146.9	141.9	-3.4
6667	6704	+0.6
12890	12956	+0.5
58670	58196	-0.8
	Tolerance Limit (%)	±10.0

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

Method Ref. AFTIA (213t edition), 4500-0. d						
Expected Reading (mg/L)	Displayed Reading (mg/L)	Tolerance (mg/L)				
1.50	1.44	-0.06				
5.02	4.96	-0.06				
9.04	9.00	-0.04				
	Tolerance Limit (mg/L)	±0.20				

pH Value Method Ref: APHA 21st Ed. 4500H:B

Expected Reading (pH Unit)	Displayed Reading (pH Unit)	Tolerance (pH unit)
4.0	4.05	+0.05
7.0	7.02	+0.02
10.0	9.98	-0.02
	Tolerance Limit (pH unit)	±0.20

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

> Mr. Fung Lim Che General Manage Greater China & Hong Kong

ALS Technichem (HK) Pty Ltd **ALS Environmental**

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Report No.: 0151/15/ED/0704

REPORT OF EQUIPMENT PERFORMANCE CHECK/CALIBRATION

Work Order: Sub-Batch: HK1612311

ALS TECHNICHEM (HK) PTY LTD Client:

06/04/2016 Date of Issue:

Equipment Type: Multifunctional Meter

Brand Name: 6920 Model No.: Serial No .: 000109DF

Equipment No.:

Date of Calibration: 31 March, 2016 Date of next Calibration: 30 June, 2016

Parameters:

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

THE THE THE THE THE THE THE	11/1 = 5 = 6 5	
Expected Reading (ppt)	Displayed Reading (ppt)	Tolerance (%)
10	9.94	-0.6
20	19.78	-1.1
30	29.81	-0.6
1		
	Tolerance Limit (%)	±10.0

Temperature

Method Ref: Section 6 of International Accreditation New Zealand Technical

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

Expected Reading (°C)	Displayed Reading (°C)	Tolerance (°C)				
13	13.1	+0.1				
21	20.9	-0.1				
31	30.6	-0.4				
	Tolerance Limit (°C)	±2.0				

Turbidity

Method Ref: APHA 21st Ed. 2130R

Expected Reading (NTU)	Displayed Reading (NTU)	Tolerance (%)				
4	3.9	-2.5				
40	39.4	-1.5				
80	78.1	-2.4				
400	386.5	-3.4				
800	788.2	-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.

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

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Appendix D

QA/QC Results

ALS Technichem (HK) Pty Ltd



ALS Laboratory Group

ANALYTICAL CHEMISTRY & TESTING SERVICES

CERTIFICATE OF ANALYSIS

Client Laboratory Page : MATERIALAB CONSULTANTS LIMITED : ALS Technichem (HK) Pty Ltd : 1 of 11 Work Order Contact : MR ALEX H.K. NG Contact : Fung Lim Chee, Richard : HK1618160 Address Address : ROOM 723 & 725, 7/F, BLOCK B, : 11/F., Chung Shun Knitting Centre, 1 - 3 Wing PROFIT INDUSTRIAL BUILDING, Yip Street, Kwai Chung, N.T., Hong Kong 1-15 KWAI FUNG CRESCENT, **KWAI FONG HONG KONG** E-mail : Richard.Fung@alsglobal.com : hk.ng@fugro.com Telephone Telephone : +852 3565 4485 : +852 2610 1044 Facsimile Facsimile : +852 2450 8032 : +852 2610 2021 Project Quote number Date Samples Received : TOLO HARBOUR AND WSD SEAWATER : 11-MAY-2016 INTAKE WATER QUALITY MONITORING Order number Issue Date : 20-MAY-2016 C-O-C number No. of samples received : 32 : ----No. of samples analysed Site : 32 This document has been signed by those names that appear on this report and are the authorised signatories. This report may not be reproduced except with prior written Signatories Position Authorised results for approval from the testing laboratory. Fung Lim Chee, Richard General Manager Inorganics Ng Sin Kou, May **Assistant Laboratory Manager** Microbiology

Page Number : 2 of 11

Client : MATERIALAB CONSULTANTS LIMITED

Work Order HK1618160

ALS

General Comments

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. 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. The completion date of analysis is: 20-MAY-2016

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: HK1618160

Sample(s) were collected by ALS Technichem (HK) staff.

Water sample(s) analysed and reported on an as received basis.

Dissolved Oxygen, pH, Temperature, Salinity, Turbidity and Water Depth were measured on-site by ALS Technichem (HK) staff.

Total Inorganic Nitrogen is the sum of the Total Oxidizable Nitrogen and Ammonical Nitrogen.

In marine and freshwater samples, chlorophyll b, if present, will cause some interference to the analysis of chlorophyll a.

Sample(s) arrived in the laboratory at 20:00. Microbiological sample(s), in plastic bottles, were received in a chilled condition. Microbiological testing period: 12/05/2016 - 14/05/2016.

NOT DETECTED denotes result(s) is (are) less than the Limit of Report (LOR).

Page Number : 10 of 11

Client : MATERIALAB CONSULTANTS LIMITED

Work Order HK1618160



Laboratory Duplicate (DUP) Report

latrix: WATER				Laboratory Duplicate (DUP) Report								
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)				
EA/ED: Physical ar	nd Aggregate Properties	s (QC Lot: 4202287)										
HK1618160-001	W1- MF - S	EA025: Suspended Solids (SS)		0.5	mg/L	4.1	4.1	0.0				
HK1618160-015	FC2 - MF - B	EA025: Suspended Solids (SS)		0.5	mg/L	5.0	4.9	0.0				
EA/ED: Physical ar	nd Aggregate Properties	s (QC Lot: 4202289)										
HK1618160-025	C1 - MF - S	EA025: Suspended Solids (SS)		0.5	mg/L	2.4	2.4	0.0				
HK1618160-036	C12 - ME - B	EA025: Suspended Solids (SS)		0.5	mg/L	4.1	4.0	2.9				
ED/EK: Inorganic N	Nonmetallic Parameters	(QC Lot: 4201954)										
HK1617152-025	Anonymous	EK059A: Nitrite + Nitrate as N		0.01	mg/L	1.57	1.56	0.6				
ED/EK: Inorganic N	Nonmetallic Parameters	(QC Lot: 4201955)										
HK1618160-012	W2 - ME - B	EK059A: Nitrite + Nitrate as N		0.01	mg/L	0.02	0.02	0.0				
ED/EK: Inorganic N	Nonmetallic Parameters	(QC Lot: 4201959)										
HK1617152-021	Anonymous	EK055K: Ammonia as N	7664-41-7	0.01	mg/L	0.13	0.13	0.0				
ED/EK: Inorganic N	Nonmetallic Parameters	(QC Lot: 4201960)										
HK1618160-031	C12 - MF - S	EK055K: Ammonia as N	7664-41-7	0.005	mg/L	0.023	0.022	4.4				
EP: Aggregate Org	anics (QC Lot: 420833	1)										
HK1618160-001	W1- MF - S	EP008F: Chlorophyll a		1.0	mg/m3	11	10.2	10.0				
EP: Aggregate Org	anics (QC Lot: 420833	2)										
HK1618170-001	Anonymous	EP008F: Chlorophyll a		1	mg/m3	25	25	0.0				

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

Matrix: WATER		Method Blank (MB) Report			Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report								
					Spike	Spike Recovery (%)		Recovery Limits (%)		RI	PD (%)		
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	DCS	Low	High	Value	Control Limit		
EA/ED: Physical and Aggregate Properties (Q	C Lot: 4202287)												
EA025: Suspended Solids (SS)		0.5	mg/L	<0.5	20.0 mg/L	106		85	115				
EA/ED: Physical and Aggregate Properties (Q	C Lot: 4202289)												
EA025: Suspended Solids (SS)		0.5	mg/L	<0.5	20.0 mg/L	90.5		85	115				
ED/EK: Inorganic Nonmetallic Parameters (QC	C Lot: 4201954)												
EK059A: Nitrite + Nitrate as N		0.01	mg/L	<0.01	0.05 mg/L	98.6		85	115				
					0.4 mg/L	100		97	111				
ED/EK: Inorganic Nonmetallic Parameters (QC	C Lot: 4201955)												
EK059A: Nitrite + Nitrate as N		0.01	mg/L	<0.01	0.05 mg/L	94.2		85	115				
					0.4 mg/L	103		97	111				
ED/EK: Inorganic Nonmetallic Parameters (QC	C Lot: 4201959)												
EK055K: Ammonia as N	7664-41-7	0.01	mg/L	<0.01	0.5 mg/L	103		92	108				
ED/EK: Inorganic Nonmetallic Parameters (QC	C Lot: 4201960)												
EK055K: Ammonia as N	7664-41-7	0.01	mg/L	<0.01	0.5 mg/L	103		92	108				
EP: Aggregate Organics (QC Lot: 4202301)													

Page Number : 11 of 11

Client : MATERIALAB CONSULTANTS LIMITED

Work Order HK1618160



Matrix: WATER	Method Blank (MB) Report			Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report								
				Spike	Spike Recovery (%)		Recovery Limits (%)		RPD (%)			
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	DCS	Low	High	Value	Control Limit	
EP: Aggregate Organics (QC Lot: 4202301) - Continued												
EP030: Biochemical Oxygen Demand		2	mg/L		198 mg/L	104		87	117			
EP: Aggregate Organics (QC Lot: 4202302)	EP: Aggregate Organics (QC Lot: 4202302)											
EP030: Biochemical Oxygen Demand		2	mg/L		198 mg/L	106		87	117			
EP: Aggregate Organics (QC Lot: 4202304)												
EP030: Biochemical Oxygen Demand		2	mg/L		198 mg/L	104		87	117			
EP: Aggregate Organics (QC Lot: 4208331)												
EP008F: Chlorophyll a		0.1	mg/m3	<0.1	11.43 mg/m3	104		82	112			
EP: Aggregate Organics (QC Lot: 4208332)	EP: Aggregate Organics (QC Lot: 4208332)											
EP008F: Chlorophyll a		0.1	mg/m3	<0.1	11.43 mg/m3	101		82	112			

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

Matrix: WATER			Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Report							
				Spike	Spike Re	ecovery (%)	Recovery	Limits (%)	RPL	O (%)
Laboratory	Client sample ID	Method: Compound	CAS	Concentration	MS	MSD	Low	High	Value	Control
sample ID			Number							Limit
ED/EK: Inorga	nic Nonmetallic Parameters (QC Lot:	4201954)								
HK1617152-025	Anonymous	EK059A: Nitrite + Nitrate as N		10 mg/L	105		75	125		
ED/EK: Inorga	nic Nonmetallic Parameters (QC Lot:	4201955)								
HK1618160-012	W2 - ME - B	EK059A: Nitrite + Nitrate as N		1.0 mg/L	105		75	125		
ED/EK: Inorga	nic Nonmetallic Parameters (QC Lot:	4201959)								
HK1617152-021	Anonymous	EK055K: Ammonia as N	7664-41-7	0.5 mg/L	96.0		75	125		
ED/EK: Inorga	nic Nonmetallic Parameters (QC Lot:	4201960)								
HK1618160-031	C12 - MF - S	EK055K: Ammonia as N	7664-41-7	0.5 mg/L	109		75	125		

ALS Technichem (HK) Pty Ltd



ALS Laboratory Group

ANALYTICAL CHEMISTRY & TESTING SERVICES

CERTIFICATE OF ANALYSIS

Client Laboratory Page : MATERIALAB CONSULTANTS LIMITED : ALS Technichem (HK) Pty Ltd : 1 of 11 Work Order Contact : MR ALEX H.K. NG Contact : Fung Lim Chee, Richard : HK1618170 Address Address : ROOM 723 & 725, 7/F, BLOCK B, : 11/F., Chung Shun Knitting Centre, 1 - 3 Wing PROFIT INDUSTRIAL BUILDING, Yip Street, Kwai Chung, N.T., Hong Kong 1-15 KWAI FUNG CRESCENT, **KWAI FONG HONG KONG** E-mail : Richard.Fung@alsglobal.com : hk.ng@fugro.com Telephone Telephone : +852 3565 4485 : +852 2610 1044 Facsimile Facsimile : +852 2450 8032 : +852 2610 2021 Project Quote number Date Samples Received : TOLO HARBOUR AND WSD SEAWATER : 12-MAY-2016 INTAKE WATER QUALITY MONITORING Order number Issue Date : 24-MAY-2016 C-O-C number No. of samples received : 32 : ----No. of samples analysed Site : 32 This document has been signed by those names that appear on this report and are the authorised signatories. This report may not be reproduced except with prior written Signatories Position Authorised results for approval from the testing laboratory. Fung Lim Chee, Richard General Manager Inorganics Ng Sin Kou, May **Assistant Laboratory Manager** Microbiology

Page Number : 2 of 11

Client : MATERIALAB CONSULTANTS LIMITED

Work Order HK1618170



General Comments

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. 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. The completion date of analysis is: 20-MAY-2016

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: HK1618170

Sample(s) were collected by ALS Technichem (HK) staff.

Water sample(s) analysed and reported on an as received basis.

Dissolved Oxygen, pH, Temperature, Salinity, Turbidity and Water Depth were measured on-site by ALS Technichem (HK) staff.

Total Inorganic Nitrogen is the sum of the Total Oxidizable Nitrogen and Ammonical Nitrogen.

In marine and freshwater samples, chlorophyll b, if present, will cause some interference to the analysis of chlorophyll a.

Sample(s) arrived in the laboratory at 16:20. Microbiological sample(s), in plastic bottles, were received in a chilled condition. Microbiological testing period: 13/05/2016 - 15/05/2016.

NOT DETECTED denotes result(s) is (are) less than the Limit of Report (LOR).

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Client : MATERIALAB CONSULTANTS LIMITED

Work Order HK1618170



Laboratory Duplicate (DUP) Report

Matrix: WATER					La	aboratory Duplicate (DUP) Re	eport	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)
EA/ED: Physical ar	nd Aggregate Propertie	s (QC Lot: 4204656)						
HK1618170-001	W1- MF - S	EA025: Suspended Solids (SS)		0.5	mg/L	4.1	4.0	3.1
HK1618170-015	FC2 - MF - B	EA025: Suspended Solids (SS)		0.5	mg/L	2.1	2.0	4.9
EA/ED: Physical ar	nd Aggregate Propertie	s (QC Lot: 4204657)						
HK1618170-025	C1 - MF - S	EA025: Suspended Solids (SS)		0.5	mg/L	2.5	2.6	0.0
HK1618170-035	C12 - ME - M	EA025: Suspended Solids (SS)		0.5	mg/L	5.1	5.3	3.1
ED/EK: Inorganic N	Ionmetallic Parameters	(QC Lot: 4203991)						
HK1617914-031	Anonymous	EK055K: Ammonia as N	7664-41-7	0.01	mg/L	0.12	0.13	0.0
ED/EK: Inorganic N	Ionmetallic Parameters	(QC Lot: 4203992)						
HK1618170-012	W2 - ME - B	EK055K: Ammonia as N	7664-41-7	0.005	mg/L	0.101	0.097	3.5
ED/EK: Inorganic N	Ionmetallic Parameters	(QC Lot: 4204775)						
HK1617570-001	Anonymous	EK059A: Nitrite + Nitrate as N		0.01	mg/L	0.29	0.30	3.4
ED/EK: Inorganic N	Ionmetallic Parameters	(QC Lot: 4204777)						
HK1618170-012	W2 - ME - B	EK059A: Nitrite + Nitrate as N		0.01	mg/L	0.04	0.04	0.0
EP: Aggregate Org	anics (QC Lot: 420833	2)	·					
HK1618170-001	W1- MF - S	EP008F: Chlorophyll a		1	mg/m3	25	25	0.0
EP: Aggregate Org	anics (QC Lot: 420833	3)						
HK1618170-021	G1 - MF - B	EP008F: Chlorophyll a		1	mg/m3	9	9	0.0
EP: Aggregate Org	anics (QC Lot: 420833	4)	'					
HK1618170-012	W2 - ME - B	EP008F: Chlorophyll a		1	mg/m3	3	3	0.0

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

Matrix: WATER		Method Blank (MB)	Report		Laboratory Co.	ntrol Spike (LCS) and La	boratory Control S	oike Duplicate (DC	S) Report	
				Spike	Spike Re	covery (%)	Recovery	Limits (%)	RF	PD (%)
Method: Compound CAS Number	LOR	Unit	Result	Concentration	LCS	DCS	Low	High	Value	Control Limit
EA/ED: Physical and Aggregate Properties (QC Lot: 4204656)									
EA025: Suspended Solids (SS)	0.5	mg/L	<0.5	20.0 mg/L	105		85	115		
EA/ED: Physical and Aggregate Properties (QC Lot: 4204657)									
EA025: Suspended Solids (SS)	0.5	mg/L	<0.5	20.0 mg/L	97.5		85	115		
ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 4203991)										
EK055K: Ammonia as N 7664-41-7	0.01	mg/L	<0.01	0.5 mg/L	104		92	108		
ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 4203992)										
EK055K: Ammonia as N 7664-41-7	0.01	mg/L	<0.01	0.5 mg/L	101		92	108		
ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 4204775)										
EK059A: Nitrite + Nitrate as N	0.01	mg/L	<0.01	0.05 mg/L	96.2		85	115		
				0.4 mg/L	101		97	111		
ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 4204777)										
EK059A: Nitrite + Nitrate as N	0.01	mg/L	<0.01	0.05 mg/L	102		85	115		

Page Number : 11 of 11
Client : MATERIA

: MATERIALAB CONSULTANTS LIMITED

Work Order HK1618170



Matrix: WATER			Method Blank (MB)	Report		Laboratory Con	trol Spike (LCS) and Lab	oratory Control S _i	oike Duplicate (D	CS) Report	
					Spike	Spike Re	covery (%)	Recovery	Limits (%)	RF	PD (%)
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	DCS	Low	High	Value	Control Limit
ED/EK: Inorganic Nonmetallic Parameters (QC	Lot: 4204777)	- Continue	d								
EK059A: Nitrite + Nitrate as N		0.01	mg/L		0.4 mg/L	101		97	111		
EP: Aggregate Organics (QC Lot: 4205038)											
EP030: Biochemical Oxygen Demand		2	mg/L		198 mg/L	107		87	117		
EP: Aggregate Organics (QC Lot: 4205039)											
EP030: Biochemical Oxygen Demand		2	mg/L		198 mg/L	106		87	117		
EP: Aggregate Organics (QC Lot: 4208332)											
EP008F: Chlorophyll a		0.1	mg/m3	<0.1	11.43 mg/m3	101		82	112		
EP: Aggregate Organics (QC Lot: 4208333)											
EP008F: Chlorophyll a		0.1	mg/m3	<0.1	11.43 mg/m3	96.2		82	112		
EP: Aggregate Organics (QC Lot: 4208334)											
EP008F: Chlorophyll a		0.1	mg/m3	<0.1	11.43 mg/m3	96.2		82	112		

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

Matrix: WATER					Matrix Sp	ike (MS) and Matrix	Spike Duplic	ate (MSD) Re	port	
				Spike	Spike Re	ecovery (%)	Recovery	Limits (%)	RPD (%)	
Laboratory	Client sample ID	Method: Compound	CAS	Concentration	MS	MSD	Low	High	Value	Control
sample ID			Number							Limit
ED/EK: Inorg	ganic Nonmetallic Parameters (QC Lot:	4203991)								
HK1617914-03	1 Anonymous	EK055K: Ammonia as N	7664-41-7	0.5 mg/L	96.0		75	125		
ED/EK: Inorg	ganic Nonmetallic Parameters (QC Lot:	4203992)								
HK1618170-01	2 W2 - ME - B	EK055K: Ammonia as N	7664-41-7	0.5 mg/L	104		75	125		
ED/EK: Inorg	ganic Nonmetallic Parameters (QC Lot:	4204775)								
HK1617570-00	1 Anonymous	EK059A: Nitrite + Nitrate as N		1.0 mg/L	92.0		75	125		
ED/EK: Inorg	ganic Nonmetallic Parameters (QC Lot:	4204777)								
HK1618170-01	2 W2 - ME - B	EK059A: Nitrite + Nitrate as N		1.0 mg/L	107		75	125		

ALS Technichem (HK) Pty Ltd



ALS Laboratory Group

ANALYTICAL CHEMISTRY & TESTING SERVICES

CERTIFICATE OF ANALYSIS

Client Laboratory Page : MATERIALAB CONSULTANTS LIMITED : ALS Technichem (HK) Pty Ltd : 1 of 11 Work Order Contact : MR ALEX H.K. NG Contact : Fung Lim Chee, Richard HK1618654 Address Address : ROOM 723 & 725, 7/F, BLOCK B, : 11/F., Chung Shun Knitting Centre, 1 - 3 Wing PROFIT INDUSTRIAL BUILDING, Yip Street, Kwai Chung, N.T., Hong Kong 1-15 KWAI FUNG CRESCENT, **KWAI FONG HONG KONG** E-mail : Richard.Fung@alsglobal.com : hk.ng@fugro.com Telephone Telephone : +852 3565 4485 : +852 2610 1044 Facsimile Facsimile : +852 2450 8032 : +852 2610 2021 Project Quote number Date Samples Received : TOLO HARBOUR AND WSD SEAWATER : 13-MAY-2016 INTAKE WATER QUALITY MONITORING Order number Issue Date : 24-MAY-2016 C-O-C number No. of samples received : 32 : ----No. of samples analysed Site : 32 This document has been signed by those names that appear on this report and are the authorised signatories. This report may not be reproduced except with prior written Signatories Position Authorised results for approval from the testing laboratory. Fung Lim Chee, Richard **General Manager** Inorganics Ng Sin Kou, May **Assistant Laboratory Manager** Microbiology

Page Number : 2 of 11

Client : MATERIALAB CONSULTANTS LIMITED

Work Order HK1618654

ALS

General Comments

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. 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. The completion date of analysis is: 20-MAY-2016

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: HK1618654

Sample(s) were collected by ALS Technichem (HK) staff.

Water sample(s) analysed and reported on an as received basis.

Dissolved Oxygen, pH, Temperature, Salinity, Turbidity and Water Depth were measured on-site by ALS Technichem (HK) staff.

Total Inorganic Nitrogen is the sum of the Total Oxidizable Nitrogen and Ammonical Nitrogen.

In marine and freshwater samples, chlorophyll b, if present, will cause some interference to the analysis of chlorophyll a.

Sample(s) arrived in the laboratory at 17:10. Microbiological sample(s), in plastic bottles, were received in a chilled condition. Microbiological testing period: 13/05/2016 - 15/05/2016.

NOT DETECTED denotes result(s) is (are) less than the Limit of Report (LOR).

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Client : MATERIALAB CONSULTANTS LIMITED

Work Order HK1618654



Laboratory Duplicate (DUP) Report

Matrix: WATER					La	boratory Duplicate (DUP) Re	eport	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)
EA/ED: Physical aı	nd Aggregate Propertie	s (QC Lot: 4204658)						
HK1618654-001	W1- MF - S	EA025: Suspended Solids (SS)		0.5	mg/L	7.9	8.1	2.9
HK1618654-015	FC2 - MF - B	EA025: Suspended Solids (SS)		0.5	mg/L	8.0	7.9	0.0
EA/ED: Physical ar	nd Aggregate Propertie	s (QC Lot: 4204659)						
HK1618654-025	C1 - MF - S	EA025: Suspended Solids (SS)		0.5	mg/L	3.5	3.4	0.0
HK1618654-035	C12 - ME - M	EA025: Suspended Solids (SS)		0.5	mg/L	4.2	4.2	0.0
ED/EK: Inorganic N	Nonmetallic Parameters	(QC Lot: 4204751)						
HK1616283-021	Anonymous	EK055K: Ammonia as N	7664-41-7	0.01	mg/L	0.08	0.09	0.0
ED/EK: Inorganic N	Nonmetallic Parameters	(QC Lot: 4204752)						
HK1618654-021	G1 - MF - B	EK055K: Ammonia as N	7664-41-7	0.005	mg/L	0.172	0.181	4.9
ED/EK: Inorganic N	Nonmetallic Parameters	(QC Lot: 4204778)						
HK1618170-021	Anonymous	EK059A: Nitrite + Nitrate as N		0.01	mg/L	0.03	0.03	0.0
ED/EK: Inorganic N	Nonmetallic Parameters	(QC Lot: 4204779)						
HK1618694-001	Anonymous	EK059A: Nitrite + Nitrate as N		0.01	mg/L	0.05	0.06	0.0
EP: Aggregate Org	anics (QC Lot: 420833	4)	·					
HK1618170-012	Anonymous	EP008F: Chlorophyll a		1	mg/m3	3	3	0.0
EP: Aggregate Org	anics (QC Lot: 420833							
HK1618654-012	W2 - ME - B	EP008F: Chlorophyll a		1	mg/m3	4	4	0.0
EP: Aggregate Org	anics (QC Lot: 420833	6)	'					
HK1618170-031	Anonymous	EP008F: Chlorophyll a		1	mg/m3	10	10	0.0

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

Matrix: WATER		Method Blank (MB)	Report		Laboratory Co.	ntrol Spike (LCS) and La	boratory Control S	oike Duplicate (DC	S) Report	
				Spike	Spike Re	ecovery (%)	Recovery	Limits (%)	RI	PD (%)
Method: Compound CAS Number	LOR	Unit	Result	Concentration	LCS	DCS	Low	High	Value	Control Limit
EA/ED: Physical and Aggregate Properties (QC Lot: 4204658)									
EA025: Suspended Solids (SS)	0.5	mg/L	<0.5	20.0 mg/L	103		85	115		
EA/ED: Physical and Aggregate Properties (QC Lot: 4204659)									
EA025: Suspended Solids (SS)	0.5	mg/L	<0.5	20.0 mg/L	96.5		85	115		
ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 4204751)										
EK055K: Ammonia as N 7664-41-7	0.01	mg/L	<0.01	0.5 mg/L	105		92	108		
ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 4204752)										
EK055K: Ammonia as N 7664-41-7	0.01	mg/L	<0.01	0.5 mg/L	101		92	108		
ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 4204778)										
EK059A: Nitrite + Nitrate as N	0.01	mg/L	<0.01	0.05 mg/L	102		85	115		
				0.4 mg/L	100		97	111		
ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 4204779)										
EK059A: Nitrite + Nitrate as N	0.01	mg/L	<0.01	0.05 mg/L	101		85	115		

Page Number : 11 of 11
Client : MATERIA

: MATERIALAB CONSULTANTS LIMITED

Work Order HK1618654



Matrix: WATER			Method Blank (MB)	Report		Laboratory Co.	ntrol Spike (LCS) and Lab	oratory Control S	oike Duplicate (D	CS) Report	
					Spike	Spike Re	ecovery (%)	Recovery	Limits (%)	RI	PD (%)
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	DCS	Low	High	Value	Control Limit
ED/EK: Inorganic Nonmetallic Parameters (QC	Lot: 4204779)	- Continue	ed								
EK059A: Nitrite + Nitrate as N		0.01	mg/L		0.4 mg/L	101		97	111		
EP: Aggregate Organics (QC Lot: 4205053)											
EP030: Biochemical Oxygen Demand		2	mg/L		198 mg/L	107		87	117		
EP: Aggregate Organics (QC Lot: 4205054)											
EP030: Biochemical Oxygen Demand		2	mg/L		198 mg/L	105		87	117		
EP: Aggregate Organics (QC Lot: 4208334)											
EP008F: Chlorophyll a		0.1	mg/m3	<0.1	11.43 mg/m3	96.2		82	112		
EP: Aggregate Organics (QC Lot: 4208335)											
EP008F: Chlorophyll a		0.1	mg/m3	<0.1	11.43 mg/m3	101		82	112		
EP: Aggregate Organics (QC Lot: 4208336)											
EP008F: Chlorophyll a		0.1	mg/m3	<0.1	11.43 mg/m3	102		82	112		

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

Matrix: WATER					Matrix Sp	ike (MS) and Matrix	Spike Duplic	ate (MSD) Re	port	
				Spike	Spike Re	ecovery (%)	Recovery Limits (%)		RPD (%)	
Laboratory	Client sample ID	Method: Compound	CAS	Concentration	MS	MSD	Low	High	Value	Control
sample ID			Number						i .	Limit
ED/EK: Inorg	ganic Nonmetallic Parameters (QC Lot:	4204751)								
HK1616283-02	1 Anonymous	EK055K: Ammonia as N	7664-41-7	0.5 mg/L	100		75	125		
ED/EK: Inorg	ganic Nonmetallic Parameters (QC Lot:	4204752)								
HK1618654-02	1 G1 - MF - B	EK055K: Ammonia as N	7664-41-7	0.5 mg/L	103		75	125		
ED/EK: Inorg	ganic Nonmetallic Parameters (QC Lot:	4204778)								
HK1618170-02	1 Anonymous	EK059A: Nitrite + Nitrate as N		1.0 mg/L	105		75	125		
ED/EK: Inorg	ganic Nonmetallic Parameters (QC Lot:	4204779)								
HK1618694-00	1 Anonymous	EK059A: Nitrite + Nitrate as N		1.0 mg/L	107		75	125		

ALS Technichem (HK) Pty Ltd



ALS Laboratory Group

ANALYTICAL CHEMISTRY & TESTING SERVICES

CERTIFICATE OF ANALYSIS

Client Laboratory Page : MATERIALAB CONSULTANTS LIMITED : ALS Technichem (HK) Pty Ltd : 1 of 11 Work Order Contact : MR ALEX H.K. NG Contact : Fung Lim Chee, Richard HK1618655 Address Address : ROOM 723 & 725, 7/F, BLOCK B, : 11/F., Chung Shun Knitting Centre, 1 - 3 Wing PROFIT INDUSTRIAL BUILDING, Yip Street, Kwai Chung, N.T., Hong Kong 1-15 KWAI FUNG CRESCENT, **KWAI FONG HONG KONG** E-mail : Richard.Fung@alsglobal.com : hk.ng@fugro.com Telephone Telephone : +852 3565 4485 : +852 2610 1044 Facsimile Facsimile : +852 2450 8032 : +852 2610 2021 Project Quote number Date Samples Received : TOLO HARBOUR AND WSD SEAWATER : 15-MAY-2016 INTAKE WATER QUALITY MONITORING Order number Issue Date : 24-MAY-2016 C-O-C number No. of samples received : 32 : ----No. of samples analysed Site : 32 This document has been signed by those names that appear on this report and are the authorised signatories. This report may not be reproduced except with prior written Signatories Position Authorised results for approval from the testing laboratory. Fung Lim Chee, Richard **General Manager** Inorganics Ng Sin Kou, May **Assistant Laboratory Manager** Microbiology

Page Number : 2 of 11

Client : MATERIALAB CONSULTANTS LIMITED

Work Order HK1618655

ALS

General Comments

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. 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. The completion date of analysis is: 23-MAY-2016

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: HK1618655

Sample(s) were collected by ALS Technichem (HK) staff.

Water sample(s) analysed and reported on an as received basis.

Dissolved Oxygen, pH, Temperature, Salinity, Turbidity and Water Depth were measured on-site by ALS Technichem (HK) staff.

Total Inorganic Nitrogen is the sum of the Total Oxidizable Nitrogen and Ammonical Nitrogen.

In marine and freshwater samples, chlorophyll b, if present, will cause some interference to the analysis of chlorophyll a.

Sample(s) arrived in the laboratory at 11:25. Microbiological sample(s), in plastic bottles, were received in a chilled condition. Microbiological testing period: 15/05/2016 - 17/05/2016.

NOT DETECTED denotes result(s) is (are) less than the Limit of Report (LOR).

Page Number : 10 of 11

Client : MATERIALAB CONSULTANTS LIMITED

Work Order HK1618655

ALS

Laboratory Duplicate (DUP) Report

Matrix: WATER					La	boratory Duplicate (DUP) Re	port	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)
EA/ED: Physical a	nd Aggregate Propertie	s (QC Lot: 4205694)						
HK1618655-001	W1- MF - S	EA025: Suspended Solids (SS)		0.5	mg/L	16.3	16.4	0.0
HK1618655-015	FC2 - MF - B	EA025: Suspended Solids (SS)		0.5	mg/L	3.1	3.2	4.5
EA/ED: Physical a	nd Aggregate Propertie	s (QC Lot: 4205695)						
HK1618655-025	C1 - MF - S	EA025: Suspended Solids (SS)		0.5	mg/L	13.9	13.3	4.4
HK1618655-035	C12 - ME - M	EA025: Suspended Solids (SS)		0.5	mg/L	3.6	3.8	6.5
ED/EK: Inorganic I	Nonmetallic Parameters	G (QC Lot: 4206145)						
HK1618655-001	W1- MF - S	EK055K: Ammonia as N	7664-41-7	0.005	mg/L	0.034	0.040	17.4
ED/EK: Inorganic I	Nonmetallic Parameters	G (QC Lot: 4206146)						
HK1618655-012	W2 - ME - B	EK055K: Ammonia as N	7664-41-7	0.005	mg/L	0.107	0.096	11.3
ED/EK: Inorganic I	Nonmetallic Parameters	G (QC Lot: 4206414)						
HK1618655-012	W2 - ME - B	EK059A: Nitrite + Nitrate as N		0.01	mg/L	0.06	0.06	0.0
ED/EK: Inorganic I	Nonmetallic Parameters	G (QC Lot: 4206415)						
HK1618655-031	C12 - MF - S	EK059A: Nitrite + Nitrate as N		0.01	mg/L	0.04	0.04	0.0
EP: Aggregate Org	janics (QC Lot: 420833	6)						
HK1618170-031	Anonymous	EP008F: Chlorophyll a		1	mg/m3	10	10	0.0
EP: Aggregate Org	janics (QC Lot: 420833	7)						
HK1618655-015	FC2 - MF - B	EP008F: Chlorophyll a		1	mg/m3	13	12	0.0

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

Matrix: WATER			Method Blank (MB)	Report		Laboratory Co.	ntrol Spike (LCS) and Lat	ooratory Control S	oike Duplicate (DC	CS) Report	
					Spike	Spike Re	ecovery (%)	Recovery	Limits (%)	RI	PD (%)
Method: Compound CAS No	ımber L	LOR	Unit	Result	Concentration	LCS	DCS	Low	High	Value	Control Limit
EA/ED: Physical and Aggregate Properties (QC Lot: 42	05694)										
EA025: Suspended Solids (SS)		0.5	mg/L	<0.5	20.0 mg/L	106		85	115		
EA/ED: Physical and Aggregate Properties (QC Lot: 42	05695)										
EA025: Suspended Solids (SS)		0.5	mg/L	<0.5	20.0 mg/L	110		85	115		
ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 420	6145)										
EK055K: Ammonia as N 766	1-41-7 C	0.01	mg/L	<0.01	0.5 mg/L	101		92	108		
ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 420	6146)										
EK055K: Ammonia as N 766	1-41-7 C	0.01	mg/L	<0.01	0.5 mg/L	102		92	108		
ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 420	6414)										
EK059A: Nitrite + Nitrate as N	C	0.01	mg/L		0.4 mg/L	104		97	111		
				<0.01	0.05 mg/L	96.0		85	115		
ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 420	6415)										
EK059A: Nitrite + Nitrate as N	C	0.01	mg/L		0.4 mg/L	103		97	111		
				<0.01	0.05 mg/L	103		85	115		
EP: Aggregate Organics (QC Lot: 4206011)											

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Client : MATERIALAB CONSULTANTS LIMITED

Work Order HK1618655



Matrix: WATER			Method Blank (MB) Report		Laboratory Cont	rol Spike (LCS) and Labor	atory Control Sp	oike Duplicate (D	CS) Report	
					Spike	Spike Rec	overy (%)	Recovery Limits (%)		RPD (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	DCS	Low	High	Value	Control Limit
EP: Aggregate Organics (QC Lot: 4206011) -	Continued										
EP030: Biochemical Oxygen Demand		2	mg/L		198 mg/L	112		87	117		
EP: Aggregate Organics (QC Lot: 4206012)											
EP030: Biochemical Oxygen Demand		2	mg/L		198 mg/L	109		87	117		
EP: Aggregate Organics (QC Lot: 4208336)											
EP008F: Chlorophyll a		0.1	mg/m3	<0.1	11.43 mg/m3	102		82	112		
EP: Aggregate Organics (QC Lot: 4208337)											
EP008F: Chlorophyll a		0.1	mg/m3	<0.1	11.43 mg/m3	100		82	112		

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

Matrix: WATER					Matrix Sp	ike (MS) and Matrix	Spike Duplic	ate (MSD) Re	port	
				Spike	Spike R	ecovery (%)	Recovery	Limits (%)	RPI	D (%)
Laboratory	Client sample ID	Method: Compound	CAS	Concentration	MS	MSD	Low	High	Value	Control
sample ID			Number							Limit
ED/EK: Inorga	nic Nonmetallic Parameters (QC Lot:	4206145)								
HK1618655-001	W1- MF - S	EK055K: Ammonia as N	7664-41-7	0.5 mg/L	86.9		75	125		
ED/EK: Inorga	nic Nonmetallic Parameters (QC Lot:	4206146)								
HK1618655-012	W2 - ME - B	EK055K: Ammonia as N	7664-41-7	0.5 mg/L	96.5		75	125		
ED/EK: Inorga	nic Nonmetallic Parameters (QC Lot:	4206414)								
HK1618655-012	W2 - ME - B	EK059A: Nitrite + Nitrate as N		1.0 mg/L	106		75	125		
ED/EK: Inorga	nic Nonmetallic Parameters (QC Lot:	4206415)								
HK1618655-031	C12 - MF - S	EK059A: Nitrite + Nitrate as N		1.0 mg/L	107		75	125		

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ANALYTICAL CHEMISTRY & TESTING SERVICES

CERTIFICATE OF ANALYSIS

Client Laboratory Page : MATERIALAB CONSULTANTS LIMITED : ALS Technichem (HK) Pty Ltd : 1 of 11 Work Order Contact : MR ALEX H.K. NG Contact : Fung Lim Chee, Richard : HK1618876 Address Address : ROOM 723 & 725, 7/F, BLOCK B, : 11/F., Chung Shun Knitting Centre, 1 - 3 Wing PROFIT INDUSTRIAL BUILDING, Yip Street, Kwai Chung, N.T., Hong Kong 1-15 KWAI FUNG CRESCENT, **KWAI FONG HONG KONG** E-mail : Richard.Fung@alsglobal.com : hk.ng@fugro.com Telephone Telephone : +852 3565 4485 : +852 2610 1044 Facsimile Facsimile : +852 2450 8032 : +852 2610 2021 Project Quote number Date Samples Received : TOLO HARBOUR AND WSD SEAWATER : 15-MAY-2016 INTAKE WATER QUALITY MONITORING Order number Issue Date : 24-MAY-2016 C-O-C number No. of samples received : 32 : ----No. of samples analysed Site : 32 This document has been signed by those names that appear on this report and are the authorised signatories. This report may not be reproduced except with prior written Signatories Position Authorised results for approval from the testing laboratory. Fung Lim Chee, Richard **General Manager** Inorganics Ng Sin Kou, May **Assistant Laboratory Manager** Microbiology

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Client : MATERIALAB CONSULTANTS LIMITED

Work Order HK1618876



General Comments

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. 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. The completion date of analysis is: 23-MAY-2016

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: HK1618876

Sample(s) were collected by ALS Technichem (HK) staff.

Water sample(s) analysed and reported on an as received basis.

Dissolved Oxygen, pH, Temperature, Salinity, Turbidity and Water Depth were measured on-site by ALS Technichem (HK) staff.

Total Inorganic Nitrogen is the sum of the Total Oxidizable Nitrogen and Ammonical Nitrogen.

In marine and freshwater samples, chlorophyll b, if present, will cause some interference to the analysis of chlorophyll a.

Sample(s) arrived in the laboratory at 19:30. Microbiological sample(s), in plastic bottles, were received in a chilled condition. Microbiological testing period: 15/05/2016 - 18/05/2016.

NOT DETECTED denotes result(s) is (are) less than the Limit of Report (LOR).

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Client : MATERIALAB CONSULTANTS LIMITED

Work Order HK1618876



Laboratory Duplicate (DUP) Report

Matrix: WATER					L	aboratory Duplicate (DUP) Re	eport	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)
EA/ED: Physical ar	nd Aggregate Propertie	s (QC Lot: 4205715)						
HK1618876-001	W1- MF - S	EA025: Suspended Solids (SS)		0.5	mg/L	7.7	7.8	1.6
HK1618876-015	FC2 - MF - B	EA025: Suspended Solids (SS)		0.5	mg/L	5.0	5.3	5.8
EA/ED: Physical ar	nd Aggregate Propertie	s (QC Lot: 4205716)						
HK1618876-025	C1 - MF - S	EA025: Suspended Solids (SS)		0.5	mg/L	14.0	14.1	0.7
HK1618876-035	C12 - ME - M	EA025: Suspended Solids (SS)		0.5	mg/L	5.3	4.0	26.2
ED/EK: Inorganic N	Ionmetallic Parameters	(QC Lot: 4206146)						
HK1618655-012	Anonymous	EK055K: Ammonia as N	7664-41-7	0.005	mg/L	0.107	0.096	11.3
ED/EK: Inorganic N	Ionmetallic Parameters	(QC Lot: 4206147)						
HK1618876-021	G1 - MF - B	EK055K: Ammonia as N	7664-41-7	0.005	mg/L	0.118	0.108	8.7
ED/EK: Inorganic N	Ionmetallic Parameters	(QC Lot: 4206148)						
HK1618876-031	C12 - MF - S	EK055K: Ammonia as N	7664-41-7	0.005	mg/L	<0.005	<0.005	0.0
ED/EK: Inorganic N	Ionmetallic Parameters	(QC Lot: 4206421)						
HK1618876-001	W1- MF - S	EK059A: Nitrite + Nitrate as N		0.01	mg/L	0.04	0.04	0.0
ED/EK: Inorganic N	Ionmetallic Parameters	(QC Lot: 4206422)						
HK1618876-012	W2 - ME - B	EK059A: Nitrite + Nitrate as N		0.01	mg/L	0.04	0.05	0.0
EP: Aggregate Org	anics (QC Lot: 420833	7)						
HK1618655-015	Anonymous	EP008F: Chlorophyll a		1	mg/m3	13	12	0.0
EP: Aggregate Org	anics (QC Lot: 420833	8)						
HK1618876-001	W1- MF - S	EP008F: Chlorophyll a		1	mg/m3	30	28	9.0
EP: Aggregate Org	anics (QC Lot: 420833	9)						
HK1618876-022	G1 - ME - S	EP008F: Chlorophyll a		1	mg/m3	40	38	4.2

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

Matrix: WATER			Method Blank (MB	Report		Laboratory Con	ntrol Spike (LCS) and Lab	oratory Control Sp	oike Duplicate (D	CS) Report	
					Spike	Spike Re	covery (%)	Recovery	Limits (%)	RF	PD (%)
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	DCS	Low	High	Value	Control Limit
EA/ED: Physical and Aggregate Properties	(QC Lot: 4205715)										
EA025: Suspended Solids (SS)		0.5	mg/L	<0.5	20.0 mg/L	97.5		85	115		
EA/ED: Physical and Aggregate Properties	(QC Lot: 4205716)										
EA025: Suspended Solids (SS)		0.5	mg/L	<0.5	20.0 mg/L	106		85	115		
ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 4206146)										
EK055K: Ammonia as N	7664-41-7	0.01	mg/L	<0.01	0.5 mg/L	102		92	108		
ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 4206147)										
EK055K: Ammonia as N	7664-41-7	0.01	mg/L	<0.01	0.5 mg/L	102		92	108		
ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 4206148)										
EK055K: Ammonia as N	7664-41-7	0.01	mg/L	<0.01	0.5 mg/L	104		92	108		
ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 4206421)										

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Client : MATERIALAB CONSULTANTS LIMITED

Work Order HK1618876



Matrix: WATER			Method Blank (MB)	Report		Laboratory Con	trol Spike (LCS) and Lab	oratory Control Sp	oike Duplicate (D	CS) Report	
					Spike	Spike Re	covery (%)	Recovery	Limits (%)	RI	PD (%)
Method: Compound CA	S Number	LOR	Unit	Result	Concentration	LCS	DCS	Low	High	Value	Control Limit
ED/EK: Inorganic Nonmetallic Parameters (QC Lot:	4206421)	- Continue	ed								
EK059A: Nitrite + Nitrate as N		0.01	mg/L	<0.01	0.05 mg/L	101		85	115		
					0.4 mg/L	103		97	111		
ED/EK: Inorganic Nonmetallic Parameters (QC Lot:	4206422)										
EK059A: Nitrite + Nitrate as N		0.01	mg/L	<0.01	0.05 mg/L	96.2		85	115		
					0.4 mg/L	98.4		97	111		
EP: Aggregate Organics (QC Lot: 4206012)											
EP030: Biochemical Oxygen Demand		2	mg/L		198 mg/L	109		87	117		
EP: Aggregate Organics (QC Lot: 4206013)											
EP030: Biochemical Oxygen Demand		2	mg/L		198 mg/L	114		87	117		
EP: Aggregate Organics (QC Lot: 4206014)											
EP030: Biochemical Oxygen Demand		2	mg/L		198 mg/L	111		87	117		
EP: Aggregate Organics (QC Lot: 4208337)											
EP008F: Chlorophyll a		0.1	mg/m3	<0.1	11.43 mg/m3	100		82	112		
EP: Aggregate Organics (QC Lot: 4208338)											
EP008F: Chlorophyll a		0.1	mg/m3	<0.1	11.43 mg/m3	99.7		82	112		
EP: Aggregate Organics (QC Lot: 4208339)											
EP008F: Chlorophyll a		0.1	mg/m3	<0.1	11.43 mg/m3	96.8		82	112		

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

Matrix: WATER					Matrix Sp	ike (MS) and Matrix	Spike Duplic	ate (MSD) Rej	oort	
				Spike	Spike Re	covery (%)	Recovery	Limits (%)	RPL	O (%)
Laboratory	Client sample ID	Method: Compound	CAS	Concentration	MS	MSD	Low	High	Value	Control
sample ID			Number							Limit
ED/EK: Inorgan	nic Nonmetallic Parameters (QC Lot:	4206146)								
HK1618655-012	Anonymous	EK055K: Ammonia as N	7664-41-7	0.5 mg/L	96.5		75	125		
ED/EK: Inorgar	nic Nonmetallic Parameters (QC Lot:	4206147)								
HK1618876-021	G1 - MF - B	EK055K: Ammonia as N	7664-41-7	0.5 mg/L	91.3		75	125		
ED/EK: Inorgan	nic Nonmetallic Parameters (QC Lot:	4206148)								
HK1618876-031	C12 - MF - S	EK055K: Ammonia as N	7664-41-7	0.5 mg/L	83.8		75	125		
ED/EK: Inorgar	nic Nonmetallic Parameters (QC Lot:	4206421)								
HK1618876-001	W1- MF - S	EK059A: Nitrite + Nitrate as N		1.0 mg/L	109		75	125		
ED/EK: Inorgan	nic Nonmetallic Parameters (QC Lot:	4206422)								
HK1618876-012	W2 - ME - B	EK059A: Nitrite + Nitrate as N		1.0 mg/L	104		75	125		

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ANALYTICAL CHEMISTRY & TESTING SERVICES

CERTIFICATE OF ANALYSIS

Client Laboratory Page : MATERIALAB CONSULTANTS LIMITED : ALS Technichem (HK) Pty Ltd : 1 of 11 Work Order Contact : MR ALEX H.K. NG Contact : Fung Lim Chee, Richard : HK1618879 Address Address : ROOM 723 & 725, 7/F, BLOCK B, : 11/F., Chung Shun Knitting Centre, 1 - 3 Wing PROFIT INDUSTRIAL BUILDING, Yip Street, Kwai Chung, N.T., Hong Kong 1-15 KWAI FUNG CRESCENT, **KWAI FONG HONG KONG** E-mail : Richard.Fung@alsglobal.com : hk.ng@fugro.com Telephone Telephone : +852 3565 4485 : +852 2610 1044 Facsimile Facsimile : +852 2450 8032 : +852 2610 2021 Project Quote number Date Samples Received : TOLO HARBOUR AND WSD SEAWATER : 16-MAY-2016 INTAKE WATER QUALITY MONITORING Order number Issue Date : 25-MAY-2016 C-O-C number No. of samples received : 32 : ----No. of samples analysed Site : 32 This document has been signed by those names that appear on this report and are the authorised signatories. This report may not be reproduced except with prior written Signatories Position Authorised results for approval from the testing laboratory. Fung Lim Chee, Richard **General Manager** Inorganics Ng Sin Kou, May **Assistant Laboratory Manager** Microbiology

Page Number : 2 of 11

Client : MATERIALAB CONSULTANTS LIMITED

Work Order HK1618879



General Comments

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. 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. The completion date of analysis is: 23-MAY-2016

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: HK1618879

Sample(s) were collected by ALS Technichem (HK) staff.

Water sample(s) analysed and reported on an as received basis.

Dissolved Oxygen, pH, Temperature, Salinity, Turbidity and Water Depth were measured on-site by ALS Technichem (HK) staff.

Total Inorganic Nitrogen is the sum of the Total Oxidizable Nitrogen and Ammonical Nitrogen.

In marine and freshwater samples, chlorophyll b, if present, will cause some interference to the analysis of chlorophyll a.

Sample(s) arrived in the laboratory at 18:20. Microbiological sample(s), in plastic bottles, were received in a chilled condition. Microbiological testing period: 17/05/2016 - 19/05/2016.

NOT DETECTED denotes result(s) is (are) less than the Limit of Report (LOR).

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Client : MATERIALAB CONSULTANTS LIMITED

Work Order HK1618879



Laboratory Duplicate (DUP) Report

Matrix: WATER					La	aboratory Duplicate (DUP) Re	eport	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)
EA/ED: Physical ar	nd Aggregate Propertie	s (QC Lot: 4206842)						
HK1618879-001	W1 - MF - S	EA025: Suspended Solids (SS)		0.5	mg/L	5.1	4.9	4.0
HK1618879-015	FC2 - MF - B	EA025: Suspended Solids (SS)		0.5	mg/L	3.7	3.6	3.1
EA/ED: Physical ar	nd Aggregate Propertie	s (QC Lot: 4206843)						
HK1618879-025	C1 - MF - S	EA025: Suspended Solids (SS)		0.5	mg/L	2.8	2.9	3.6
HK1618879-035	C12 - ME - M	EA025: Suspended Solids (SS)		0.5	mg/L	1.3	1.4	13.0
ED/EK: Inorganic N	Ionmetallic Parameters	(QC Lot: 4207282)						
HK1618879-001	W1 - MF - S	EK055K: Ammonia as N	7664-41-7	0.005	mg/L	<0.005	<0.005	0.0
ED/EK: Inorganic N	Ionmetallic Parameters	(QC Lot: 4207283)						
HK1618879-021	G1 - MF - B	EK055K: Ammonia as N	7664-41-7	0.005	mg/L	0.039	0.040	0.0
ED/EK: Inorganic N	Ionmetallic Parameters	(QC Lot: 4208465)						
HK1618879-001	W1 - MF - S	EK059A: Nitrite + Nitrate as N		0.01	mg/L	0.06	0.06	0.0
ED/EK: Inorganic N	Ionmetallic Parameters	(QC Lot: 4208466)						
HK1618879-012	W2 - ME - B	EK059A: Nitrite + Nitrate as N		0.01	mg/L	0.03	0.04	0.0
EP: Aggregate Org	anics (QC Lot: 420833	9)	·					
HK1618876-022	Anonymous	EP008F: Chlorophyll a		1	mg/m3	40	38	4.2
EP: Aggregate Org	anics (QC Lot: 420834							
HK1618879-029	C1 - ME - M	EP008F: Chlorophyll a		1	mg/m3	13	14	9.4
EP: Aggregate Org	anics (QC Lot: 420834	1)						
HK1618941-015	Anonymous	EP008F: Chlorophyll a		1	mg/m3	7	8	0.0

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

Matrix: WATER		Method Blank (MB) Report		Laboratory Con	trol Spike (LCS) and Labo	oratory Control Sp	oike Duplicate (DC	S) Report	
				Spike	Spike Red	covery (%)	Recovery	Limits (%)	RF	PD (%)
Method: Compound CAS Number	LOR	Unit	Result	Concentration	LCS	DCS	Low	High	Value	Control Limit
EA/ED: Physical and Aggregate Properties (QC Lot: 4206842)										
EA025: Suspended Solids (SS)	0.5	mg/L	<0.5	20.0 mg/L	106		85	115		
EA/ED: Physical and Aggregate Properties (QC Lot: 4206843)										
EA025: Suspended Solids (SS)	0.5	mg/L	<0.5	20.0 mg/L	89.5		85	115		
ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 4207282)										
EK055K: Ammonia as N 7664-41-7	0.01	mg/L	<0.01	0.5 mg/L	98.6		92	108		
ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 4207283)										
EK055K: Ammonia as N 7664-41-7	0.01	mg/L	<0.01	0.5 mg/L	105		92	108		
ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 4208465)										
EK059A: Nitrite + Nitrate as N	0.01	mg/L		0.4 mg/L	104		97	111		
			<0.01	0.05 mg/L	95.8		85	115		
ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 4208466)										
EK059A: Nitrite + Nitrate as N	0.01	mg/L		0.4 mg/L	105		97	111		

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Client : MATERIALAB CONSULTANTS LIMITED

Work Order HK1618879



Matrix: WATER			Method Blank (MB)	Report		Laboratory Cor	ntrol Spike (LCS) and Lab	oratory Control Sp	oike Duplicate (DC	CS) Report	
					Spike	Spike Re	covery (%)	Recovery	Limits (%)	RF	PD (%)
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	DCS	Low	High	Value	Control Limit
ED/EK: Inorganic Nonmetallic Parameters (QC	Lot: 4208466)	- Continue	d								
EK059A: Nitrite + Nitrate as N		0.01	mg/L	<0.01	0.05 mg/L	101		85	115		
EP: Aggregate Organics (QC Lot: 4206933)											
EP030: Biochemical Oxygen Demand		2	mg/L		198 mg/L	103		87	117		
EP: Aggregate Organics (QC Lot: 4206934)											
EP030: Biochemical Oxygen Demand		2	mg/L		198 mg/L	108		87	117		
EP: Aggregate Organics (QC Lot: 4208339)											
EP008F: Chlorophyll a		0.1	mg/m3	<0.1	11.43 mg/m3	96.8		82	112		
EP: Aggregate Organics (QC Lot: 4208340)											
EP008F: Chlorophyll a		0.1	mg/m3	<0.1	10.72 mg/m3	96.9		82	112		
EP: Aggregate Organics (QC Lot: 4208341)											
EP008F: Chlorophyll a		0.1	mg/m3	<0.1	10.72 mg/m3	97.7		82	112		

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

Matrix: WATER					Matrix Sp	ike (MS) and Matrix	Spike Duplica	ate (MSD) Re	Report		
				Spike	Spike Ro	ecovery (%)	Recovery Limits (%)		RPE) (%)	
Laboratory	Client sample ID	Method: Compound	CAS	Concentration	MS	MSD	Low	High	Value	Control	
sample ID			Number							Limit	
ED/EK: Inorgai	nic Nonmetallic Parameters (QC Lot:	4207282)									
HK1618879-001	W1 - MF - S	EK055K: Ammonia as N	7664-41-7	0.5 mg/L	87.9		75	125			
ED/EK: Inorgai	nic Nonmetallic Parameters (QC Lot:	4207283)									
HK1618879-021	G1 - MF - B	EK055K: Ammonia as N	7664-41-7	0.5 mg/L	99.0		75	125			
ED/EK: Inorgai	nic Nonmetallic Parameters (QC Lot:	4208465)									
HK1618879-001	W1 - MF - S	EK059A: Nitrite + Nitrate as N		1.0 mg/L	109		75	125			
ED/EK: Inorgai	nic Nonmetallic Parameters (QC Lot:	4208466)									
HK1618879-012	W2 - ME - B	EK059A: Nitrite + Nitrate as N		1.0 mg/L	105		75	125			

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ANALYTICAL CHEMISTRY & TESTING SERVICES

CERTIFICATE OF ANALYSIS

Client Laboratory Page : MATERIALAB CONSULTANTS LIMITED : ALS Technichem (HK) Pty Ltd : 1 of 11 Work Order Contact : MR ALEX H.K. NG Contact : Fung Lim Chee, Richard HK1618941 Address Address : ROOM 723 & 725, 7/F, BLOCK B, : 11/F., Chung Shun Knitting Centre, 1 - 3 Wing PROFIT INDUSTRIAL BUILDING, Yip Street, Kwai Chung, N.T., Hong Kong 1-15 KWAI FUNG CRESCENT, **KWAI FONG HONG KONG** E-mail : Richard.Fung@alsglobal.com : hk.ng@fugro.com Telephone Telephone : +852 3565 4485 : +852 2610 1044 Facsimile Facsimile : +852 2450 8032 : +852 2610 2021 Project Quote number Date Samples Received : TOLO HARBOUR AND WSD SEAWATER : 17-MAY-2016 INTAKE WATER QUALITY MONITORING Order number Issue Date : 26-MAY-2016 C-O-C number No. of samples received : 32 : ----No. of samples analysed Site : 32 This document has been signed by those names that appear on this report and are the authorised signatories. This report may not be reproduced except with prior written Signatories Position Authorised results for approval from the testing laboratory. Fung Lim Chee, Richard **General Manager** Inorganics Ng Sin Kou, May **Assistant Laboratory Manager** Microbiology

Page Number : 2 of 11

Client : MATERIALAB CONSULTANTS LIMITED

Work Order HK1618941

ALS

General Comments

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. 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. The completion date of analysis is: 23-MAY-2016

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: HK1618941

Sample(s) were collected by ALS Technichem (HK) staff.

Water sample(s) analysed and reported on an as received basis.

Dissolved Oxygen, pH, Temperature, Salinity, Turbidity and Water Depth were measured on-site by ALS Technichem (HK) staff.

Total Inorganic Nitrogen is the sum of the Total Oxidizable Nitrogen and Ammonical Nitrogen.

In marine and freshwater samples, chlorophyll b, if present, will cause some interference to the analysis of chlorophyll a.

Sample(s) arrived in the laboratory at 17:55. Microbiological sample(s), in plastic bottles, were received in a chilled condition. Microbiological testing period: 18/05/2016 - 20/05/2016.

NOT DETECTED denotes result(s) is (are) less than the Limit of Report (LOR).

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Client : MATERIALAB CONSULTANTS LIMITED

Work Order HK1618941

ALS

Laboratory Duplicate (DUP) Report

Matrix: WATER					La	aboratory Duplicate (DUP) Re	eport	
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)
EA/ED: Physical ar	nd Aggregate Propertie	s (QC Lot: 4207855)						
HK1618941-001	W1 - MF - S	EA025: Suspended Solids (SS)		0.5	mg/L	5.6	5.5	0.0
HK1618941-015	FC2 - MF - B	EA025: Suspended Solids (SS)		0.5	mg/L	7.6	7.4	3.7
EA/ED: Physical ar	nd Aggregate Propertie	s (QC Lot: 4207856)						
HK1618941-025	C1 - MF - S	EA025: Suspended Solids (SS)		0.5	mg/L	3.4	3.4	0.0
HK1618941-035	C12 - ME - M	EA025: Suspended Solids (SS)		0.5	mg/L	2.9	2.9	0.0
ED/EK: Inorganic N	Nonmetallic Parameters	s (QC Lot: 4207910)						
HK1618941-035	C12 - ME - M	EK055K: Ammonia as N	7664-41-7	0.005	mg/L	0.018	0.016	15.8
ED/EK: Inorganic N	Nonmetallic Parameters	s (QC Lot: 4207911)						
HK1619098-011	Anonymous	EK055K: Ammonia as N	7664-41-7	0.01	mg/L	0.82	0.80	2.5
ED/EK: Inorganic N	Ionmetallic Parameters	G (QC Lot: 4208466)						
HK1618879-012	Anonymous	EK059A: Nitrite + Nitrate as N		0.01	mg/L	0.03	0.04	0.0
ED/EK: Inorganic N	Ionmetallic Parameters	s (QC Lot: 4208467)						
HK1618879-021	Anonymous	EK059A: Nitrite + Nitrate as N		0.01	mg/L	0.02	0.03	0.0
ED/EK: Inorganic N	Ionmetallic Parameters	(QC Lot: 4208468)	·					
HK1618941-012	W2 - ME - B	EK059A: Nitrite + Nitrate as N		0.01	mg/L	0.03	0.03	0.0
EP: Aggregate Org	anics (QC Lot: 420834	1)						
HK1618941-015	FC2 - MF - B	EP008F: Chlorophyll a		1	mg/m3	7	8	0.0
EP: Aggregate Org	anics (QC Lot: 420834	(2)	'			'		
HK1618941-029	C1 - ME - M	EP008F: Chlorophyll a		1	mg/m3	11	12	0.0

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

Matrix: WATER		Method Blank (MB) Report		Laboratory Cont	rol Spike (LCS) and Labor	atory Control Sp	oike Duplicate (D	CS) Report	
				Spike	Spike Red	overy (%)	Recovery	Limits (%)	RF	(%) סי
Method: Compound CAS Number	LOR	Unit	Result	Concentration	LCS	DCS	Low	High	Value	Control Limit
EA/ED: Physical and Aggregate Properties (QC Lot: 420785	5)									
EA025: Suspended Solids (SS)	0.5	mg/L	<0.5	20.0 mg/L	90.0		85	115		
EA/ED: Physical and Aggregate Properties (QC Lot: 420785	5)									
EA025: Suspended Solids (SS)	0.5	mg/L	<0.5	20.0 mg/L	94.0		85	115		
ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 4207910										
EK055K: Ammonia as N 7664-41-7	0.01	mg/L	<0.01	0.5 mg/L	98.6		92	108		
ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 4207911										
EK055K: Ammonia as N 7664-41-7	0.01	mg/L	<0.01	0.5 mg/L	99.8		92	108		
ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 4208466										
EK059A: Nitrite + Nitrate as N	0.01	mg/L	<0.01	0.05 mg/L	101		85	115		
				0.4 mg/L	105		97	111		
ED/EK: Inorganic Nonmetallic Parameters (QC Lot: 4208467										
EK059A: Nitrite + Nitrate as N	0.01	mg/L	<0.01	0.05 mg/L	96.2		85	115		

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Client : MATERIALAB CONSULTANTS LIMITED

Work Order HK1618941



Matrix: WATER			Method Blank (MB)	Report		Laboratory Co.	ntrol Spike (LCS) and Lab	oratory Control S	oike Duplicate (DC	CS) Report	
					Spike	Spike Re	ecovery (%)	Recovery	Limits (%)	RF	PD (%)
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	DCS	Low	High	Value	Control Limit
ED/EK: Inorganic Nonmetallic Parameters (QC	C Lot: 4208467)	- Continue	ed								
EK059A: Nitrite + Nitrate as N		0.01	mg/L		0.4 mg/L	106		97	111		
ED/EK: Inorganic Nonmetallic Parameters (QC	C Lot: 4208468)										
EK059A: Nitrite + Nitrate as N		0.01	mg/L		0.4 mg/L	104		97	111		
				<0.01	0.05 mg/L	99.0		85	115		
EP: Aggregate Organics (QC Lot: 4208102)											
EP030: Biochemical Oxygen Demand		2	mg/L		198 mg/L	101		87	117		
EP: Aggregate Organics (QC Lot: 4208103)											
EP030: Biochemical Oxygen Demand		2	mg/L		198 mg/L	103		87	117		
EP: Aggregate Organics (QC Lot: 4208341)											
EP008F: Chlorophyll a		0.1	mg/m3	<0.1	10.72 mg/m3	97.7		82	112		
EP: Aggregate Organics (QC Lot: 4208342)											
EP008F: Chlorophyll a		0.1	mg/m3	<0.1	10.72 mg/m3	97.2		82	112		

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

Matrix: WATER					Matrix Sp	ike (MS) and Matrix	x Spike Duplic	ate (MSD) Re	port	
				Spike	Spike R	ecovery (%)	Recovery	Limits (%)	RPL	D (%)
Laboratory	Client sample ID	Method: Compound	CAS	Concentration	MS	MSD	Low	High	Value	Control
sample ID			Number							Limit
ED/EK: Inorgar	nic Nonmetallic Parameters (QC Lot:	4207910)								
HK1618941-012	W2 - ME - B	EK055K: Ammonia as N	7664-41-7	0.5 mg/L	99.6		75	125		
ED/EK: Inorgan	nic Nonmetallic Parameters (QC Lot:	4207911)								
HK1619098-001	Anonymous	EK055K: Ammonia as N	7664-41-7	0.5 mg/L	106		75	125		
ED/EK: Inorgar	nic Nonmetallic Parameters (QC Lot:	4208466)								
HK1618879-012	Anonymous	EK059A: Nitrite + Nitrate as N		1.0 mg/L	105		75	125		
ED/EK: Inorgan	nic Nonmetallic Parameters (QC Lot:	4208467)								
HK1618879-021	Anonymous	EK059A: Nitrite + Nitrate as N		1.0 mg/L	103		75	125		
ED/EK: Inorgar	nic Nonmetallic Parameters (QC Lot:	4208468)								
HK1618941-012	W2 - ME - B	EK059A: Nitrite + Nitrate as N		1.0 mg/L	105		75	125		

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Report No.: 0151/15/ED/0704

Appendix E

Tolo Harbour Water Quality Monitoring Results

Room 723 & 725, 7/F, Block B,

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Report No.: 0151/15/ED/0704

Water Quality Monitoring Results at C1 - Mid-Ebb Tide (In-situ Data)

D-1-	Weather	Sea	Sampling	D /	>	Т	emperature(°C	C) .		pH			Salinity ppt		DO Sat	uration (%)	Disslov	ved Oxygen (r	mg/L)	Т	urbidity(NTU)	
Date	Condition	Condition	Time	Depth (m)	Value	Average	DA	Value	Average	DA	Value	Average	DA	Value	Average	Value	Average	DA	Value	Average	DA
				Surface	1.0	24.6 24.6	24.6		8.4 8.4	8.4		21.3	21.3		95.5 95.5	95.5	7.0	7.0		4.7	4.7	
11/05/2016	Cloudy	Moderat e	15:45	Middle	3.5	23.7	23.7	23.8	8.4 8.4	8.4	8.4	30.1	30.1	27.2	92.9 92.9	92.9	6.6	6.6	6.8	0.8	0.8	2.0
				Bottom	6.0	23.1 23.1	23.1		8.3 8.3	8.3		30.1 30.1	30.1		77.4 77.4	77.4	5.6 5.6	5.6	5.6	0.6 0.6	0.6	
				Surface	1.0	25.2 25.2	25.2		8.4 8.4	8.4		26.0 26.0	26.0		111.0 111.0	111.0	7.9 7.9	7.9	6.7	2.2	2.2	
12/05/2016	Cloudy	Moderat e	16:45	Middle	3.6	23.0 23.0	23.0	23.4	8.4 8.4	8.4	8.4	30.1 30.1	30.1	29.1	74.4 74.4	74.4	5.4 5.4	5.4	6.7	1.3	1.3	1.7
				Bottom	6.1	22.1 22.1	22.1		8.3 8.3	8.3		31.1 31.1	31.1		58.6 58.6	58.6	4.3	4.3	4.3	1.6 1.6	1.6	
				Surface	1.0	25.6 25.6	25.6		8.5 8.5	8.5		19.7 19.7	19.7		110.8 110.8	110.8	8.1 8.1	8.1	6.4	8.0 8.0	8.0	
13/05/2016	Cloudy	Moderat e	17:30	Middle	3.5	22.4 22.4	22.4	23.5	8.5 8.5	8.5	8.5	30.4 30.4	30.4	27.4	65.2 65.2	65.2	4.7 4.7	4.7	0.4	3.4 3.4	3.4	4.5
				Bottom	6.0	22.6 22.6	22.6		8.4 8.4	8.4		32.2 32.2	32.2		60.9 60.9	60.9	4.4	4.4	4.4	2.2	2.2	
				Surface	1.0	24.9 24.9	24.9		8.7 8.7	8.7		30.9 30.9	30.9		107.5 107.5	107.5	7.5 7.5	7.5	7.4	0.6	0.6	
14/05/2016	Cloudy	Rough	18:55	Middle	3.5	24.0 24.0	24.0	24.5	8.3 8.3	8.3	8.4	30.0 30.0	30.0	30.3	103.7 103.7	103.7	7.3 7.3	7.3	7.4	0.3	0.3	0.6
				Bottom	5.9	24.5 24.5	24.5		8.3 8.3	8.3		30.1 30.1	30.1		91.6 91.6	91.6	6.4 6.4	6.4	6.4	0.8	0.8	
				Surface	1.0	25.8 25.8	25.8		8.7 8.7	8.7		22.8 22.8	22.8		115.4 115.4	115.4	8.3 8.3	8.3	6.9	5.1 5.1	5.1	
15/05/2016	Sunny	Moderat e	07:35	Middle	3.5	24.2 24.2	24.2	24.2	8.5 8.5	8.5	8.5	30.2 30.2	30.2	28.0	78.6 78.6	78.6	5.5 5.5	5.5	0.5	3.5 3.5	3.5	3.2
				Bottom	5.9	22.6 22.6	22.6		8.4 8.4	8.4		31.1 31.1	31.1		54.4 54.4	54.4	3.9	3.9	3.9	1.0	1.0	
				Surface	1.0	29.4 29.4	29.4		8.7 8.7	8.7		21.3 21.3	21.3		123.6 123.6	123.6	8.4 8.4	8.4	7.4	5.6 5.6	5.6	
16/05/2016	Sunny	Moderat e	08:45	Middle	3.6	24.5 24.5	24.5	25.6	8.5 8.5	8.5	8.5	30.6 30.6	30.6	27.6	90.9 90.9	90.9	6.4 6.4	6.4	7	3.4	3.4	3.1
				Bottom	6.1	22.8 22.8	22.8		8.3 8.3	8.3		31.0 31.0	31.0		55.0 55.0	55.0	4.0	4.0	4.0	0.4	0.4	
				Surface	1.0	25.4 25.4	25.4		8.7 8.7	8.7		29.9 29.9	29.9		106.4 106.4	106.4	7.4 7.4	7.4	7.3	1.0	1.0	
17/05/2016	Cloudy	Rough	09:45	Middle	3.6	24.3 24.3	24.3	24.8	8.4 8.4	8.4	8.5	29.7 29.7	29.7	29.9	100.8	100.8	7.1 7.1	7.1	7.5	0.3	0.3	0.6
				Bottom	6.2	24.8 24.8	24.8		8.3 8.3	8.3		30.0 30.0	30.0		88.3 88.3	88.3	6.2	6.2	6.2	0.5	0.5	

[#] When values below detection limit are present, they will be considered as 0.

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Report No.: 0151/15/ED/0704

Water Quality Monitoring Results at C1 - Mid-Ebb Tide (Laboratory Data)

Date	Weather	Sea Condition	Sampling	Depth (n		E-coli (cfu/100m		Ammonia-Nitroge		Total Inorgani	Nitrogen	Suspended (mg/l		Biochemical C Deman		Chlorophy	II-a (mg/L)
			Time	-1 (,	Value	DA	Value	DA	Value	DA	Value	DA	Value	DA	Value	DA
				Surface	1.0	160		0.020		0.091		2.2		2		0.007	
11-May-16	Cloudy	Moderate	15:45	Middle	3.5	84	82	0.019	0.031	0.092	0.090	3.0	2.5	2	1.7	0.007	0.006
				Bottom	6.0	2		0.053		0.088		2.2		1		0.004	
				Surface	1.0	6		<0.005		0.058		6.5		1		0.009	
12-May-16	Cloudy	Moderate	16:45	Middle	3.6	11	6	<0.005	0.014	0.059	0.065	4.3	6.4	2	1.3	0.009	0.008
				Bottom	6.1	NOT DETECTED		0.042		0.078		8.3		1		0.007	
				Surface	1.0	NOT DETECTED		<0.005		<0.005		4.0		2		0.008	
13-May-16	Cloudy	Moderate	17:30	Middle	3.5	NOT DETECTED	1	<0.005	0.023	0.022	0.046	4.4	3.8	2	1.3	0.009	0.007
				Bottom	6.0	2		0.068		0.116		2.9		<1		0.003	
				Surface	1.0	1		0.012		0.031		12.2		1		0.019	
14-May-16	Cloudy	Rough	18:55	Middle	3.5	NOT DETECTED	1	<0.005	0.004	0.017	0.022	7.6	8.5	1	1.0	0.018	0.018
				Bottom	5.9	1		<0.005	1	0.017		5.7		1		0.018	
				Surface	1.0	NOT DETECTED		<0.005		0.020		16.6		2		0.023	
15-May-16	Sunny	Moderate	07:35	Middle	3.5	NOT DETECTED	0	<0.005	0.009	<0.005	0.026	11.9	13.4	2	1.3	0.023	0.016
				Bottom	5.9	NOT DETECTED		0.026		0.059		11.7		<1		0.003	
				Surface	1.0	NOT DETECTED		<0.005		<0.005		4.3		3		0.009	
16-May-16	Sunny	Moderate	08:45	Middle	3.6	NOT DETECTED	0	<0.005	0.011	0.012	0.025	3.9	3.5	3	2.0	0.013	0.009
				Bottom	6.1	NOT DETECTED		0.033	7	0.062		2.3		<1	1	0.004	
				Surface	1.0	10		<0.005		<0.005		2.8		3		0.013	
17-May-16	Cloudy	Rough	09:45	Middle	3.6	12	7	<0.005	0.000	<0.005	0.006	3.6	3.0	2	1.7	0.011	0.010
				Bottom	6.2	NOT DETECTED		<0.005	7	0.019		2.5	1	<1	1	0.006	1

When values below detection limit are present, they will be considered as 0.

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Report No.: 0151/15/ED/0704

Water Quality Monitoring Results at C1 - Mid-flood Tide (In-situ Data)

	Weather	Sea	Sampling			т.	emperature(°0		0	pH			Salinity ppt		DO Sati	ration (%)	Dieclos	ved Oxygen (r	na/L)	Т	urbidity(NTU)	
Date	Condition	Condition	Time	Depth (ı	m)	Value	Average	DA	Value	Average	DA	Value	Average	DA	Value	Average	Value	Average	DA	Value	Average	DA
	-0110111011	30.10.1011		c (4.0	24.8		57.	8.4		D/ (21.3		υ, τ	94.3		6.9		<i>D</i> , (7.3		- D/ \
				Surface	1.0	24.8	24.8		8.4	8.4		21.3	21.3		94.3	94.3	6.9	6.9	6.7	7.3	7.3	
11/05/2016	Cloudy	Moderate	08:55	Middle	3.3	23.6	23.6	23.9	8.3	8.3	8.3	30.1	30.1	27.2	91.2	91.2	6.5	6.5	0.7	0.8	0.8	4.7
	,					23.6 23.2			8.3 8.3			30.1 30.2			91.2		6.5			0.8		
				Bottom	5.5	23.2	23.2		8.3	8.3		30.2	30.2		78.2 78.2	78.2	5.6 5.6	5.6	5.6	6.1 6.1	6.1	
				Surface	1.0	25.4 25.4	25.4		8.5 8.5	8.5		26.1 26.1	26.1		111.0 111.0	111.0	7.9 7.9	7.9	6.6	1.9 1.9	1.9	
12/05/2016	Cloudy	Moderate	09:30	Middle	3.2	23.1 23.1	23.1	23.6	8.5 8.5	8.5	8.5	30.3 30.3	30.3	29.1	73.3 73.3	73.3	5.3 5.3	5.3	6.6	0.7 0.7	0.7	1.2
				Bottom	5.4	22.2 22.2	22.2		8.4 8.4	8.4		31.0 31.0	31.0		58.1 58.1	58.1	4.2 4.2	4.2	4.2	1.0 1.1	1.1	
				Surface	1.0	25.3	25.3		8.2	8.2		19.7	19.7		107.9	107.9	7.9	7.9		9.1	9.1	
						25.3 22.9			8.2 8.4			19.7 30.3			107.9 68.0		7.9 4.9		6.4	9.1		4
13/05/2016	Cloudy	Moderate	10:10	Middle	3.3	22.9	22.9	23.5	8.4	8.4	8.3	30.3	30.3	27.4	68.0	68.0	4.9	4.9		1.1	1.1	3.9
				Bottom	5.6	22.4 22.4	22.4		8.3 8.3	8.3		32.2 32.2	32.2		58.6 58.6	58.6	4.2 4.2	4.2	4.2	1.5 1.4	1.5	
						24.8			8.8			31.8			107.3		7.4			0.8		
				Surface	1.0	24.8	24.8		8.8	8.8		31.8	31.8		107.3	107.3	7.4	7.4	7.4	8.0	0.8	
14/05/2016	Cloudy	Moderate	11:20	Middle	3.4	24.5 24.5	24.5	24.4	8.4 8.4	8.4	8.5	29.8 29.8	29.8	30.4	103.9 103.9	103.9	7.3 7.3	7.3	7	0.3	0.3	0.7
				Bottom	5.8	23.9 23.9	23.9		8.4 8.4	8.4		29.7 29.7	29.7		92.8 92.8	92.8	6.6 6.6	6.6	6.6	1.1	1.1	
				Surface	1.0	25.8 25.8	25.8		8.7 8.7	8.7		22.8 22.8	22.8		115.4 115.4	115.4	8.3 8.3	8.3		5.1 5.1	5.1	
15/05/2016	Sunny	Moderate	07:35	Middle	3.5	24.2 24.2	24.2	24.2	8.5 8.5	8.5	8.5	30.2 30.2	30.2	28.0	78.6 78.6	78.6	5.5 5.5	5.5	6.9	3.5 3.5	3.5	3.2
				Bottom	5.9	22.6 22.6	22.6		8.4 8.4	8.4		31.1 31.1	31.1		54.4 54.4	54.4	3.9 3.9	3.9	3.9	1.1 1.0	1.1	
						26.1			8.7			30.4			108.2		7.4			4.6		<u> </u>
				Surface	1.0	26.1	26.1		8.7	8.7		30.4	30.4		108.2	108.2	7.4	7.4	7.3	4.6	4.6	
16/05/2016	Sunny	Moderate	14:45	Middle	3.4	25.0 25.0	25.0	25.3	8.3 8.3	8.3	8.4	30.1 30.1	30.1	30.3	101.7 101.7	101.7	7.1 7.1	7.1	7.5	3.3	3.3	2.9
				Bottom	5.8	24.7 24.7	24.7		8.3 8.3	8.3		30.5 30.5	30.5		92.1 92.1	92.1	6.4 6.4	6.4	6.4	0.7 0.7	0.7	
				Surface	1.0	25.2 25.2	25.2		8.7 8.7	8.7		30.3 30.3	30.3		103.8 103.8	103.8	7.2 7.2	7.2		0.9	0.9	
17/05/2016	Cloudy	Rough	15:50	Middle	3.3	24.3	24.3	24.9	8.4 8.4	8.4	8.5	30.0 30.0	30.0	30.0	102.7 102.7	102.7	7.3	7.3	7.3	0.3	0.3	0.5
				Bottom	5.6	25.1 25.1	25.1		8.3 8.3	8.3		29.8	29.8		89.2 89.2	89.2	6.2	6.2	6.2	0.4	0.4	

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Report No.: 0151/15/ED/0704

Water Quality Monitoring Results at C1 - Mid-flood Tide (Laboratory Data)

Date	Weather	Sea Condition	Sampling	Depth (n	n)	E-coli (cfu/100m	1)	Ammonia-Nitrogen	(mg-N/L)	Total Inorganio	Nitrogen	Suspended (mg/L		Biochemical C Demand		Chlorophyl	II-a (mg/L)
			Time	(,	Value	DA	Value	DA	Value	DA	Value	DA	Value	DA	Value	DA
				Surface	1.0	67		0.026		0.094		2.4		2		0.006	
11-May-16	Cloudy	Moderate	08:55	Middle	3.3	120	63	0.021	0.035	0.088	0.090	2.5	2.5	2	1.7	0.007	0.005
				Bottom	5.5	1		0.058		0.089		2.7		1		0.003	
				Surface	1.0	11		<0.005		0.063		2.5		2		0.010	
12-May-16	Cloudy	Moderate	09:30	Middle	3.2	52	23	<0.005	0.014	0.06	0.068	5.9	3.3	2	2.0	0.010	0.009
				Bottom	5.4	5		0.043		0.081		1.5		2		0.006	
				Surface	1.0	NOT DETECTED		<0.005		0.018		3.5		2		0.010	
13-May-16	Cloudy	Moderate	10:10	Middle	3.3	NOT DETECTED	0	<0.005	0.022	0.027	0.055	3.6	3.4	2	1.3	0.008	0.007
				Bottom	5.6	NOT DETECTED		0.066		0.120		3.0		<1		0.003	
				Surface	1.0	NOT DETECTED		<0.005	<u> </u>	0.014		13.9		1		0.018	
14-May-16	Cloudy	Moderate	11:20	Middle	3.4	NOT DETECTED	0	<0.005	0.000	0.016	0.016	12.4	11.0	1	1.0	0.019	0.019
				Bottom	5.8	NOT DETECTED		<0.005		0.018		6.8		1		0.021	
				Surface	1.0	NOT DETECTED		<0.005	<u> </u>	0.016		14.0		3		0.016	
15-May-16	Sunny	Moderate	07:35	Middle	3.5	NOT DETECTED	0	<0.005	0.018	<0.005	0.036	14.0	12.6	2	1.7	0.018	0.012
				Bottom	5.9	NOT DETECTED		0.055		0.092		9.8		<1		0.002	
				Surface	1.0	NOT DETECTED		<0.005	<u> </u>	<0.005		2.8		3		0.014	
16-May-16	Sunny	Moderate	14:45	Middle	3.4	NOT DETECTED	0	<0.005	0.012	<0.005	0.022	2.8	2.5	3	2.0	0.015	0.011
				Bottom	5.8	NOT DETECTED		0.036		0.066		2.0		<1		0.003	
				Surface	1.0	5		<0.005		<0.005		3.4		2		0.016	1
17-May-16	Cloudy	Rough	15:50	Middle	3.3	12	6	<0.005	0.004	<0.005	0.010	8.1	5.7	2	1.3	0.010	0.010
				Bottom	5.6	2		0.011		0.031		5.7		<1		0.005	

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Report No.: 0151/15/ED/0704

Water Quality Monitoring Results at C12 - Mid-Fhb Tide (In-situ Data)

Date	Weather	Sea	Sampling	Depth	(m)	T	emperature(°C)		рН			Salinity ppt		DO Satur	ation (%)	Disso	lved Oxygen (r	mg/L)	Τι	urbidity(NTU)	
Date	Condition	Condition	Time	Depth	(m)	Value	Average	DA	Value	Average	DA	Value	Average	DA	Value	Average	Value	Average	DA	Value	Average	DA
				Surface	1.0	26.1	26.1		8.4	8.4		23.0	23.0		97.0	97.0	6.9	6.9		7.6	7.6	
				Surrace	1.0	26.1	20.1		8.4	0.4		23.0	23.0		97.0	97.0	6.9	0.9	6.1	7.5	7.0	
11-May-16	Cloudy	Moderate	16:30	Middle	7.6	23.8	23.8	24.3	8.3	8.3	8.3	30.1	30.1	28.1	75.0	75.0	5.3	5.3	0.1	0.8	0.8	4.7
11-Way-10	Cloudy	Woderate	10.50	Wildaic	7.0	23.8	23.0	24.5	8.3	0.5	0.5	30.1	50.1	20.1	75.0	75.0	5.3	5.5		0.8	0.0	٠.,
				Bottom	14.1	22.9	22.9		8.3	8.3		31.1	31.1		65.7	65.7	4.7	4.7	4.7	5.8	5.8	
						22.9			8.3			31.1			65.7		4.7			5.8		
				Surface	1.0	25.4	25.4		8.4	8.4		26.0	26.0		111.0	111.0	7.9	7.9		2.2	2.2	
						25.4			8.4			26.0			111.0		7.9		6.7	2.2		
12-May-16	Cloudy	Moderate	17:20	Middle	7.7	23.2	23.2	23.3	8.4	8.4	8.4	30.1	30.1	29.1	74.4	74.4	5.4	5.4		1.3	1.3	1.7
						23.2			8.4			30.1			74.4		5.4			1.3		_
				Bottom	14.3	21.2	21.2		8.3 8.3	8.3		31.1	31.1		58.6 56.6	57.6	4.3	4.3	4.3	1.6	1.6	
						21.2 25.9			8.6			27.1			110.6		7.7			1.5		
				Surface	1.0	25.9	25.9		8.6	8.6		27.1	27.1		110.6	110.6	7.7	7.7		1.6	1.6	
						23.9			8.3			30.3			60.4		4.3		6.0	1.0		
13-May-16	Cloudy	Moderate	18:10	Middle	7.5	23.1	23.1	23.8	8.3	8.3	8.4	30.3	30.3	29.9	60.4	60.4	4.3	4.3		1.0	1.0	1.3
						22.3			8.4			32.3			61.9		4.5			1.4		
				Bottom	13.9	22.3	22.3		8.4	8.4		32.3	32.3		61.9	61.9	4.5	4.5	4.5	1.4	1.4	
						25.6			8.8			29.7			121.1		8.4			0.9		
				Surface	1.0	25.6	25.6		8.8	8.8		29.7	29.7		121.1	121.1	8.4	8.4		0.9	0.9	
						24.8			8.4			29.4			102.4		7.2		7.8	0.5		
14-May-16	-16 Cloudy Roug	Rough	19:40	Middle	7.3	24.8	24.8	25.1	8.4	8.4	8.5	29.4	29.4	29.7	102.4	102.4	7.2	7.2		0.6	0.6	0.7
				D	10.6	24.9	24.0		8.3	0.2	1	29.9	20.0		87.7	07.7	6.1	6.1	6.1	0.5	0.6	1
				Bottom	13.6	24.9	24.9		8.3	8.3		29.9	29.9		87.7	87.7	6.1	6.1	6.1	0.6	0.6	

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Report No.: 0151/15/ED/0704

Date	Weather Condition	Sea Condition	Sampling Time	Depth (I	m)	Т	emperature	(oC)		рН			Salinity pp	ot	DO Sat	uration (%)	Diss	olved Oxyg	en (mg/L)		Turbidity(N	ITU)
						Value	Average	DA	Value	Average	DA	Value	Average	DA	Value	Average	Value	Average	DA	Value	Average	DA
				Surface	1.0	26.1	26.1		8.6	8.6		27.6	27.6		121.8	121.8	8.9	8.9		6.0	6.0	
				Burnee	110	26.1	2011		8.6	0.0		27.6	27.0		121.8	12110	8.9	0.5	6.8	6.0	0.0	
15-May-16	Sunny	Moderate	8:10	Middle	7.4	23.4	23.4	24.0	8.4	8.4	8.4	30.4	30.4	29.7	65.4	65.4	4.7	4.7		3.4	3.5	3.6
						23.4			8.4			30.4			65.4		4.7			3.5		
				Bottom	ottom 13.7 -		22.5		8.3	8.3		31.0	31.0		48.0 48.0	48.0	3.5	3.5	3.5	1.3	1.3	
						22.5 25.7			8.6			29.7			105.6		7.4			0.6		
				Surface	1.0	25.7	25.7		8.6	8.6		29.7	29.7		105.6	105.6	7.4	7.4		0.6	0.6	
						25.2			8.5			30.8			97.8		6.8		7.1	0.3		
16-May-16	Sunny	Moderate	9:30	Middle	7.5	25.2	25.2	25.2	8.5	8.5	8.5	30.8	30.8	30.5	97.8	97.8	6.8	6.8		0.3	0.3	0.4
						24.7			8.5			31.0			91.4		6.4			0.4		
				Bottom	14.0	24.7	24.7		8.5	8.5		31.0	31.0		91.4	91.4	6.4	6.4	6.4	0.4	0.4	
				0.6	1.0	25.5	25.5		8.8	0.0		30.4	30.4		112.7	110.7	7.8	7.0		0.9	0.0	
				Surface	1.0	25.5	25.5		8.8	8.8		30.4	30.4		112.7	112.7	7.8	7.8	7.6	0.9	0.9	
17-May-16	Cloudy	Rough	10:20) (C 1 II	7.1	24.3	24.2	24.9	8.4	0.4	8.5	29.9	20.0	30.2	104.3	1012	7.4	7.4	7.6	0.3	0.2	0.6
17-Way-10	Cloudy	Kougii	10.20	Middle	7.4	24.3	24.3	24.9	8.4	8.4	6.5	29.9	29.9	30.2	104.3	104.3	7.4	7.4		0.3	0.3	0.0
				Pottom	Sottom 13.7		25.0		8.4	8.4		30.4	30.4		89.2	89.2	6.2	6.2	6.2	0.6	0.6	
			limit are pro			25.0			8.4	0.4		30.4	30.4		89.2	09.2	6.2	0.2	0.2	0.6	0.0	

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Report No.: 0151/15/ED/0704

Water Quality Monitoring Results at C12 - Mid-Ebb Tide (Laboratory Data)

TTULO	quality	Wichitch	ig itco	uito at	<u> </u>	- WIIG-LDD	iiac	Labora	tory Data	'/							
Data	Weather	Sea Condition	Sampling	Depth (\	E-coli (cfu/100r	nl)	Ammonia-N	itrogen (mg-N/L)	Total Inorgan	nic Nitrogen	Suspended 5	Solids (mg/L)	Biochemical Ox	ygen Demand	Chlorophyl	II-a (mg/L)
Date	weather	Sea Condition	Time	Depth (m)	Value	DA	Value	DA	Value	DA	Value	DA	Value	DA	Value	DA
				Surface	1.0	47		0.014		0.086		2.4		2		0.006	
11-May-16	Cloudy	Moderate	16:30	Middle	7.6	76	42	0.020	0.030	0.095	0.091	2.2	2.9	2	1.3	0.007	0.005
				Bottom	14.1	2		0.056		0.091		4.1		<1		0.003	
				Surface	1.0	2		< 0.005		0.062		5.6		2		0.008	
12-May-16	Cloudy	Moderate	17:20	Middle	7.7	20	7	< 0.005	0.014	0.060	0.067	5.1	6.2	2	1.7	0.010	0.008
				Bottom	14.3	NOT DETECTED		0.043		0.079		7.8		1		0.006	
				Surface	1.0	NOT DETECTED		< 0.005		0.033		3.6		2		0.012	
13-May-16	Cloudy	Moderate	18:10	Middle	7.5	NOT DETECTED	0	< 0.005	0.024	0.019	0.059	4.2	3.7	2	1.3	0.010	0.009
				Bottom	13.9	NOT DETECTED		0.072		0.124		3.3		<1		0.004	
				Surface	1.0	NOT DETECTED		0.022		0.046		3.8		<1		0.002	
14-May-16	Cloudy	Rough	19:40	Middle	7.3	NOT DETECTED	0	< 0.005	0.007	0.015	0.024	3.6	3.1	<1	0.0	0.003	0.003
				Bottom	13.6	NOT DETECTED		< 0.005		0.011		2.0		<1		0.003	
				Surface	1.0	NOT DETECTED		< 0.005		0.020		16.5		2		0.025	
15-May-16	Sunny	Moderate	8:10	Middle	7.4	2	1	< 0.005	0.009	<0.005	0.029	5.3	10.1	2	1.3	0.027	0.018
				Bottom	13.7	NOT DETECTED		0.028		0.067		8.6		<1		0.002	
				Surface	1.0	NOT DETECTED		< 0.005		0.013		1.3		1		0.004	
16-May-16	Sunny	Moderate	9:30	Middle	7.5	NOT DETECTED	0	< 0.005	0.000	<0.005	0.012	1.3	1.3	1	0.7	0.005	0.004
				Bottom	14.0	NOT DETECTED		< 0.005		0.023		1.2		<1		0.002	
				Surface	1.0	NOT DETECTED		< 0.005		< 0.005]	3.8		<1		0.002	
17-May-16	Cloudy	Rough	10:20	Middle	7.4	NOT DETECTED	0	0.018	0.012	0.030	0.021	2.9	3.6	<1	0.0	0.002	0.002
				Bottom	13.7	NOT DETECTED		0.017		0.033		4.0		<1		0.002	

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Report No.: 0151/15/ED/0704

Water Quality Monitoring Results at C12 - Mid-flood Tide (In-situ Data)

						Temperature(°C)	(•			Salinity (ppt)		DO Cotu	ration (%)	Dissol	ved Oxygen (m	~/I\	т.	urbidity(NTU)			
Date	Weather Condition	Sea Condition	Sampling Time	Depth (i	m)					pH				1					1			
	Condition	Condition	Time			Value	Average	DA	Value	Average	DA	Value	Average	DA	Value	Average	Value	Average	DA	Value	Average	DA
				Surface	1.0	26.0	26.0		8.4	8.4		23.2	23.2		98.0	98.0	7.0	7.0		4.3	4.3	
				Oundoo	1.0	26.0	20.0		8.4	0.4		23.2	20.2		98.0	00.0	7.0	7.0	6.2	4.3	1.5	
11-May-16	Cloudy	Moderate	9:40	Middle	7.5	23.7	23.7	24.2	8.3	8.3	8.3	30.1	30.1	28.1	75.5	75.5	5.4	5.4	0.2	0.8	0.8	1.9
11-iviay-10	Cloudy	Woderate	3.40	ivildale	7.5	23.7	25.7	24.2	8.3	0.5	0.5	30.1	30.1	20.1	75.5	75.5	5.4	5.4		0.8	0.0	1.7
				Bottom	14.	22.8	22.8		8.3	8.3		30.9	30.9		65.4	65.4	4.7	4.7	4.7	0.6	0.7	
				BOLLOITI	0	22.8	22.0		8.3	0.3		30.9	30.9		65.4	05.4	4.7	4.7	4.7	0.7	0.7	
				Surface	1.0	25.4	25.0		8.3	8.3		28.1	28.1		98.5	98.5	7.1	7.1		2.3	2.3	
				Suriace	1.0	24.5	25.0		8.3	0.3		28.1	26.1		98.5	98.5	7.1	7.1	5.8	2.3	2.3	
40 May 40	Olevertee	Madanata	40:40	Middle	7.0	23.0	00.0	00.0	8.4	0.4	0.0	30.3	00.0	00.0	63.1	00.4	4.5	4.5	5.8	1.2	1.2	1.0
12-May-16	Cloudy	Moderate	10:10	ivildale	7.6	23.0	23.0	23.2	8.4	8.4	8.3	30.3	30.3	30.0	63.1	63.1	4.5	4.5		1.3	1.3	1.8
				Dettern	14.	21.5	24.5		8.3	0.2		31.6	24.0		43.2	43.2	3.3	3.3	3.3	1.8	1.8	
				Bottom	1	21.5	21.5		8.3	8.3		31.6	31.6		43.2	43.2	3.3	3.3	3.3	1.8	1.8	
				0	1.0	25.9	25.9		8.2	8.2		27.2	27.2		107.9	107.9	8.5	8.5		1.2	1.0	
				Surface	1.0	25.9	25.9		8.2	0.2		27.2	21.2		107.9	107.9	8.5	8.5	0.7	1.2	1.2	
40 May 40	Olevertee	Madanata	40:45	N 40 all all a	7.5	22.9	00.0	00.7	8.4	0.4	0.0	30.5	00.5	00.0	68.0	00.0	4.8	4.0	6.7	0.8	0.0	1
13-May-16	Cloudy	Moderate	10:45	Middle	7.5	22.9	22.9	23.7	8.4	8.4	8.3	30.5	30.5	30.0	68.0	68.0	4.8	4.8		0.7	0.8	1.1
				Detter	13.	22.3	00.0		8.3	0.0	1	32.3	00.0	1	58.6	50.0	4.2	4.0	4.0	1.2	1.2	
				Bottom	9	22.3	22.3		8.3	8.3		32.3	32.3		58.6	58.6	4.2	4.2	4.2	1.2	1.2	

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Report No.: 0151/15/ED/0704

Date	Weather	Sea	Sampling Time	Depth (·m)	Te	emperature(oC	()		pН			Salinity (ppt)		DO Sat	uration (%)	Dissol	ved Oxygen (m	g/L)	Т	urbidity(NTU)
Date	Condition	Condition	Sampling Time	Depth (III)	Value	Average	DA	Value	Average	DA	Value	Average	DA	Value	Average	Value	Average	DA	Value	Average	DA
				0.0	1.0	26.1	26.1		8.7	0.7		29.8	20.0		118.0	110.0	8.1	0.1		1.0	1.0	
				Surface	1.0	26.1	26.1		8.7	8.7		29.8	29.8		118.0	118.0	8.1	8.1	7.5	1.0	1.0	
14-May-16	Cloudy	Rough	12:05	Middle	7.4	25.2	25.2	25.4	8.4	8.4	8.5	28.7	28.7	29.3	98.2	98.2	6.9	6.9	1.5	0.8	0.8	0.8
14-Way-10	Cloudy	Kougii	12.03	Middle	7.4	25.2	23.2	23.4	8.4	0.4	0.5	28.7	20.7	29.3	98.2	90.2	6.9	0.9		0.8	0.0	0.0
				Bottom	13.8	25.0	25.0		8.4	8.4		29.3	29.3		90.3	90.3	6.3	6.3	6.3	0.6	0.7]
				Bottom	13.8	25.0	23.0		8.4	8.4		29.3	29.3		90.3	90.3	6.3	0.3	0.3	0.7	0.7	
				Surface	1.0	25.8	25.8		8.6	8.6		27.5	27.5		119.0	119.0	8.3	8.3		9.4	9.4	
				Surface	1.0	25.8	23.8		8.6	8.0		27.5	21.3		119.0	119.0	8.3	8.3	6,5	9.4	9.4	
15-May-16	Sunny	Moderate	14:00	Middle	7.6	23.8	23.8	24.1	8.4	8.4	8.4	30.5	30.5	29.7	64.2	64.2	4.6	4.6	0.3	5.1	5.1	5.4
13-Way-16	Sunny	Moderate	14:00	Middle	7.0	23.8	23.8	24.1	8.4	8.4	8.4	30.5	30.3	29.1	64.2	04.2	4.6	4.0		5.1	5.1	3.4
				Bottom	14.2	22.8	22.8		8.3	8.3		31.2	31.2		49.3	49.3	3.6	3.6	3.6	1.6	1.6]
				Bottom	14.2	22.8	22.0		8.3	0.5		31.2	31.2		49.3	49.3	3.6	3.0	5.0	1.6	1.0	
				Surface	1.0	26.0	26.0		8.7	8.7		30.3	30.3		108.9	108.9	7.5	7.5		0.6	0.6	
				Surrace	1.0	26.0	20.0		8.7	0.7		30.3	30.3		108.9	100.9	7.5	7.5	7.3	0.6	0.0	
16-May-16	Sunny	Moderate	15:30	Middle	7.7	24.9	24.9	25.2	8.5	8.5	8.5	30.7	30.7	30.5	101.7	101.7	7.1	7.1	1.5	0.3	0.3	0.5
10-Way-10	Sumiy	Wioderate	15.50	Wildle	7.7	24.9	24.7	23.2	8.5	0.5	0.5	30.7	50.7	30.3	101.7	101.7	7.1	7.1		0.3	0.5	0.5
				Bottom	14.3	24.6	24.6		8.4	8.4		30.5	30.5		90.4	90.4	6.3	6.3	6.3	0.6	0.6	
				Dottoili	14.5	24.6	24.0		8.4	0.4		30.5	50.5		90.4	70.4	6.3	0.5	0.5	0.6	0.0	
				Surface	1.0	25.6	25.6		8.7	8.7		30.1	30.1		119.5	119.5	8.2	8.2		0.8	0.8	
				Surface	1.0	25.6	23.0		8.7	0.7		30.1	50.1		119.5	117.5	8.2	0.2	7.7	0.8	0.0] !
17-May-16	Cloudy	Rough	16:30	Middle	7.5	24.3	24.3	24.9	8.5	8.5	8.5	29.6	29.3	29.9	101.7	101.7	7.2	7.2	1.1	0.3	0.3	0.6
17-Way-10	Cloudy	Rough	10.50	Wildle	7.5	24.3	24.3	24.7	8.5	0.5	0.5	29.0	27.3	27.7	101.7	101.7	7.2	7.2		0.3	0.5	0.0
				Bottom	13.9	24.9	24.9		8.4	8.4		30.4	30.4		87.5	87.5	6.1	6.1	6.1	0.7	0.7	
				Dottoill	10.7	24.9	27.7		8.4	0.7		30.4	50.4		87.5	01.5	6.1	0.1	0.1	0.7	0.7	

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Report No.: 0151/15/ED/0704

Water Quality Monitoring Results at C12 - Mid-flood Tide (Laboratory Data)

Date	Weather	Sea Condition	Sampling	Depth (E-coli (cfu/100n		Ammonia-Nitro	•	Total In Nitro		Suspended ((mg/L)		Biochemical (Deman		Chlorophy	II-a (mg/L)
Jule	Wedther.	Sea containon	Time	Dept(,	Value	DA	Value	DA	Value	DA	Value	DA	Value	DA	Value	DA
				Surface	1.0	29		0.023		0.095		3.0		2		0.005	
11-May-16	Cloudy	Moderate	9:40	Middle	7.5	36	22	0.020	0.032	0.089	0.091	2.9	2.9	2	1.7	0.004	0.004
				Bottom	14.0	2		0.054		0.088		2.7		1		0.004	
				Surface	1.0	11		< 0.005		0.062		4.0		1		0.010	
12-May-16	Cloudy	Moderate	10:10	Middle	7.6	6	6	< 0.005	0.015	0.081	0.075	3.3	4.4	2	1.7	0.010	0.009
				Bottom	14.1	NOT DETECTED		0.046		0.082		6.0		2		0.006	
				Surface	1.6	NOT DETECTED		< 0.005		0.028		5.8		2		0.010	
13-May-16	Cloudy	Moderate	10:45	Middle	7.5	NOT DETECTED	0	< 0.005	0.024	0.032	0.057	5.2	5.2	2	1.3	0.009	0.007
				Bottom	13.9	NOT DETECTED		0.071		0.110		4.6		<1		0.003	
				Surface	1.0	NOT DETECTED		0.032		0.069		5.3		<1		0.002	
14-May-16	Cloudy	Rough	12:05	Middle	7.4	NOT DETECTED	0	0.027	0.020	0.049	0.039	4.8	4.7	<1	0.0	0.003	0.002
				Bottom	13.8	NOT DETECTED		< 0.005		< 0.005		4.1		<1		0.002	
				Surface	1.0	NOT DETECTED		< 0.005		< 0.005		5.3		<1		0.018	
15-May-16	Sunny	Moderate	14:00	Middle	7.6	NOT DETECTED	0	< 0.005	0.016	< 0.005	0.028	9.1	9.2	2	0.7	0.021	0.014
				Bottom	14.2	NOT DETECTED		0.048		0.084		13.3		<1		0.002	
				Surface	1.0	NOT DETECTED		< 0.005		< 0.005		1.2		1		0.004	
16-May-16	Sunny	Moderate	15:30	Middle	7.7	NOT DETECTED	0	< 0.005	0.000	0.010	0.013	2.1	1.7	1	1.0	0.004	0.003
				Bottom	14.3	NOT DETECTED		< 0.005		0.029		1.9		1		0.002	
				Surface	1.0	NOT DETECTED		< 0.005		< 0.005		2.4		<1		0.002	
17-May-16	Cloudy	Rough	16:30	Middle	7.5	NOT DETECTED	0	< 0.005	0.003	0.013	0.012	3.7	4.0	<1	0.0	0.001	0.002
				Bottom	13.9	NOT DETECTED		0.009		0.022		6.0		<1	1	0.002	

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Report No.: 0151/15/ED/0704

Water Quality Monitoring Results at FC2 - Mid-Ebb Tide (In-situ Data)

Trate:	Quality i		ing ites	aito at i		iviia i	<u> </u>	10 (111	Oita D	utuj												
Date	Weather	Sea	Sampling	Depth	(m)	Т	Temperature(°C	C)		pН			Salinity ppt		DO Satu	ration (%)	Disso	olved Oxygen (r	ng/L)	Tu	ırbidity(NTU)	
Date	Condition	Condition	Time	Depth	(m)	Value	Average	DA	Value	Average	DA	Value	Average	DA	Value	Average	Value	Average	DA	Value	Average	DA
				Surface	1.0	25.4	25.4		8.4	8.4		23.3	23.3		92.5	92.5	6.7	6.7		5.1	5.1	
				Surrace	1.0	25.4	23.4		8.4	0.4		23.3	23.3		92.5	92.3	6.7	0.7	6.5	5.1	5.1	
11-May-16	Cloudy	Moderate	16:30	Middle	3.6	23.1	23.1	23.6	8.4	8.4	8.4	30.4	30.4	28.0	86.6	86.6	6.2	6.2	0.3	1.4	1.4	2.8
11-Way-10	Cloudy	Wiodciate	10.50	Wilder	5.0	23.1	23.1	23.0	8.4	0.4	0.4	30.4	30.4	20.0	86.6	80.0	6.2	0.2		1.3	1.4	2.0
				Bottom	6.2	22.3	22.3		8.3	8.3		30.4	30.4		56.2	56.2	4.1	4.1	4.1	1.8	1.8	
				Dottom	0.2	22.3	22.3		8.3	0.5		30.4	50.4		56.2	30.2	4.1	7.1	7.1	1.8	1.0	
				Surface	1.0	26.4	26.4		8.5	8.5		16.4	16.4		109.6	109.6	8.1	8.1		5.0	5.1	
				Burnet	1.0	26.4	2011		8.5	0.0		16.4	1011		109.6	107.0	8.1	0.1	6.9	5.1	3.1	_
12-May-16	Cloudy	Moderate	16:15	Middle	3.6	23.7	23.7	24.2	8.4	8.4	8.4	30	30.0	25.4	78.2	78.2	5.6	5.6		4.0	4.0	3.5
-	-					23.7			8.4			30			78.2		5.6			4.0		_
				Bottom	6.2	22.5	22.5		8.2	8.2		29.9	29.9		46.1	46.1	3.1	3.1	3.1	1.4	1.4	
						22.5			8.2			29.9			46.1		3.1			1.4		—
				Surface	1.0	26.4	26.4		8.6	8.6		17.1	17.1		132.4	132.4	9.7	9.7		6.0	6.0	
						26.4			8.6			17.1			132.4		9.7		7.8	5.9		_
13-May-16	Cloudy	Moderate	17:10	Middle	3.7	24.3	24.3	24.3	8.5	8.5	8.4	29.7	29.7	26.3	81.5	81.5	5.8	5.8		4.4	4.4	5.9
						24.3			8.5			29.7			81.5		5.8			4.4		4
				Bottom	6.3	22.3	22.3		8.0	8.0		32.0 32.0	32.0		42.5 42.5	42.5	3.1	3.1	3.1	7.2 7.2	7.2	
						27.0			8.0			23.5			118.8		8.3			7.4		+
				Surface	1.0	27.0	27.0		8.5	8.5		23.5	23.5		118.8	118.8	8.3	8.3		7.4	7.4	
						24.6			8.3			29.2			93.8		6.6		7.5	5.0		-
14-May-16	Cloudy	Rough	18:20	Middle	3.7	24.6	24.6	25.2	8.3	8.3	8.4	29.2	29.2	27.4	93.8	93.8	6.6	6.6		5.0	5.0	5.8
						24.0			8.3			29.6		1	64.3		4.6			5.0		-
				Bottom	6.3	24.0	24.0		8.3	8.3		29.6	29.6		64.3	64.3	4.6	4.6	4.6	5.1	5.1	
1			l		1	27.0	1	ı	0.5	1	ı	27.0	l	l	UT.J	l	7.0	l	ı	J.1	l	1

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Report No.: 0151/15/ED/0704

Data	Weather	Sea	Consolina Time	Donath (T	emperature(°	C)		рН			Salinity ppt		DO Satur	ation (%)	Dissol	ved Oxygen (ı	mg/L)	Т	urbidity(NTL	J)
Date	Condition	Condition	Sampling Time	Depth (,m)	Value	Average	DA	Value	Average	DA	Value	Average	DA	Value	Average	Value	Average	DA	Value	Average	DA
				Surface	1.0	26.9	26.9		8.8	8.8		22.7	22.7		159.7	159.7	11.6	11.6		2.3	2.3	
				Surracc	1.0	26.9	20.9		8.8	0.0		22.7	22.1		159.7	139.7	11.6	11.0	8.2	2.3	2.3	
15-May-16	Sunny	Moderate	7:10	Middle	3.6	23.9	23.9	24.6	8.3	8.3	8.4	30.1	30.1	27.7	66.9	66.9	4.8	4.8	0.2	1.7	1.7	2.3
15 May 10	Bunny	Woderate	7.10	iviidale	5.0	23.9	23.7	21.0	8.3	0.5	0.1	30.1	50.1	27.7	66.9	00.9	4.8	1.0		1.7	1.7	2.3
				Surface	6.1	22.9	22.9		8.2	8.2		30.3	30.3		39.9	39.9	2.9	2.9	2.9	2.8	2.8	
				Darraco	0.1	22.9	2217		8.2	0.2		30.3	30.3		39.9	37.0	2.9	2.7	2.7	2.8	2.0	
				Middle	1.0	26.8	26.8		8.7	8.7		24.7	24.7		123.0	123.0	8.6	8.6		2.8	2.8	
						26.8			8.7			24.7			123.0		8.6		7.5	2.8		_
16-May-16	Sunny	Moderate	8:10	Bottom	3.6	24.6	24.6	25.1	8.5	8.5	8.5	30.2	30.2	28.4	89.1	89.1	6.3	6.3	7.5	1.6	1.6	3.1
						24.6			8.5			30.2			89.1	7,11	6.3			1.6		
				Surface	6.2	23.9	23.9		8.3	8.3		30.2	30.2		57.9	57.9	4.3	4.3	4.3	4.9	5.0	
						23.9			8.3			30.2			57.9		4.3			5.0		
				Middle	1.0	26.9	26.9		8.6	8.6		24.5	24.5		123.7	123.7	8.6	8.6		4.8	4.8	
						26.9			8.6			24.5			123.7		8.6		7.5	4.8		_
17-May-16	Cloudy	Rough	9:15	Bottom	3.7	24.6	24.6	25.0	8.2	8.2	8.3	29.0	29.0	27.7	89.0	89.0	6.3	6.3	7.5	3.5	3.6	4.0
17 1744) 10	Cloudy	rtougn	7.13	Bottom	5.7	24.6	2110	23.0	8.2	0.2	0.0	29.0	27.0	27.7	89.0	0,10	6.3	0.5		3.6	3.0	
				Surface	6.3	23.4	23.4		8.1	8.1		29.6	29.6		61.6	61.6	4.4	4.4	4.4	3.7	3.7	
				5411400	0.5	23.4	23.1		8.1	5.1		29.6	27.0		61.6	01.0	4.4			3.7	3.1	

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Report No.: 0151/15/ED/0704

Water Quality Monitoring Results at FC2 - Mid-Ebb Tide (Laboratory Data)

Date	Weather	Sea Condition	Sampling Time	Depth (m)		E-coli (cfu/100ml)		Ammonia-Nitrogen (mg-N/L)		Total Inorganic Nitrogen		Suspended Solids (mg/L)		Biochemical Oxygen Demand		Chlorophyll-a (mg/L)	
						Value	DA	Value	DA	Value	DA	Value	DA	Value	DA	Value	DA
11-May-16	Cloudy	Moderate	16:30	Surface	1.0	160	118	0.057	0.066	0.227	0.207	6.8	6.2	2	2.0	0.012	
				Middle	3.6	190		0.022		0.117		6.5		2		0.012	0.009
				Bottom	6.2	5		0.118		0.278		5.3		2		0.004	
12-May-16	Cloudy	Moderate	16:15	Surface	1.0	8	13	< 0.005	0.011	0.146	0.114	5.5	5.4	3	2.3	0.026	
				Middle	3.6	30		< 0.005		0.132		6.0		3		0.027	0.021
				Bottom	6.2	NOT DETECTED		0.032		0.064		4.7		1		0.009	
13-May-16	Cloudy	Moderate	17:10	Surface	1.0	2	3	< 0.005		0.029	0.060	6.6	5.7	4	2.7	0.025	0.020
				Middle	3.7	NOT DETECTED		< 0.005	0.033	0.016		5.2		4		0.028	
				Bottom	6.3	7		0.098		0.136		5.4		<1		0.006	
14-May-16	Cloudy	Rough	18:20	Surface	1.0	NOT DETECTED	0	< 0.005	0.018	< 0.005	0.030	19.9	12.5	4	2.3	0.033	0.022
				Middle	3.7	NOT DETECTED		0.037		0.051		13.9		2		0.021	
				Bottom	6.3	NOT DETECTED		0.016		0.038		3.7		1		0.013	
15-May-16	Sunny	Moderate	7:10	Surface	1.0	2	2	< 0.005	0.039	0.027	0.066	6.7	10.3	4	2.7	0.030	
				Middle	3.6	3		< 0.005		0.011		12.5		4		0.029	0.020
				Bottom	6.1	1		0.118		0.159		11.7		<1		0.002	
16-May-16	Sunny	Moderate	8:10	Surface	1.0	1	1	< 0.005	0.000	0.014	0.017	3.9	3.5	2	2.0	0.010	
				Middle	3.6	1		< 0.005		0.013		3.5		2		0.011	0.009
				Bottom	6.2	NOT DETECTED		< 0.005		0.025		3.0		2		0.005	
17-May-16	Cloudy	Rough	9:15	Surface	1.0	3	5	< 0.005	0.000	<0.005	0.005	6.7	6.2	2	2.0	0.016	
				Middle	3.7	8		< 0.005		<0.005		5.9		2		0.017	0.013
				Bottom	6.3	4		< 0.005		0.014		6.0		2		0.007	

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Report No.: 0151/15/ED/0704

Water Quality Monitoring Results at FC2 - Mid-flood Tide (In-situ Data)

D-4-	Weather	Sea	Sampling	Double (·\	1	Temperature(°C	<u> </u>		рН			Salinity ppt		DO Satur	ation (%)	Disso	olved Oxygen (r	ng/L)	1	Turbidity(NTU)	
Date	Condition	Condition	Time	Depth ((m)	Value	Average	DA	Value	Average	DA	Value	Average	DA	Value	Average	Value	Average	DA	Value	Average	DA
				Surface	1.0	25.2	25.2		8.3	8.3		23.1	23.1		93.9	93.9	6.8	6.8		5.3	5.3	
				Surrace	1.0	25.2	23.2		8.3	0.5		23.1	23.1		93.9	93.9	6.8	0.0	6.5	5.3	5.5	
11-May-16	Cloudy	Moderate	9:40	Middle	3.4	23.0	23.0	23.5	8.3	8.3	8.3	30.5	30,5	28.0	85.4	85.4	6.1	6.3	0.5	1.3	1.3	2.8
11-iviay-10	Cloudy	Woderate	9.40	Wilde	3.4	23.0	23.0	25.5	8.3	6.0	0.5	30.5	30.3	26.0	8.5.4	05.4	6.4	0.5		1.2	1.5	2.0
				Bottom	5.7	22.4	22.4		8.2	8.2		30.3	30.3		56.9	56.9	4.1	4.1	4.1	1.8	1.8	
				Dottom	5.7	22.4	22.4		8.2	0.2		30.3	30.3		56.9	30.9	4.1	4.1	4.1	1.8	1.0	
				Surface	1.0	26.4	26.4		8.6	8.6		16.5	16.5		110.3	110.3	8.1	8.1		5.6	5.6	
				Surrace	1.0	26.4	20.4		8.6	0.0		16.5	10.5		110.3	110.5	8.1	0.1	6.9	5.6	5.0	
12-May-16	Cloudy	Moderate	8:55	Middle	3.4	23.6	23.1	24.0	8.4	8.4	8.4	30.2	30.2	25.7	78.4	78.4	5.6	5.6	0.7	3.9	3.9	5.5
12 May 10	Cloudy	Woderate	0.55	Wilde	5.1	22.6	23.1	21.0	8.4	0.1	0.1	30.2	30.2	23.7	78.4	70.1	5.6	5.0		3.9	5.7	3.5
				Bottom	5.7	22.6	22.6		8.2	8.2		30.4	30.4		47.9	47.9	3.5	3,5	3.5	7.0	7.0	
				Bottom	3.7	22.6	2210		8.2	0.2		30.4	3011		47.9		3.5	5.5	J.J	6.9	7.0	
				Surface	1.0	26.3	26.3		8.7	8.7		17.0	17.0		134.5	134.5	9.8	9.8		8.7	8.7	
						26.3			8.7			17.0			134.5		9.8		7.8	8.7		
13-May-16	Cloudy	Moderate	9:45	Middle	3.3	24.0	24.0	24.1	8.5	8.5	8.5	30.0	30.0	26.1	79.7	79.7	5.7	5.7		0.8	0.8	5.9
						24.0			8.5			30.0			79.7		5.7			0.8		4
				Bottom	5.5	21.9	21.9		8.3	8.3		31.2	31.2		42.3	42.3	31	3.1	3.1	8.1	8.1	
						21.9			8.3			31.2			42.3		3.1			8.0		
				Surface	1.0	27.0	27.0		8.5	8.5		23.8	23.8		119.9	119.9	8.4	8.4		4.2	4.2	
						27.0			8.5			23.8			119.9		8.4		7.7	4.2		
14-May-16	Cloudy	Rough	10:45	Middle	3.3	24.9	24.9	25.3	8.3	8.3	8.4	29.5	29.5	27.5	98.1	98.1	6.9	6.9		3.3	3.3	4.0
						24.9			8.3			29.5			98.1		6.9			3.2		
				Bottom	5.5	24.1	24.1		8.3	8.3		29.2	29.2		64.2	64.2	4.6	4.6	4.6	4.4	4.4	
i						24.1			8.3			29.2			64.2		4.6			4.4		1

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Room 723 & 725, 7/F, Block B,

Profit Industrial Building,

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Tel



Report No.: 0151/15/ED/0704

	Weather	Sea	Sampli			Т	emperature(°C	:)		рН			Salinity ppt		DO Satu	ration (%)	Disso	lved Oxygen (m	ng/L)	Ti	urbidity(NTU)	
Date	Conditio n	Condition	ng Time	Depth	(m)	Value	Average	DA	Value	Average	DA	Value	Average	DA	Value	Average	Value	Average	DA	Value	Average	DA
				Surface	1.0	26.7	26.7		8.7	8.7		22.9	22.9		164.9	164.9	11.6	11.6		1.6	1.6	
				Surrace	1.0	26.7	20.7		8.7	0.7		22.9	22.9		164.9	104.9	11.6	11.0	8.2	1.6	1.0	
15-May-16	Sunny	Moderate	12:45	Middle	3.3	23.9	23.9	24.4	8.2	8.2	8.3	30.3	30.3	27.8	66.5	66.5	4.7	4.7	0.2	1.5	1.5	1.8
13-1v1ay-10	Sumiy	Woderate	12.43	Wilder	5.5	23.9	23.9	24.4	8.2	0.2	0.5	30.3	30.3	27.0	66.5	00.5	4.7	4.7		1.5	1.5	1.0
				Surface	5.5	22.6	22.6		8.1	8.1		30.2	30.2		38.9	38.9	2.8	2.8	2.8	2.3	2.3	
				Surface	5.5	22.6	22.0		8.1	0.1		30.2	30.2		38.9	30.7	2.8	2.0	2.0	2.3	2.3	
				Surface	1.0	27.0	27.0		8.6	8.6		24.2	24.2		121.6	121.6	8.5	8.5		2.8	2.8	
				Surface	1.0	27.0	27.0		8.6	0.0		24.2	24.2		121.6	121.0	8.5	0.5	7.4	2.8	2.0	
16-May-16	Sunny	Moderate	14:15	Middle	3.2	24.8	24.8	25.1	8.3	8.3	8.4	29.4	29.4	27.8	89.3	89.3	6.3	6.3	7.1	1.6	1.6	3.3
10-1v1ay-10	Sumy	Woderate	14.13	winder	5.2	248	24.0	23.1	8.3	0.5	0.7	29.4	27.7	27.0	89.3	07.5	6.3	0.5		1.6	1.0	3.5
				Bottom	5.4	23.4	23.4		8.3	8.3		29.8	29.8		57.5	57.5	4.1	4.1	4.1	5.5	5.5	
				Bottom	5.1	23.4	23.1		8.3	0.5		29.8	27.0		57.5	37.3	4.1	1.1	1.1	5.5	5.5	
				Surface	1.0	27.2	27.2		8.7	8.7		24.7	24.7		120.9	120.9	8.4	8.4		6.1	6.1	
				Burnet	Surface 1.0	27.2	27.12		8.7	0.7		24.7	2		120.9	120.7	84	0	7.4	6.1	0.1	
17-May-16	Cloudy	Rough	15:15	Middle	3 3	24.6	24.6	25.2	8.2	8.2	8.4	28.9	28.9	27.5	89.0	89.0	6.3	6.3	7.1	4.3	4.3	4.8
17-Way-10	Cloudy	Rough	13.13	winder	Viiddle 3.3	24.6	24.0	23.2	8.2	0.2	0.7	28.9	20.7	21.5	89.0	07.0	6.3	0.5		4.3	7.5	7.0
				Bottom	Bottom 5.6	23.8	23.8		8.2	8.2		29.0	29.0		62.3	62.5	4.5	4,5	4.5	4.0	4.0	
				Bottom	5.0	23.8	23.0		8.2	0.2		29.0	27.0		62.6	02.3	4.5	1.3	1.5	4.0	1.0	

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Report No.: 0151/15/ED/0704

Water Quality Monitoring Results at FC2 – Mid-flood Tide (Laboratory Data)

vvalei	Quanty	/ WICHILLOI	ilig Nesu	iilo al i	<u> </u>				atory Data								
Die	West	Sea Condition	Sampling Time	D. d	<i>(</i>)	E-coli (cfu/100	ml)	Ammonia-	Nitrogen (mg-N/L)	Total 1	norganic Nitrogen	Suspe	nded Solids (mg/L)	Biocher	nical Oxygen Demand	Chlorophyll-a (mg/L)
Date	Weather	Sea Condition	Sampling Time	Depth	(m)	Value	DA	Value	DA	Value	DA	Value	DA	Value	DA	Value	DA
				Surface	1.0	120		0.049		0.208		5.7		2		0.012	
11-May-16	Cloudy	Moderate	9:40	Middle	3.4	140	90	0.059	0.066	0.226	0.229	5.7	5.5	2	2.0	0.012	0.009
				Bottom	5.7	11		0.090		0.253		5.0		2		0.004	1
				Surface	1.0	18		< 0.005		0.145		5.1		3		0.029	
12-May-16	Cloudy	Moderate	8:55	Middle	3.4	25	15	<0.005	0.012	0.138	0.116	5.2	4.1	3	2.3	0.028	0.022
				Bottom	5.7	3		0.036		0.066		2.1		1		0.009	
				Surface	1.0	1		< 0.005		0.035		5.8		4		0.024	
13-May-16	Cloudy	Moderate	9:45	Middle	3.3	NOT DETECTED	2	<0.005	0.058	0.013	0.080	9.3	7.7	3	2.3	0.031	0.020
				Bottom	5.5	6		0.175		0.193		8.0		<1		0.005	
				Surface	1.0	NOT DETECTED		<0.005		< 0.005		4.7		3		0.027	
14-May-16	Cloudy	Rough	10:45	Middle	3.3	NOT DETECTED	0	0.032	0.016	0.049	0.033	7.7	5.2	2	2.0	0.014	0.018
				Bottom	5.5	NOT DETECTED		0.015		0.049		3.1		1		0.013	
				Surface	1.0	NOT DETECTED		<0.005		<0.005		13.6		4		0.036	
15-May-16	Sunny	Moderate	12:45	Middle	3.3	NOT DETECTED	0	<0.005	0.034	0.011	0.048	13.2	10.6	5	3.0	0.026	0.021
				Bottom	5.5	1		0.102		0.132		5.0		<1		0.002	
				Surface	1.0	4		< 0.005		< 0.005		3.3		2		0.010	
16-May-16	Sunny	Moderate	14:15	Middle	3.2	1	2	<0.005	0.015	0.010	0.026	3.7	3.6	2	1.3	0.005	0.008
				Bottom	5.4	NOT DETECTED		0.045		0.068		3.7		<1		0.009	
				Surface	1.0	1		< 0.005		< 0.005		5.2		3		0.016	
17-May-16	Cloudy	Rough	15:15	Middle Bottom	3.3 5.6	9	4	<0.005	0.000	<0.005	0.005	9.4 7.6	7.4	2	2.3	0.012	0.012
				DUIIOIII	5.0	1		<0.003		0.015		7.0		Z		0.007	

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Report No.: 0151/15/ED/0704

Water Quality Monitoring Results at G1 - Mid-Ebb Tide (In-situ Data)

			<u> </u>		<u> </u>			<u> </u>														
Date	Weather	Sea	Sampling Time	Depth ((m)	Т	emperature(°C)		рН			Salinity ppt		DO Satu	ration (%)	Disso	olved Oxygen (r	mg/L)	Τι	rbidity(NTU)	
Date	Condition	Condition	Sampling Time	Бер іп ((111)	Value	Average	DA	Value	Average	DA	Value	Average	DA	Value	Average	Value	Average	DA	Value	Average	DA
				Surface	1.0	25.1	25.1		8.4	8.4		25.4	25.4		93.6	93.6	6.7	6.7		3.4	3.4	
				Surrace	1.0	25.1	23.1		8.4	0.4		25.4	23.4		93.6	95.0	6.7	0.7	6.5	3.4	5.4	
11-May-16	Cloudy	Moderate	15:00	Middle	3.6	24.1	24.1	23.8	8.4	8.4	8.4	29.3	29.3	28.5	87.3	87.3	6.2	6.2	0.5	1.1	1.1	2.4
11-Way-10	Cloudy	Woderate	15.00	Wilder	5.0	24.1	24.1	23.0	8.4	0.4	0.4	29.3	29.3	20.3	87.3	67.5	6.2	0.2		1.1	1.1	2.4
				Bottom	6.1	22.3	22.3		8.3	8.3		30.7	30.7		49.6	49.6	3.6	3.6	3.6	2.6	2.6	
				Bottom	0.1	22.3	22.3		8.3	6.0		30.7	30.7		49.6	49.0	3.6	5.0	3.0	2.6	2.0	
				Surface	1.0	25.3	25.3		8.5	8.5		16.7	16.7		112	112.0	8.4	8.4		9.3	9.3	
				Surrace	1.0	25.3	23.3		8.5	6.0		16.7	10.7		112	112.0	8.4	0.4	7.2	9.3	9.3	
12-May-16	Cloudy	Moderate	17:20	Middle	3.5	24.3	24.3	24.2	8.4	8.4	8.4	29.8	29.8	25.5	83.5	83.5	5.9	5.9	7.2	5.6	5.6	7.0
12-Way-10	Cloudy	Moderate	17.20	Middle	3.3	24.3	24.3	24.2	8.4	0.4	0.4	29.8	29.0	23.3	83.5	63.3	5.9	3.9		5.6	5.0	7.0
				Bottom	6.0	22.9	22.9		8.3	8.3		29.9	29.9		39.9	39.9	2.9	2.9	2.9	6.1	6.1	
				Bottom	0.0	22.9	22.9		8.3	6.0		29.9	29.9		39.9	39.9	2.9	2.9	2.9	6.1	0.1	
				Surface	1.0	26.6	26.6		8.8	8.8		23.9	23.9		133.1	133.10	9.30	9.30		4.0	4.0	
				Surrace	1.0	26.6	20.0		8.8	0.0		23.9	23.9		133.1	155.10	9.30	9.30	7.6	4.0	4.0	
13-May-16	Cloudy	Moderate	16:55	Middle	3.5	23.0	23.0	23.8	8.2	8.2	8.4	30.6	30.6	28.5	80.8	80.80	5.80	5.80	7.0	1.7	1.7	3.7
13=Way=10	Cloudy	Woderate	10.55	Wilder	5.5	23.0	25.0	25.0	8.2	0.2	0.4	30.6	30.0	20.3	80.8	80.80	5.80	5.80		1.7	1.7	5.7
				Bottom	5.9	21.7	21.7		8.2	8.2		31.0	31.0		41.9	41.90	3.10	3.10	3.1	5.3	5,3	
				Bottom	3.9	21.7	21.7		8.2	0.2		31.0	31.0		41.9	41.50	3.10	5.10	J.1	5.3	5.5	
				Surface	1.0	27.1	27.1		8.7	8.7		28.3	28.3		106.9	106.9	7.3	7.3		1.9	1.9	
				Surrace	1.0	27.1	27.1		8.7	0.7		28.3	20.5		106.9	100.9	7.3	7.5	7.0	1.9	1.9	
14-May-16	Cloudy	Rough	18:05	Middle	3.6	23.9	23.9	25.1	8.4	8.4	8.5	31.9	31.9	30.5	95.4	95.4	6.7	6.7	7.0	1.7	1.8	2.0
14=Way=10	Cloudy	Kougii	16.05	Wilder	5.0	23.9	23.9	23.1	8.4	0.4	0.0	31.9	31.9	30.3	95.4	93.4	6.7	0.7		1.8	1.0	2.0
				Bottom	6.2	24.3	24.3		8.3	8.3		31.4	31.4		57.2	57.2	4.0	4.0	4.0	2.2	2.2	
				Dottolli	0.2	24.3	24.3		8.3	ر.ن		31.4	J1.H		57.2	31.4	4.0	4.0	4.0	2.2	2.2	

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Report No.: 0151/15/ED/0704

	Weather	Sea	Sampling	5 11 /	,	Т	emperature(°C	:)		рН			Salinity ppt		DO Satu	ration (%)	Disso	lved Oxygen (m	ng/L)	Τι	urbidity(NTU)	
Date	Condition	Condition	Time	Depth (m)	Value	Average	DA	Value	Average	DA	Value	Average	DA	Value	Average	Value	Average	DA	Value	Average	DA
				9.6	1.0	27.0	27.0		8.8	0.0		22.8	22.0		150.2	150.2	11.7	11.7		2.1	2.1	
				Surface	1.0	27.0	27.0		8.8	8.8		22.8	22.8		150.2	150.2	11.7	11.7	8.3	2.1	2.1	
15-May-16	Sunny	Moderate	6:50	Middle	3.5	23.9	23.9	24.6	8.4	8.4	8.5	30.0	30.0	27.7	66.9	66.9	4.9	4.9	8.3	1.6	1.6	2.2
13-May-10	Sunny	Moderate	0:30	Middle	3.3	23.9	23.9	24.0	8.4	8.4	8.3	30.0	30.0	21.1	66.9	00.9	4.9	4.9		1.6	1.0	2.2
				Bottom	5.9	22.9	22.9		8.2	8.2		30.3	30.3		39.4	39.4	3.0	3.0	3.0	2.8	2.8	
				DOLLOIN	3.9	22.9	22.9		8.2	0.2		30.3	30.3		39.4	39.4	3.0	3.0	5.0	2.7	2.0	
				Surface	1.0	26.3	26.3		8.7	8.7		27.1	27.1		121.1	121.1	8.4	8.4		1.9	1.9	
				Surracc	1.0	26.3	20.5		8.7	0.7		27.1	27.1		121.1	121.1	8.4	0.4	7.4	1.9	1.9	
16-May-16	Sunny	Moderate	7:50	Middle	3.5	24.6	24.6	25.0	8.5	8.5	8.5	30.2	30.2	29.2	89.8	89.8	6.3	6.3	7.4	0.7	0.7	2.6
10-Way-10	Sumiy	Woderate	7.50	iviidale	5.5	24.6	24.0	23.0	8.5	0.0	0.5	30.2	30.2	29.2	89.8	05.0	6.3	0.5		0.7	0.7	2.0
				Bottom	5.9	24.0	24.0		8.4	8.4		30.3	30.3		65.4	65.4	4.6	4.6	4.6	5.2	5.3	
				Dottom	5.9	24.0	24.0		8.4	0.4		30.3	50.5		65.4	05.4	4.6	4.0	4.0	5.3	5.5	
				Surface	1.0	26.8	26.8		8.7	8.7		27.1	27.1		112.4	112.4	7.7	7.7		2.5	2.5	
				Surracc	1.0	26.8	20.0		8.7	0.7		27.1	27.1		112.4	112.4	7.7	7.7	7.2	2.5	2.3	
17-May-16	Cloudy	Rough	9:00	Middle	3.5	24.6	24.6	25.2	8.4	8.4	8.5	31.0	31.0	29.6	93.8	93.8	6.6	6.6	1.2	1.4	1.4	2.3
17-Way-10	Cloudy	Rough	9.00	Wilduic	2.2	24.6	24.0	23.2	8.4	0.4	0.5	31.0	51.0	29.0	93.8	93.0	6.6	0.0		1.3	1.4	2.3
				Bottom	5.9	24.3	24.3		8.3	8.3		30.7	30.7		58.2	58.2	4.1	4.1	4.1	3.0	3.0	
				DOROIII	3.7	24.3	24.3		8.3	0.0		30.7	50.7		58.2	30.2	4.1	4.1	4.1	3.0	5.0	

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Report No.: 0151/15/ED/0704

Water Quality Monitoring Results at G1 - Mid-Ebb Tide (Laboratory Data)

Date	Weather	Sea Condition	Sampling Time	Donath (s	-1	E-coli (cfu/100ml)		Ammonia-Nitr	ogen (mg-N/L)	Total Inorga	nic Nitrogen	Suspended Soli	ds (mg/L)	Biochemical Oxyge	n Demand	Chlorophyll-	a (mg/L)
Date	weather	Sea Condition	Sampling Time	Depth (n	n)	Value	DA	Value	DA	Value	DA	Value	DA	Value	DA	Value	DA
				Surface	1.0	170		0.065		0.229		5.4		2		0.011	
11-May-16	Cloudy	Moderate	15:00	Middle	3.6	350	174	0.075	0.076	0.263	0.245	5.6	5.4	1	1.7	0.010	0.010
				Bottom	6.1	3		0.089		0.244		5.1		2		0.008	
				Surface	1.0	5		< 0.005		0.137		4.4		3		0.012	
12-May-16	Cloudy	Moderate	17:20	Middle	3.5	28	12	< 0.005	0.011	0.147	0.116	6.7	5.6	2	2.0	0.025	0.015
				Bottom	6.0	2		0.032		0.065		5.7		1		0.009	
				Surface	1.0	NOT DETECTED		< 0.005		0.032		7.2		4		0.027	
13-May-16	Cloudy	Moderate	16:55	Middle	3.5	NOT DETECTED	2	< 0.005	0.058	0.016	0.085	7.0	6.8	4	3.3	0.032	0.022
				Bottom	5.9	6		0.175		0.207		6.3		2		0.007	
				Surface	1.0	NOT DETECTED		< 0.005		0.020		15.3		2		0.034	
14-May-16	Cloudy	Rough	18:05	Middle	3.6	NOT DETECTED	0	0.024	0.013	0.035	0.033	9.8	10.3	1	1.3	0.007	0.021
				Bottom	6.2	NOT DETECTED		0.016		0.043		5.7		1		0.021	
				Surface	1.0	4		< 0.005		< 0.005		19.0		4		0.040	
15-May-16	Sunny	Moderate	6:50	Middle	3.5	NOT DETECTED	1	< 0.005	0.039	<0.005	0.055	4.6	9.1	4	2.7	0.039	0.027
				Bottom	5.9	NOT DETECTED		0.116		0.164		3.7		<1		0.001	
				Surface	1.0	NOT DETECTED		< 0.005		0.096		3.0		1		0.008	
16-May-16	Sunny	Moderate	7:50	Middle	3.5	3	1	< 0.005	0.000	0.010	0.044	2.9	2.7	2	1.7	0.008	0.007
				Bottom	5.9	NOT DETECTED		< 0.005		0.026		2.3		2		0.004	
				Surface	1.0	3		< 0.005		< 0.005		5.0		3		0.012	
17-May-16	Cloudy	Rough	9:00	Middle	3.5	3	4	< 0.005	0.000	<0.005	0.004	3.4	5.3	3	2.7	0.014	0.013
				Bottom	5.9	5		<0.005		0.012		7.6		2		0.014	

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Report No.: 0151/15/ED/0704

Water Quality Monitoring Results at G1 - Mid-flood Tide (In-situ Data)

	Weather	Sea				Te	emperature(°C			рН			Salinity ppt		DO Sati	ıration (%)	Disso	lved Oxygen (m	g/L)	T	urbidity(NTU)	
Date	Condition	Condition	Sampling Time	Depth (m)	Value	Average	DA	Value	Average	DA	Value	Average	DA	Value	Average	Value	Average	DA	Value	Average	DA
				Surface	1.0	25.1	25.1		8.4	8.4		25.3	25.3		93.5	93.5	6.7	6.7		3.3	3.3	
				Surrace	1.0	25.1	23.1		8.4	8.4		25.3	23.3		93.5	93.3	6.7	0.7	6.5	3.3	3.3	
11-May-16	Cloudy	Moderate	8:15	Middle	3.2	24.0	24.0	23.8	8.4	8.4	8.4	29.5	29.5	28.5	86.6	86.6	6.2	6.2	0.5	1.1	1.1	2.3
11 May 10	Cioudy	Woderate	0.13	Wildle	3.2	24.0	21.0	23.0	8.4	0.1	0.1	29.5	25.5	20.3	86.6	00.0	6.2	0.2		1.1	1.1	2.3
				Bottom	5,3	22.3	22.3		8.3	8.3		30.8	30.8		49.1	49.1	3.6	3.6	3.6	2.5	2.5	
				Dottom	0.0	22.3	22.0		8.3	0.5		30.8	30.0		49.1	.,,,,	3.6	3.0	2.0	2.5	2.0	
				Surface	1.0	25.4	25.4		8.5	8.5		16.8	16.8		112.3	112.3	8.4	8.4		9.0	9.0	
						25.4			8.5			16.8			112.3		8.4		7.2	9.0		
12-May-16	Cloudy	Moderate	8:40	Middle	3.2	24.0	24.0	24.0	8.5	8.5	8.4	29.9	29.9	25.7	82.9	82.9	5.9	5.9		4.5	4.5	6.8
						24.0			8.5			29.9			82.9		5.9			4.5		4
				Bottom	5.4	22.5	22.5		8.3 8.3	8.3		30.4	30.4		39.5 39.5	39.5	2.9	2.9	2.9	6.9	6.9	
						22.5			8.3						137.3		9.7			6.9 3.5		-
				Surface	1.0	26.3	26.3		8.6	8.6		23.7	23.7		137.3	137.3	9.7	9.7		3.5	3.5	
						23.6			8.5			30.2			79.2		5.7		7.7	1.7		-
13-May-16	Cloudy	Moderate	9:30	Middle	3.4	23.6	23.6	23.9	8.5	8.5	8.5	30.2	30.2	28.4	79.2	79.2	5.7	5.7		1.7	1.7	3.7
						21.7			8.3			31.2			41.4		3.0			6.0		1
				Bottom	5.8	21.7	21.7		8.3	8.3		31.2	31.2		41.4	41.4	3.0	3.0	3.0	6.0	6.0	
						27.0			8.7			28.4			107.8		7.3			2.0		<u> </u>
				Surface	1.0	27.0	27.0		8.7	8.7		28.4	28.4		107.8	107.8	7.3	7.3		2.0	2.0	
	a		40.00		2.4	24.3	24.2	25.4	8.3	0.0		32.2	22.2	20.0	93.6	00.5	6.5		6.9	1.5		1
14-May-16	Cloudy	Rough	10:30	Middle	3.4	24.3	24.3	25.1	8.3	8.3	8.4	32.2	32.2	30.8	93.6	93.6	6.5	6.5		1.5	1.5	2.1
				Bottom	5.8	24.0	24.0		8.3	8.3	1	31.9	31.9		55.0	55.0	3.9	3.9	3.9	2.7	2.7	1
				DOLLOIII	3.8	24.0	24.0		8.3	8.3		31.9	31.9		55.0	33.0	3.9	3.9	3.9	2.6	2.1	

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Report No.: 0151/15/ED/0704

Date	Weather	Sea	Samplin	Depth	()	Te	mperature(°C)		рН			Salinity ppt		DO Satu	ration (%)	Disso	lved Oxygen (m	ıg/L)	Τι	urbidity(NTU)	
Date	Condition	Condition	g Time	Depth	(m)	Value	Average	DA	Value	Average	DA	Value	Average	DA	Value	Average	Value	Average	DA	Value	Average	DA
				Surface	1.0	27.4	27.4		8.9	8.9		23.3	23.3		151.5	151.5	10.5	10.5		2.3	2.3	
				Surracc	1.0	27.4	27.4		8.9	0.9		23.3	23.3		151.5	151.5	10.5	10.5	7.6	2.3	2.3	
15-May-16	Sunny	Moderate	12:30	Middle	3.4	24.4	24.4	25.0	8.5	8.5	8.5	30.4	30.4	27.9	66.2	66.2	4.7	4.7	7.0	2.1	2.2	2.6
15-iviay-10	Sumy	Woderate	12.50	Wildie	5.4	24.4	24.4	25.0	8.5	0.5	0.5	30.4	50.4	21.7	66.2	00.2	4.7	7.7		2.3	2.2	2.0
				Bottom	5.8	23.2	23.2		8.1	8.1		29.9	29.9		38.4	38.4	2.8	2.8	2.8	3.3	3.3	
				Dottom	5.0	23.2	23.2		8.1	0.1		29.9	27.7		38.4	30.4	2.8	2.0	2.0	3.3	5.5	
				Surface	1.0	26.5	26.5		8.8	8.8		27.0	27.0		117.0	117.0	8.1	8.1		1.5	1.5	
				Surrace	1.0	26.5	20.3		8.8	0.0		27.0	27.0		117.0	117.0	8.1	0.1	7.3	1.5	1.5	
16-May-16	Sunny	Moderate	14:00	Middle	3.5	24.5	24.5	25.1	8.4	8.4	8.5	30.5	30,5	29.4	92.5	92.5	6.5	6.5	7.5	0.6	0.6	2.3
10 14149 10	Sumy	Woderate	11.00	Wildle	5.5	24.5	21.3	23.1	8.4	0.1	0.5	30.5	30.3	27.1	92.5	72.3	6.5	0.5		0.6	0.0	2.5
				Bottom	6.0	24.2	24.2		8.3	8.3		30.8	30.8		64.9	64.9	4.6	4.6	4.6	4.8	4.8	
				Bottom	0.0	24.2	21.2		8.3	0.5		30.8	50.0		64.9	01.5	4.6	1.0	1.0	4.8	1.0	
				Surface	1.00	26.9	26.9		8.7	8.7		27.6	27.6		110.7	110.7	7.6	7.6		2.3	2.3	
				Burrace	1.00	26.9	20.7		8.7	0.7		27.6	27.0		110.7	110.7	7.6	7.0	7.1	2.3	2.3	
17-May-16	Cloudy	Rough	15:00	Middle	3.50	24.4	24.4	25.2	8.4	8.4	8.5	31.7	31.7	30.0	94.4	94.4	6.6	6.6	7.1	1.3	1.3	1.8
17-1v1ay-10	Cioudy	Kougii	15.00	Wilder	5.50	24.4	24.4	23.2	8.4	0.4	0.5	31.7	31.7	50.0	94.4	24.4	6.6	0.0		1.2	1.5	1.0
				Bottom	6.00	24.2	24.2		8.3	8.3		30.7	30.7		56.7	56.7	4.0	4.0	4.0	1.8	1.8	
				Dottom	0.00	24.2	27.2		8.3	0.5		30.7	50.7		56.7	50.7	4.0	7.0	7.0	1.8	1.0	

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Report No.: 0151/15/ED/0704

Water Quality Monitoring Results at G1 - Mid-flood Tide (Laboratory Data)

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Date	Weather	Sea Condition	Sampling	Depth	(m)	E-coli (cfu/100m	l)	Ammonia-Ni	itrogen (mg-N/L)	Total Inorga	nic Nitrogen	Suspended S	Solids (mg/L)	Biochemical Deman		Chlorophy	rll-a (mg/L)
			Time		` '	Value	DA	Value	DA	Value	DA	Value	DA	Value	DA	Value	DA
				Surface	1.0	230		0.058		0.224		5.6		1		0.012	
11-May-16	Cloudy	Moderate	8:15	Middle	3.2	180	138	0.073	0.072	0.261	0.245	5.7	5.6	1	1.3	0.011	0.009
				Bottom	5.3	4		0.086		0.250		5.4		2		0.004	
				Surface	1.0	28		< 0.005		0.147		5.1		3		0.026	
12-May-16	Cloudy	Moderate	8:40	Middle	0.3	13	14	< 0.005	0.011	0.135	0.113	5.5	4.3	3	2.3	0.028	0.021
				Bottom	5.4	1		0.032		0.058		2.2		1		0.009	
				Surface	1.0	NOT DETECTED		< 0.005		0.031		6.2		4		0.028	
13-May-16	Cloudy	Moderate	9:30	Middle	3.4	NOT DETECTED	3	< 0.005	0.057	< 0.005	0.074	5.7	6.3	4	2.7	0.026	0.020
				Bottom	5.8	10		0.172		0.191		6.9		<1		0.005	
				Surface	1.0	NOT DETECTED		0.012		0.034		10.0		3		0.038	
14-May-16	Cloudy	Rough	10:30	Middle	3.4	NOT DETECTED	0	0.011	0.024	0.011	0.044	8.4	8.0	3	2.3	0.011	0.024
				Bottom	5.8	NOT DETECTED		0.048		0.086		5.6		1		0.024	
				Surface	1.0	NOT DETECTED		< 0.005		< 0.005		16.7		5		0.027	
15-May-16	Sunny	Moderate	12:30	Middle	3.4	NOT DETECTED	0	< 0.005	0.039	< 0.005	0.050	16.2	12.8	5	3.3	0.035	0.022
				Bottom	5.8	1		0.118		0.150		5.5		<1		0.004	
				Surface	1.0	NOT DETECTED		< 0.005		0.010		3.0		1		0.010	
16-May-16	Sunny	Moderate	14:00	Middle	3.5	2	1	< 0.005	0.013	< 0.005	0.025	4.0	3.7	1	1.3	0.010	0.007
				Bottom	6.0	NOT DETECTED		0.039		0.065		4.1		2		0.001	
				Surface	1.0	1		< 0.005		< 0.005		3.9		3		0.019	
17-May-16	Cloudy	Rough	15:00	Middle	3.5	3	5	< 0.005	0.004	0.013	0.008	3.5	5.3	3	3.0	0.016	0.016
				Bottom	6.0	10		0.012		0.012		8.6		3		0.012	

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Report No.: 0151/15/ED/0704

#### Water Quality Monitoring Results at W1 - Mid-Ebb Tide (In-situ Data)

D-4-	Weather	Sea	Sampling	Depth (n	\	Te	mperature(°C	)		рН			Salinity ppt		DO Satu	ıration (%)	Disso	lved Oxygen (r	ng/L)	Τι	rbidity(NTU)	
Date	Condition	Condition	Time	Deptii (ii	11)	Value	Average	DA	Value	Average	DA	Value	Average	DA	Value	Average	Value	Average	DA	Value	Average	DA
	<i>a</i>			Surface	1.0	24.8 24.8	24.8	22.5	8.4 8.4	8.4		23.3	23.3	260	94.0 94.0	94.0	6.8	6.8	6.8	5.2	5.2	
11-May-16	Cloudy	Moderate	14:45	Bottom	2.9	22.5 22.5	22.5	23.7	8.3 8.3	8.3	8.4	30.5 30.5	30.5	26.9	44.8 44.8	44.8	3.3 3.3	3.3	3.3	5.9 5.8	5.9	5.5
				Surface	1.0	25.7 25.7	25.7		8.5 8.5	8.5		18.6 18.6	18.6		107.7 107.7	107.7	7.9 7.9	7.9	7.9	9.1 9.0	9.1	
12-May-16	Cloudy	Moderate	15:40	Bottom	3.2	22.7 22.7	22.7	24.2	8.3 8.3	8.3	8.4	30.0 30.0	30.0	24.3	48.8 48.8	48.8	3.5 3.5	3.5	3.5	4.2	4.2	6.6
				Surface	1.0	26.0 26.0	26.0		8.6 8.6	8.6		17.6 17.6	17.6		134.3 134.3	134.3	9.9	9.9	9.9	8.2 8.1	8.2	
13-May-16	Cloudy	Moderate	16:40	Bottom	3.2	23.1 23.1	23.1	24.6	8.3 8.3	8.3	8.5	30.0 30.0	30.0	23.8	49.2 49.2	49.2	3.5 3.5	3.5	3.5	5.9 5.9	5.9	7.0
1434 16	a. i	D 1	10.05	Surface	1.0	28.4 28.4	28.4	26.2	8.6 8.6	8.6	8.5	21.9 21.9	21.9	26.2	131.8 131.8	131.8	9.1 9.1	9.1	9.1	3.6 3.6	3.6	2.8
14-May-16	Cloudy	Rough	18:05	Bottom	3.2	23.9 23.9	23.9	20.2	8.3 8.3	8.3	8.5	30.4 30.4	30.4	20.2	50.6 50.6	50.6	3.6 3.6	3.6	3.6	2.1	2.1	2.8
15-May-16	Sunny	Moderate	6:35	Surface	1.0	25.9 25.9	25.9	24.9	8.7 8.7	8.7	8.5	23.1 23.1	23.1	26.4	134.8 134.8	134.8	9.7 9.7	9.7	9.7	23.0 23.2	23.1	14.
13-May-10	Sunny	Woderate	0:33	Bottom	3.2	23.9 23.9	23.9	24.9	8.3 8.3	8.3	8.3	29.7 29.7	29.7	20.4	43.1 43.1	43.1	3.1 3.1	3.1	3.1	5.6 5.6	5.6	4
16-May-16	Sunny	Moderate	7:35	Surface	1.0	28.2 28.2	28.2	25.9	8.8 8.8	8.8	8.5	20.2	20.2	25.2	135.6 135.6	135.6	9.5 9.5	9.5	9.5	21.1	21.1	11.
10-iviay-10	Suility	Moderate	1.33	Bottom	3.0	23.6 23.6	23.6	43.7	8.2 8.2	8.2	0.0	30.1 30.1	30.1	43.4	46.3 46.3	46.3	3.4 3.4	3.4	3.4	1.6 1.6	1.6	4
17-May-16	Cloudy	Rough	8:45	Surface	1.0	28.5 28.5	28.5	26.0	8.6 8.6	8.6	8.5	21.0 21.0	21.0	25.9	126.4 126.4	126.4	8.7 8.7	8.7	8.7	8.6 8.6	8.6	8.5
17-iviay-10	Cloudy	Kougii	0.43	Bottom	3.1	23.5 23.5	23.5	20.0	8.3 8.3	8.3	C.0	30.7 30.7	30.7	43.7	48.4 48.4	48.4	3.5 3.5	3.5	3.5	8.3 8.3	8.3	د.ه

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Report No.: 0151/15/ED/0704

Water Quality Monitoring Results at W1 - Mid-Ebb Tide (Laboratory Data)

		6 6 10		5 4 ( )		E-coli (cfu/100	ml)	Ammonia-Nitro	gen (mg-N/L)	Total Inorgan	ic Nitrogen	Suspended Sc	lids (mg/L)	Biochemical Oxy	gen Demand	Chlorophyll	I-a (mg/L)
Date	Weather	Sea Condition	Sampling Time	Depth (m)		Value	DA	Value	DA	Value	DA	Value	DA	Value	DA	Value	DA
11.14. 16	CI. I	Malan	14.45	Surface	1.0	140	02	<0.005	0.000	0.287	0.100	4.3	4.0	2	2.0	0.006	0.007
11-May-16	Cloudy	Moderate	14:45	Bottom	2.9	46	93	0.057	0.029	0.077	0.182	4.0	4.2	2	2.0	0.007	0.007
10.14	GI I	M. I	15.40	Surface	1.0	1	,	<0.005	0.000	0.024	0.000	7.3	6.77	4	0.5	0.039	0.001
12-May-16	Cloudy	Moderate	15:40	Bottom		NOT DETECTED	1	<0.005	0.000	0.022	0.023	6.0	6.7	1	2.5	0.003	0.021
12.14. 16	Cl. 1	Malan	16.40	Surface	1.0	1	,	<0.005	0.000	0.029	0.022	3.9	4.0	4	5.0	0.017	0.012
13-May-16	Cloudy	Moderate	16:40	Bottom	3.2	1	1	<0.005	0.000	0.015	0.022	5.7	4.8	6	5.0	0.006	0.012
1434 16	GI I	D 1	10.05	Surface	1.0	NOT DETECTED	,	<0.005	0.000	0.048	0.040	3.9	2.2	5	1.5	0.017	0.012
14-May-16	Cloudy	Rough	18:05	Bottom	3.2	2	1	<0.005	0.000	0.032	0.040	2.5	3.2	4	4.5	0.008	0.013
15.16	0	Malan	6.25	Surface	1.0	55	28	<0.005	0.000	0.036	0.038	3.3	3.3	5	2.0	0.027	0.017
15-May-16	Sunny	Moderate	6:35	Bottom	3.2	1	28	<0.005	0.000	0.039	0.038	3.2	3.3	1	3.0	0.006	0.017
16.16	C	Malan	7.25	Surface	1.0	NOT DETECTED	,	<0.005	0.000	0.020	0.010	4.4	4.7	2	1.0	0.013	0.008
16-May-16	Sunny	Moderate	7:35	Bottom	3.0	1	1	<0.005	0.000	0.017	0.019	4.9	4.7	<1	1.0	0.003	0.008
17 May 16	Claude	Dl-	0.45	Surface	Surface 1.0	8	5	0.016	0.008	0.016	0.023	2.6	2.5	2	2.0	0.007	0.008
17-May-16	Cloudy	Rough	8:45	Bottom		1	5	<0.005	0.008	0.030	0.023	2.4	2.5	2	2.0	0.008	0.008

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Report No.: 0151/15/ED/0704

#### Water Quality Monitoring Results at W1 - Mid-flood Tide (In-situ Data)

Date	Weather	Sea	Sampling Time	Depth (r	\	Te	mperature(°C	)		рН			Salinity ppt		DO Satu	ration (%)	Dissol	ved Oxygen (n	ng/L)	Ti	urbidity(NTU)	
Date	Condition	Condition	Sampling Time	Depth (r	n)	Value	Average	DA	Value	Average	DA	Value	Average	DA	Value	Average	Value	Average	DA	Value	Average	DA
11-May-16	Cloudy	Moderate	0:00	Surface	1.0	24.8 24.8	24.8	23.6	8.3 8.3	8.3	8.3	23.4	23.4	27.0	93.2 93.2	93.2	8.9 8.9	8.9	8.9	5.0	5.0	5.5
11-iviay-10	Cloudy	iviouerate	0.00	Bottom	2.4	22.4 22.4	22.4	23.0	8.3 8.3	8.3	0.5	30.5 30.5	30.5	21.0	45.4 45.4	45.4	7.7	7.7	7.7	6.0	6.1	3.3
12-May-16	Cloudy	Moderate	8:40	Surface	1.0	25.8 25.8	25.8	24.4	8.6 8.6	8.6	8.5	18.2 18.2	18.2	24.2	111.4 111.4	111.4	8.2 8.2	8.2	8.2	9.7 9.7	9.7	7.3
12-May-10	Cloudy	iviouerate	6.40	Bottom	2.6	22.9 22.9	22.9	24.4	8.3 8.3	8.3	0.5	30.2 30.2	30.2	24.2	48.7 48.7	48.7	3.5 3.5	3.5	3.5	4.8	4.9	1.5
13-May-16	Cloudy	Moderate	9:30	Surface	1.0	26.1 26.1	26.1	24.6	8.7 8.7	8.7	8.5	17.7 17.7	17.7	23.9	133.9 133.9	133.9	9.8 9.8	9.8	9.8	10.2 10.2	10.2	9.6
13-Way-10	Cloudy	Moderate	9.30	Bottom	2.9	23 23	23.0	24.0	8.3 8.3	8.3	0.5	30.1 30.1	30.1	23.9	49.6 49.6	49.6	3.6	3.6	3.6	8.9 9.0	9.0	9.0
14-May-16	Cloudy	Rough	10:15	Surface	1.0	28.2 28.2	28.2	25.8	8.6 8.6	8.6	8.5	21.6 21.6	21.6	26.0	127.6 127.6	127.6	8.8 8.8	8.8	8.8	2.1	2.1	1.7
14-Way-10	Cloudy	Rough	10.15	Bottom	3.1	23.3 23.3	23.3	23.0	8.3 8.3	8.3	0.0	30.3 30.3	30.3	20.0	50.3 50.3	50.3	3.6 3.6	3.6	3.6	1.3 1.3	1.3	1.7
15-May-16	Sunny	Moderate	12:10	Surface	1.0	26.1 26.1	26.1	24.9	8.6 8.6	8.6	8.5	22.8 22.8	22.8	26.0	138.6 138.6	138.6	9.9 9.9	9.9	9.9	24.8 24.8	24.8	14.6
13-Way-10	Junity	ivioderate	12.10	Bottom	3.1	23.7 23.7	23.7	24.7	8.3 8.3	8.3	0.5	29.2 29.2	29.2	20.0	42.8 42.8	42.8	3.1	3.1	3.1	4.4 4.4	4.4	14.0
16-May-16	Sunny	Moderate	13:45	Surface	1.0	28.7 28.7	28.7	26.3	8.8	8.8	8.6	21.7	21.7	26.0	131.3	131.3	9.0	9.0	9.0	29.6 29.7	29.7	15.6
10-1/1ay-10	Sumiy	iviouciaic	13.43	Bottom	3.0	23.8 23.8	23.8	20.3	8.3 8.3	8.3	0.0	30.2 30.2	30.2	20.0	46.4 46.4	46.4	3.3 3.3	3.3	3.3	1.5 1.6	1.6	15.0
17-May-16	Cloudy	Rough	14:45	Surface	1.0	28.8 28.8	28.8	26.2	8.7 8.7	8.7	8.5	21.3 21.3	21.3	25.9	131.5 131.5	131.5	9.0 9.0	9.0	9.0	3.5 3.5	3.5	2.6
17-1VIQY-10	Cloudy	Rougii	CF.F1	Bottom	2.9	23.6 23.6	23.6	20.2	8.2 8.2	8.2	0.5	30.4 30.4	30.4	23.7	49.9 49.9	49.9	3.6	3.6	3.6	1.7	1.7	2.0

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Report No.: 0151/15/ED/0704

Water Quality Monitoring Results at W1 - Mid-flood Tide (Laboratory Data)

		,				E-coli (cfu/100ml)		Ammonia-Nitrogen (mg-N/L)		Total Inorganic Nitrogen		Suspended Solids (mg/L)		Biochemical Oxygen Demand		Chlorophyll-a (mg/L)	
Date	Weather	Sea Condition	Sampling Time	Depth (m	1)	Value	DA	Value	DA	A Value DA Va		Value	DA	Value	DA	Value	DA
11.34 16	CI I	M. 1	0.00	Surface	1.0	160	00	0.110	0.070	0.334	0.102	4.1	3.4	2	1.5	0.011	0.000
11-May-16	Cloudy	Moderate	0:00	Bottom	2.4	20	90	0.030	0.070	0.051	0.193	2.6	1	1.5	0.006	0.009	
12-May-16	Cloudy	Moderate	8:40	Surface	1.0	100	64	0.008	0.058	0.135	0.142	4.1	4.9	3	2.0	0.025	0.014
12-May-10	Cloudy	Moderate	8:40	Bottom	2.6	27	04	0.108	0.038	0.149	0.142	5.6	4.9	1	2.0	0.003	0.014
13-May-16	Cloudy	Moderate	9:30	Surface	1.0	6	11	< 0.005	0.070	0.067	0.114	7.9	13.6	3	2.0	0.028	0.016
13-May-10	Cloudy	ivioderate	9.30	Bottom	2.9	15	11	0.139	0.070	0.161		19.2	13.0	1	2.0	0.004	0.010
14-May-16	Cloudy	Rough	10:15	Surface	1.0	18	13	0.034	0.032	0.156	0.113	16.3	14.9	4	5.0	0.031	0.030
14=Way=10	Cloudy	Rough	10.15	Bottom	3.1	8	15	0.030	0.032	0.070	0.113	13.4		6	5.0	0.028	0.000
15-May-16	Sunny	Moderate	12:10	Surface	1.0	22	22	0.019	0.056	0.058	0.098	7.7	8.1	3	1.5	0.030	0.028
13-Way-10	Sumy	Wioderate	12.10	Bottom	3.1	21	22	0.093	0.050	0.138	0.078	8.5	0.1	<1		0.025	0.026
16-May-16	Sunny	Moderate	13:45	Surface	1.0	19	10	< 0.005	0.048	0.058	0.096	5.1	4.0	4	2.0	0.029	0.029
10-May-10	Sullily	ivioderate	13.43	Bottom	3.0	1	10	0.096	0.046	0.133	0.090	2.9	4.0	<1	2.0	0.028	0.029
17-May-16	Cloudy	Rough	14:45	Surface	1.0	73	60	0.043	0.028	0.043	0.036	5.6	7.3	2	2.0	0.023	0.015
17-1v1ay-10	Cioudy	Nough	17.73	Bottom	2.9	46	00	0.013	0.028	0.028	0.036	9.0		2		0.006	

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Report No.: 0151/15/ED/0704

Water Quality Monitoring Results at W2 - Mid-Ebb Tide (In-situ Data)

	Weather	Sea	Sampling			Т	emperature(°0	C)		рН			Salinity ppt		DO Satu	ıration (%)	Disso	lved Oxygen (m	g/L)	-	Γurbidity(NTU)	
Date	Condition	Condition	Time	Depth (n	n)	Value	Average	DA	Value	Average	DA	Value	Averag e	DA	Value	Average	Value	Average	DA	Value	Average	DA
11-May-16	Cloudy	Moderate	17:40	Surface	1.0	25.7 25.7	25.7	24.0	8.4 8.4	8.4	8.4	25.4 25.4	25.4	28.2	96.0 96.0	96.0	6.8	6.8	6.8	3.6 3.6	3.6	2.7
11-May-16	Cloudy	Moderate	17:40	Bottom	4.2	4.2 22.2 22.2 8.3 8.3	30.9 30.9	30.9	28.2	61.9 61.9	61.9	4.5 4.5	4.5	4.5	1.8 1.7	1.8	2.7					
10.14	Cl. 1	Malanta	18:15	Surface	1.0	25.2 25.2	25.2	24.4	8.4 8.4	8.4	8.4	16.0 16.0	16.0	23.4	110.2 110.2	110.2	8.3 8.3	8.3	8.3	8.7 8.6	8.7	7.0
12-May-16	Cloudy	Moderate	18:15	Bottom	4.0	23.5 23.5	23.5	24.4	8.3 8.3	8.3	8.4	30.8 30.8	30.8	23.4	72.0 72.0	72.0	5.1 5.1	5.1	5.1	5.4 5.4	5.4	7.0
13-May-16	Cloudy	Moderate	19:05	Surface	1.0	26.7 26.7	26.7	25.0	8.6 8.6	8.6	8.5	24.0 24.0	24.0	27.1	139.8 139.8	139.8	9.8 9.8	9.8	9.8	4.0 4.1	4.1	5.1
13-May-16	Cloudy	Moderate	19:03	Bottom	4.1	23.2 23.2	23.2	23.0	8.4 8.4	8.4	8.3	30.1 30.1 30.1	27.1	47.3 47.3	47.3	3.4	3.4	3.4	6.2 6.2	6.2	3.1	
14-May-16	Cloudy	Rough	20:30	Surface	1.0	28.4 28.4	28.4	25.4	8.5 8.5	8.5	8.3	22.8 22.8	22.8	27.2	134.9 134.9	134.9	9.2 9.2	9.2	9.2	2.0	2.0	2.2
14-May-10	Cloudy	Kougii	20.30	Bottom	4.0	22.3 22.3	22.3	23.4	8.1 8.1	8.1	0.3	31.5 31.5	31.5	21.2	38.4 38.4	38.4	2.8	2.8	2.8	2.3	2.3	2.2
15-May-16	Sunnv	Moderate	9:05	Surface	1.0	25.9 25.9	25.9	24.7	8.6 8.6	8.6	8.5	23.3 23.3	23.3	26.6	125.7 125.7	125.7	9.0 9.0	9.0	9.0	1.8 1.8	1.8	3.9
13-May-10	Sumy	Moderate	9.03	Bottom	4.0	23.5 23.5	23.5	24.7	8.3 8.3	8.3	0.5	29.9 29.9	29.9	20.0	46.8 46.8	46.8	3.3 3.3	3.3	3.3	6.0 5.9	6.0	3.9
16-May-16	Sunnv	Moderate	10:30	Surface	1.0	27.4 27.4	27.4	25.3	8.8 8.8	8.8	8.5	22.0 22.0	22.0	26.1	137.7 137.7	137.7	9.6 9.6	9.6	9.6	2.1	2.1	2.4
10-May-10	Sumy	Moderate	10.30	Bottom	4.0	23.2 23.2	23.2	23.3	8.2 8.2	8.2	0.5	30.1	30.1	20.1	38.4 38.4	38.4	2.8	2.8	2.8	2.7	2.7	2.4
17-May-16	Cloudy	Rough	11:15	Surface	1.0	27.5 27.5	27.5	25.1	8.7 8.7	8.7	8.4	22.3 22.3	22.3	26.8	140.1 140.1	140.1	9.8 9.8	9.8	9.8	1.7 1.7	1.7	2.8
17-Way-10	Cloudy	Kougii	11.13	Bottom	4.1	22.6 22.6	22.6	23.1	8.1 8.1	8.1	0.4	31.3 31.3	31.3	20.0	38.8 38.8	38.8	2.8	2.8	2.8	3.8 3.8	3.8	2.0

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Report No.: 0151/15/ED/0704

Water Quality Monitoring Results at W2 - Mid-Ebb Tide (Laboratory Data)

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Data	Maathar	Con Condition	Compling Time	Docath	(m)	E-coli (cf	u/100ml)	Ammonia-	Ammonia-Nitrogen (mg-N/L)		Total Inorganic Nitrogen		Suspended Solids (mg/L)		Biochemical Oxygen Demand		ohyll-a (mg/L)
Date	Weather	Sea Condition	Sampling Time	Depth	(m)	Value	DA	Value	DA	Value	DA	Value	DA	Value	DA	Value	DA
11-May-16	Cloudy	Moderate	17:40	Surface	1.0	130	74	0.110	0.074	0.427	0.243	5.1	4.5	1	1.0	0.012	0.009
11-May-10	Cloudy	Moderate	17:40	Bottom	4.2	17	/4	0.037	0.074	0.058	0.243	3.8	4.5	1	1.0	0.006	0.009
10.14	CI. I	M. 1	10.15	Surface	1.0	140	0.5	<0.005	0.051	0.135	0.127	5.4	6.1	3	2.0	0.023	0.010
12-May-16	Cloudy	Moderate	18:15	Bottom	1.0	29	85	0.101	0.051	0.138	0.137	7.3	6.4	1	2.0	0.003	0.013
12.16	Cloudy	Malant	19:05	Surface	1.0	3	10	<0.005	0.072	0.063	0.110	11.5	12.9	3	2.0	0.027	0.016
13-May-16	Cloudy	Moderate	19:05	Bottom	4.1	17	10	0.143	0.072	0.156	0.110	14.3	12.9	1	2.0	0.004	0.016
14 May 16	Cloudy	Danah	20:30	Surface	1.0	1	2	<0.005	0.054	0.019	0.091	8.9	6.8	3	2.0	0.022	0.013
14-May-16	Cloudy	Rough	20:30	Bottom	4.0	3	2	0.107	0.054	0.162	0.091	4.6	0.8	1	2.0	0.003	0.013
15 M 16	Sunny	Moderate	9:05	Surface	1.0	74	41	0.027	0.070	0.081	0.127	5.7	10.1	2	2.0	0.028	0.017
15-May-16	Sunny	Moderate	9:03	Bottom	4.0	7	41	0.131	0.079	0.173	0.127	14.4	10.1	2	2.0	0.005	0.017
16 May 16	Sunny	Madanata	10:30	Surface	1.0	26	14	<0.005	0.066	0.067	0.116	5.1	4.2	4	2.0	0.003	0.006
16-May-16	Sunny	Moderate	10:30	Bottom	4.0	1	14	0.131	0.066	0.164	0.116	3.4	4.3	<1	2.0	0.009	0.006
17-May-16	Cloudy	Rough	11:15	Surface	1.0	3	3	<0.005	0.011	< 0.005	0.028	7.1	7.1	2	1.5	0.014	0.010
17-IVIAY-10	Cloudy	Kougn	11:13	Bottom	4.1	3	3	0.022	0.011	0.055	0.028	7.1	7.1	1	1.3	0.006	0.010

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Report No.: 0151/15/ED/0704

#### Water Quality Monitoring Results at W2 - Mid-flood Tide (In-situ Data)

Date	Weather	Sea	Sampling	Depth (r	\	Te	mperature(°C)	)		рН			Salinity ppt		DO Satu	ıration (%)	Dissol	lved Oxygen (m	ng/L)	Τι	urbidity(NTU)	
Date	Condition	Condition	Time	Deptii (i	11)	Value	Average	DA	Value	Average	DA	Value	Average	DA	Value	Average	Value	Average	DA	Value	Average	DA
				Surface	1.0	25.6	25,6		8.4	8.4		25.6	25.6		97.8	97.8	6.9	6.9	6.9	3.3	3,3	
11-May-16	Cloudy	Moderate	10:45			25.6		23.8	8.4		8.4	25.6		28.3	97.8		6.9			3.3		2.5
				Bottom	4.5	22.0	22.0		8.3 8.3	8.3		31.0	31.0		61.9	61.9	4.5 4.5	4.5	4.5	1.6	1.6	
						25.2			8.5			15.8			107.4		8.1			10.5		1
12-May-16	Cloudy	Moderate	11:00	Surface	1.0	25.2	25.2	24.4	8.5	8.5	8.5	15.8	15.8	22.9	107.4	107.4	8.1	8.1	8.1	10.6	10.6	7.8
12-May-10	Cloudy	Moderate	11:00	Bottom	4.2	23.5	23.5	24.4	8.4	8.4	8.3	30.0	30.0	22.9	69.8	69.8	5.0	5.0	5.0	5.0	5.0	7.8
						23.5			8.4			30.0			69.8		5.0			5.0		
				Surface	1.0	26.3 26.3	26.3		8.6 8.6	8.6		23.1	23.1		142.3 142.3	142.3	10.8 10.8	10.8	10.8	2.7	2.7	
13-May-16	Cloudy	Moderate	11:45	D. 44	3.9	22.9	22.9	24.6	8.3	0.2	8.5	30.2	30.2	26.7	47.2	47.2	3.4	3.4	3.4	7.1	7.1	4.9
				Bottom	3.9	22.9	22.9		8.3	8.3		30.2	30.2		47.2	47.2	3.4	3.4	3.4	7.0	7.1	
				Surface	1.0	28.6	28.6		8.6	8.6		22.5	22.5		130.5	130.5	8.9	8.9	8.9	2.5	2.5	
14-May-16	Cloudy	Rough	13:10			28.6		25.3	8.6		8.4	22.5	-	27.2	130.5		8.9			2.5		3.2
				Bottom	4.0	22	22.0		8.2 8.2	8.2		31.8 31.8	31.8		37.1 37.1	37.1	2.7	2.7	2.7	4.0 3.9	4.0	
				0.0	1.0	25.9	25.9		8.7	8.7		23.3	23.3		123.7	123.7	8.8	8.8	8.8	2.4	2.4	
15-May-16	Sunny	Moderate	15:05	Surface	1.0	25.9	23.9	24.8	8.7	0.7	8.6	23.3	25.5	26.7	123.7	123.7	8.8	8.8	0.0	2.4	2.4	4.3
13-14189-10	Junny	Wioderate	13.03	Bottom	4.0	23.7	23.7	24.0	8.5	8.5	0.0	30.1	30.1	20.7	48.5	48.5	3.5	3.5	3,5	6.2	6.2	7.5
						23.7			8.5			30.1			48.5		3.5			6.2		ļ
				Surface	1.0	27.4	27.4		8.6	8.6		21.9	21.9		133.0	133.0	9.3	9.3	9.3	1.5	1.5	
16-May-16	Sunny	Moderate	16:30			27.4		25.3	8.6		8.5	21.9		26.1	133.0		9.3			1.5		2.6
				Bottom	3.9	23.2	23.2		8.3 8.3	8.3		30.2	30.2		37.4 37.4	37.4	2.7	2.7	2.7	3.8	3.8	
				Surface	1.0	28.2	28.2		8.7	8.7		22.9	22.9		135.3	135.3	9.3	9.3	9.3	1.8	1.8	
17-May-16	Cloudy	Rough	17:15	Sartice	1.0	28.2	20.2	25.5	8.7	3.7	8.5	22.9	22.7	26.9	135.3	155.5	9.3	7.5	7.3	1.8	1.0	2.5
		J		Bottom	3.9	22.7 22.7	22.7		8.2 8.2	8.2		30.9 30.9	30.9		38.6 38.6	38.6	2.8 2.8	2.8	2.8	3.1	3.1	

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Report No.: 0151/15/ED/0704

Water Quality Monitoring Results at W2 - Mid-flood Tide (Laboratory Data)

		6 0 livi		5 11		E-coli (cfu/100ml) Ammonia-Nitrogen (mg-N/L) Total Inorgan		ganic Nitrogen	Nitrogen Suspended Solids (mg/L)			nical Oxygen Demand	Chlorophyll-a (mg/L)					
Date	Weather	Sea Condition	Sampling Time	Depth	(m)	Value	DA	Value	DA	Value	DA	Value	DA	Value	DA	Value	DA	
11-May-16	Cloudy	Moderate	10:45	Surface	1.0	190	100	0.109	0.071	0.356	0.210	5.1	3.9	2	4.5	0.006	0.005	
11-May-10	Cloudy	Moderate	10:43	Bottom	4.5	26	108	0.033	0.071	0.064	0.210	2.7	3.9	1	1.5	0.005	0.006	
12-May-16	Cloudy	Moderate	11:00	Surface	1.0	120	76	<0.005	0.044	0.138	0.133	5.7	7.6	3	4.5	0.022	0.042	
12-May-10	Cloudy	Moderate	11:00	Bottom	4.2	32	76	0.088	0.044	0.128	0.133	9.5	7.6	<1	1.5	0.003	0.013	
13-May-16	Cloudy	Moderate	11:45	Surface	1.0	4	10	<0.005	0.075	0.063	0.110	9	9.2	3	2.5	0.027	0.017	
13-May-10	Cloudy	Woderate	11.43	Bottom	3.9	15	10	0.15	0.075	0.156		9.3	9.2	2	2.5	0.007	0.017	
14-May-16	Cloudy	Rough	13:10	Surface	1.0	1	1	<0.005	0.042	0.005	0.076	6.7	6.3	3	2.0	0.025	0.014	
14-Way-10	Cloudy	Kougii	13.10	Bottom	4.0	0	1	0.083	0.042	0.147	0.076	5.9	0.5	1	2.0	0.003	0.014	
15-May-16	Sunny	Moderate	15:05	Surface	1.0	24	13	<0.005	0.046	0.021	0.075	14.8	14.9	3	1.5	0.03	0.027	
13-May-10	Sullily	Woderate	15.05	Bottom	4.0	1	15	0.092	0.046	0.128	0.075	15	14.9	<1	1.5	0.024	0.027	
16-May-16	Sunny	Moderate	16:30	Surface	1.0	19	12	<0.005	0.047	0.07	0.105	4.6	3.8	4	2.5	0.002	0.012	
10-May-10	Sullily	Woderate	10.30	Bottom	3.3	4	12	0.093	0.047	0.139	0.105	2.9	3.8	1	2.5	0.022	0.012	
17-May-16	Cloudy	Rough	17:15	Surface	1.0	3	4	<0.005	0.014	<0.005	0.020	3.9	5.8	2	1.5	0.017	0.014	
17-way-10	Cloudy	Kougii	17.13	Bottom	3.3	5	4	0.028	0.014	0.057	0.029	7.6	3.8	1	1.5	0.01		

[#] When values below detection limit are present, they will be considered as 0.

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# Appendix F

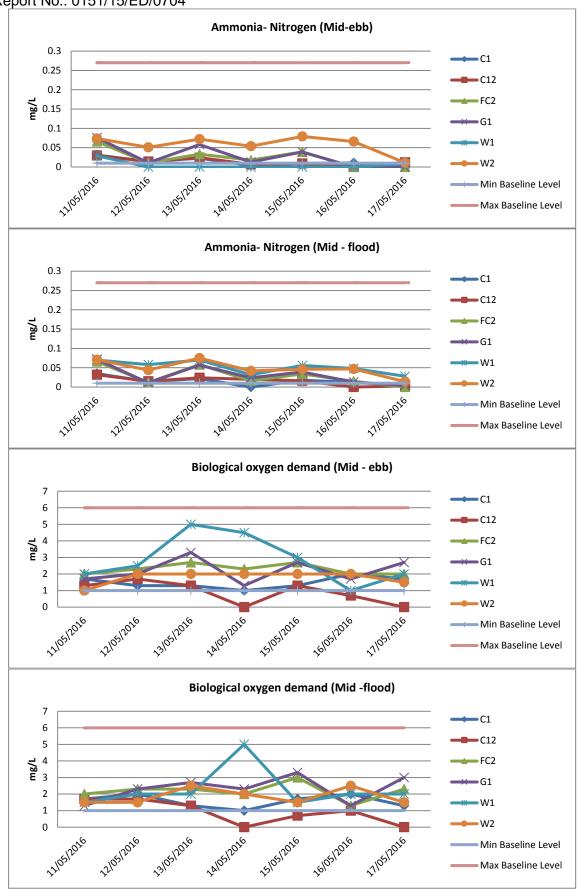
**Graphical Presentation of Water Quality Monitoring Results** 

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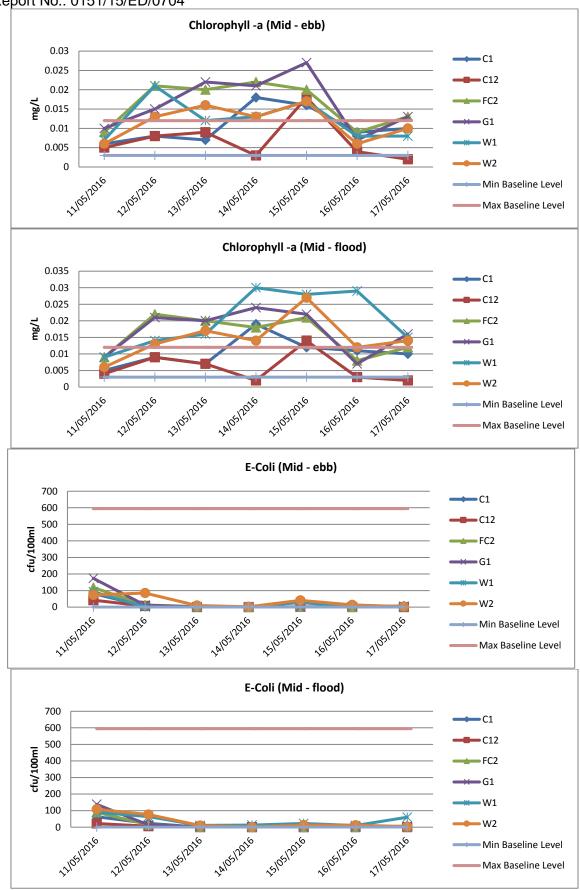


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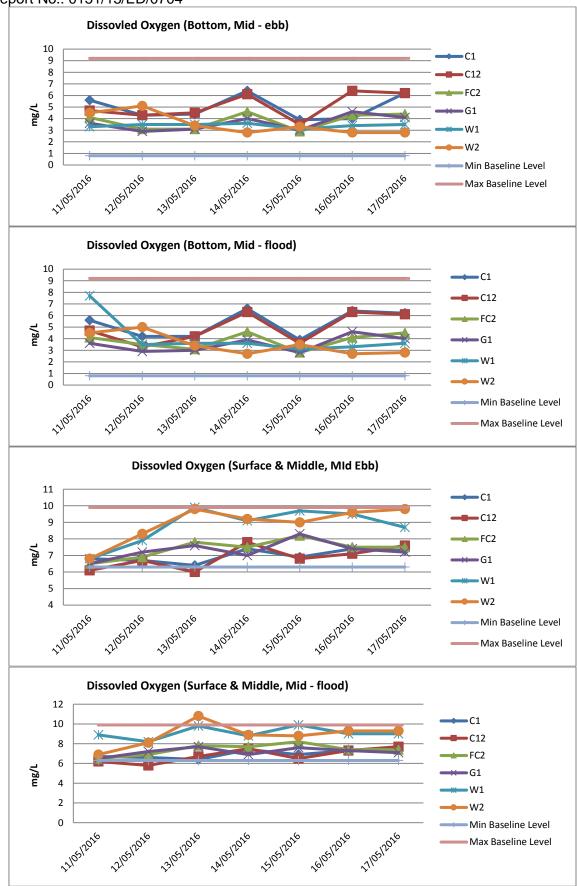


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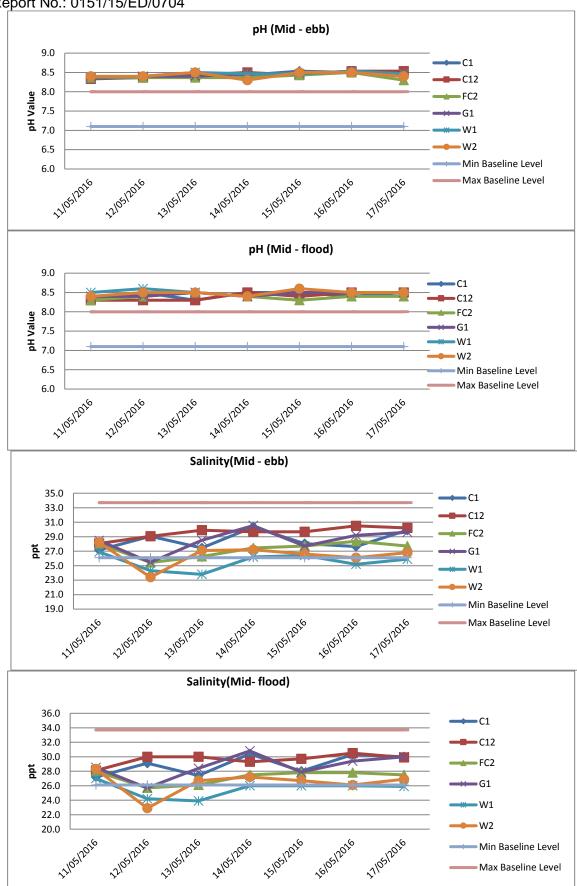


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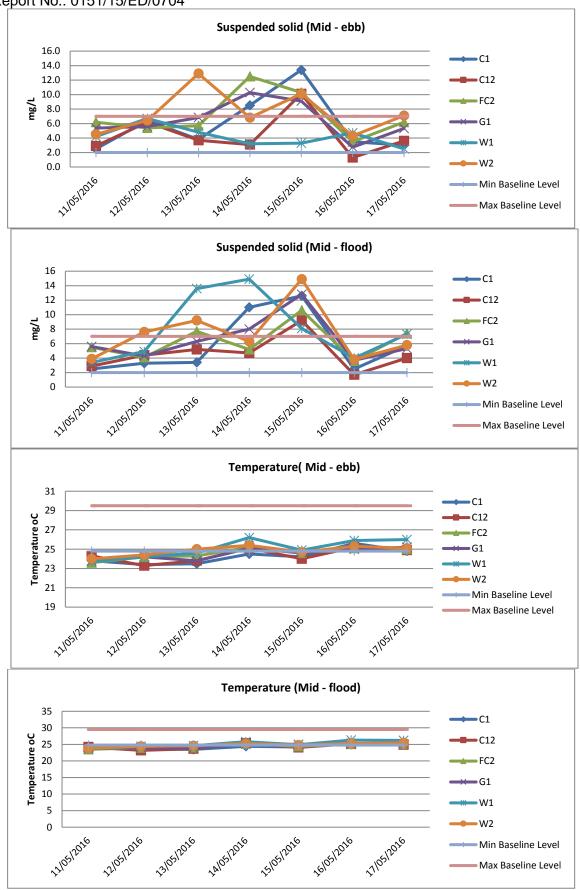


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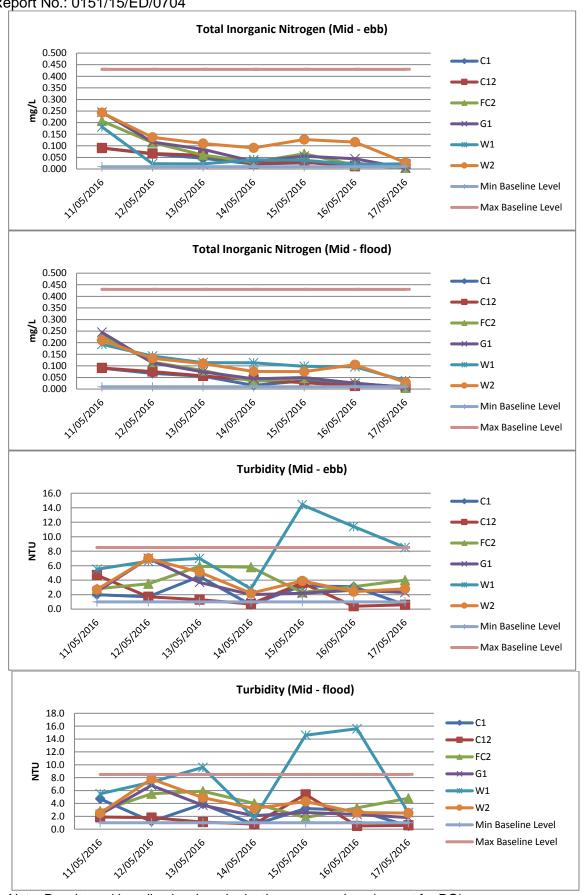


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### Appendix G

Implementation Schedule of Environmental Mitigation
Measures (EMIS) for operation phase

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EIA Ref.	Environmental Protection Measures	Location of the measures	Implementation Status
Air Quality		ino incusures	Olulus
\$3.7.5 & 3.7.8	Exposed area at Stage I/II & IV of inlet pumping stations, sludge digestion tank outlet chambers should be covered, with the foul air drawn through deodorization units and discharged after treatment. The grit removal & flume channel at Stage I/II inlet works and the grit removal at Stage IV inlet works should be covered.	TPSTW	Completed
S3.7.6	Weir launders of the Stage I/II and Stage IV primary sedimentation tanks should be covered to control odour emission. Chemical should also be added to the sewage at Tai Yuen Sewage Pumping Station No.4 for the control of odour at Stage IV inlet pumping station, screen house and primary sedimentation tanks.	TPSTW	Completed
\$3.7.7	The sludge gravity thickeners, sludge consolidation tanks, screening unit (next to dewatering house), exposed area of wet well of Stage I/II returned activated sludge pumping station and wet well of Stage I/II sludge pumping station should be enclosed to ensure no leakage of odorous gas whereas foul air from the sludge gravity thickeners and sludge consolidation tanks would be discharged via deodorizers.	TPSTW	Completed
Water Quality			
S4.8.10	Silt curtains should be installed at the Shatin and Tai Po Seawater Intakes during the maintenance of THEES. Relevant government departments including EPD and WSD should be informed of then maintenance.	TPSTW	Not applicable in this reporting month
S4.8.11	Dual power supply or ring main supply from CLP should be provided for the Project to avoid any loss of electrical supply. In addition, standby facilities for the main treatment units, standby parts/accessories to the equipment should also be provided in order to minimize the chance of emergency discharge.	TPSTW	Completed
S4.8.10 S4.8.12	Shutdown of the THEES, if unavoidable, should be shortened as far as possible. The relevant procedures established in the contingency plan as attached in Appendix 4.5 of the EIA report should be properly followed.	TPSTW	Not applicable in this reporting month
S4.8.13	Dye test is recommended for detection of pipe leakage.	Submarine pipeline at Tolo Harbour	Not applicable in this reporting month
S4.10.1	Effluent monitoring is recommended to ensure the effectiveness of the proposed treatment process. Details of the monitoring requirements are specified in the EM&A.	Exit of disinfection facilities	Completed
\$4.10.2	A post project monitoring (PPM) programme for Victoria Harbour should be implemented to confirm the predictions of the water quality made in the EIA report. The PPM would consist of one- year baseline monitoring before commissioning and one-year impact monitoring after commissioning of the Project. The extent of PPM programme is subject to the prevailing environmental conditions at the time before commissioning of the Project. A more detailed description of the PPM requirements is given in the standalone EM&A Manual	Victoria Harbour	Not applicable in this reporting month
S4.10.3	A PPM programme will be also implemented in the Tolo Harbour during the operational phase. The PPM would involve water quality monitoring at the Tai Po and Sha Tin seawater intake during the first wet season (June to August) after full commissioning of the Project. Marine water quality parameters including SS and NH3-N should be monitored. The water quality monitoring frequency shall be twice per month and should cover the effects of different tidal status (at least one for high tide and one for low tide) for each seawater intake.	Tolo Harbour	To be commenced in June 2016
S4.8.10 &S4.10.4	Marine water quality monitoring should be carried out under emergency condition or during maintenance of the THEES tunnel to verify the findings of the water quality modelling. It is recommended that the maintenance of the THEES tunnel, if unavoidable, should be conducted during winter season or low flow periods and to avoid the "blooming" season of algae (normally from April to June)if practicable. Details of the monitoring requirements are specified in the EM&A Manual.	Tolo Harbour	Overflow of screened sewage on 10 May 2016. Marine water quality monitoring conducted on 11 – 17 May 2016
Waste Management S5.5.9	Chemical Waste	TPSTW	Completed
	For the disposal of spent UV lamps, the STW operator would be required to register with the EPD as a Chemical Waste Producer and to follow the requirements stated in the Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes. A chemical waste producer must engage a licensed waste collector to transport and dispose of the chemical wastes in accordance with the Waste Disposal (Chemical Waste) (General) Regulation.	IFSIW	Completed
Landfill Gas Hazard	M0		
S6.6.9	When service voids, manholes or inspection chambers within the proposed site are entered for maintenance, monitoring and a checklist	Area of TPSTW	Completed

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<u> </u>	system of safety requirements should be performed before entry in accordance with Code of Practice on Safety and Health at Work in	within 250m consultation	
S6.6.10	Confined Spaces.  For newly built permanent structures, gas- resistant polymeric membranes shall be incorporated into floor or wall construction to act as a continuous sealed layer for the structure. In addition, forced ventilation shall be installed in such rooms or buildings. Gas detection systems should also be proposed where there is an organization involved in the long-term or frequently use of the development in order to monitor internal spaces inside buildings.	zone Area of TPSTW within 250m consultation zone	Completed
S6.6.11	Forced ventilation should be used if methane of more than 0.5% (by volume) in the internal atmosphere (e.g. In service voids, manholes, inspection chambers or rooms as mentioned above) is detected.	Area of TPSTW within 250m consultation zone	Completed
S6.6.12	No person should enter or remain in any confined spaces or trenches where the carbon dioxide concentration exceeds 1.5% (by volume).	Area of TPSTW within 250m consultation zone	Completed
S6.6.13	Oxygen concentration should be monitored and no person shall enter or remain in any confined spaces or trenches where the oxygen content of air has fallen below 18% by volume.	Area of TPSTW within 250m consultation zone	Completed
S6.6.14	All the access to these confined spaces should be restricted only to authorized personnel who should be aware of the LFG hazard. No member of general public should be permitted or allowed to access these confined spaces, manholes or inspection chambers.	Area of TPSTW within 250m consultation zone	Completed
S6.6.9	When service voids, manholes or inspection chambers within the proposed site are entered for maintenance, monitoring and a checklist system of safety requirements should be performed before entry in accordance with Code of Practice on Safety and Health at Work in Confined Spaces.	Area of TPSTW within 250m consultation zone	Completed

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#### Appendix H

**Chemical Waste Producer Registration License** 

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Report No.: 0151/15/ED/0704

ME	MO
From : Director of Environmental Protection  Ref. : _( _) in _EP CW/D2226/727/15	To: Director of Drainage Services (Attn. Mr. Ho Wai Hung) 1/5 / Tai Po STW
Tel. : <u>2634 3884</u> Fax 2685 1155	Your Ref. : inTP/A57
Date : 19 APRIL , 2000	dated : Fax no 26660207

Waste Disposal Ordinance (Cap.354)
Waste Disposal (Chemical Waste) (General) Regulation
Registration as a Chemical Waste Producer
Tai Po Sewage Treatment Works

I refer to your memo under reference.

- 2. Our records show that there are duplicate registration as a chemical waste producer (CWP) for the Tai Po Sewage Treatment Works. As per your request, we have removed one of the CWP registration (WPN of 0014-727-D2158-02 dated 26.10.1992) from the register with effect from the date of this memo. As a result, the registration form (Form EPD 130) with WPN of 0014-727-D2158-02 dated 26.10.1992 for the above premises is no longer valid.
- 3. On the other hand, I am pleased to inform you that your revised registration (WPN of 0014-727-D2226-15) with this Department as a CWP has been completed. Your assiged Waste Producer Number (WPN) and the particulars of your establishment are printed in the enclosed form (EPD 130). Please check these entries in the form and notify this Department immediately in any irregularities are detected. Please note that this registration is not transferable and will be valid only in respect of the applicant and the premises registered. In case of any change in the registration particulars, you should inform this Department as soon as possible so that our record so that our record can be amended accordingly.
- 4. Should you have any queries, please contact our Mr. YIU on undersigned.

( W.C. SUN )
Local Control Office (Territory North)
for Director of Environmental Protection

Encl.

Room 723 & 725, 7/F, Block B,

Profit Industrial Building, 1-15 Kwai Fung Crescent, Kwai Fong, Hong Kong.

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	- 1 Page 1	3
		Environmental Protection Department 環境保護署
		Waste Disposal Ordinance (Chapter 354) 香港法例第 354 章廢物處理條例
		Waste Disposal (Chemical Waste) (General) Regulation 廢物處理(化學廢物)(一般)規例
		Registration of Waste Producer 廢物產生者登記證
0:	Waste Producer 廢物產生者	Full Name (English) DIRECTOR OF  全 名: (英 文) DRAINAGE SERVICES (中 文) 本
		Business Reg. Cert. No. (if any) 商業登記證號碼: (如有者) Address for Correspondence
		通 訊 地 址:DSD, TAI PO SEWAGE TREATMENT WORKS,
i.		7 DAI KWAI STREET, TAI PO INDUSTRIAL ESTATE, TAI PO, N.T. Tel. No. 電話: 26640011
	Location or Premises where the waste is produced 產生廢物	編號第 [0.10.11.14] — [7.12.17] — [D.12.12.12.16] — [1.15] 號,予下開地點或樓字:—— Name of Establishment 機構名稱: DSD, TAT PO SEWAGE TREATMENT WORKS Business Reg. Cert. No. (if any) 商業登記證號碼:(如有者) ——— Nature of Business 業務性質: SEWAGE TREATMENT Major chemical waste types
	的地點或 樓宇	主要化學廢物種類: SPENT LUBRICATING OIL & SPENT SOLVENT
		Address 地址: DSD, TAI PO SEWAGE TREATMENT WORKS, 7 DAI KWAI STREET,
		TAI PO INDUSTRIAL ESTATE, TAI PO, N.T.  Tel. No. 電話:
		( W.C. SUN ) for Director of Environmental Protection 環境保護署署長 ( 辛   本   代行)
		Date 日期 <u>19 / 04 / 2000</u>

WARNING: Any registered waste producer who fails to inform the Director of Environmental Protection of any change in his registration particulars commits an offence and is liable on conviction to a fine of \$10,000. 告: 任何已登記的廢物產生者,若其登記資料有任何改變而不知會環境保護署署長,即屬違法,被定罪者最高 罰款港幣10,000元。