


**Drainage Services Department**

**Contract No. SPW 09/2018**  
**Environmental Team Baseline Surveys**  
**for Sha Tin Cavern Sewage Treatment Works**

**Baseline Marine Water Quality**  
**Monitoring Report**

**April 2021**  
**(Version 3.3a)**

Certified By	 KS Lee Project Director
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REMARKS:

The information supplied and contained within this report is, to the best of our knowledge, correct at the time of printing.

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Rev.	Publish Date	Changes
-	Feb 2021	-
a	Apr 2021	Made changes in accordance to EPD's comments dated 25 Mar 2021.



Our ref.: LES/J2021-03/CS/L004  
Date : 8 April 2021

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Special Task Division  
Projects and Development Branch  
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Wan Chai, Hong Kong

By Email

**Attn. to: Mr. Tom KW CHAN (E/ST3)**

Dear Sir,

**Contract No. STW 012021  
Environmental Team for  
Relocation of Sha Tin Sewage Treatment Works to Caverns – Site Preparation and  
Access Tunnel Construction**

**Submission of Baseline Marine Water Quality Monitoring Report V3.3a under  
Condition 3.4 of Environmental Permit No. EP-533/2017**

We have reviewed the details of Baseline Marine Water Quality Monitoring Report V3.3a received via email on 31 March 2021 and 7 April 2021 at 19:17pm and hereby certify the submission in accordance with condition 3.4 of EP-533/2017.

Should you have any queries, please contact the undersigned at 9108 0531.

Yours faithfully,  
For and On Behalf Of  
**Lam Environmental Services Limited**

Derek Lo  
Environmental Team Leader

Encl.

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Attn: Mr. Tom K W CHAN (E/ST3)

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**Contract No. SPW 01/2020**

**Independent Environmental Checker for Relocation of Sha Tin Sewage  
Treatment Works to Caverns – Site Preparation and Access Tunnel  
Construction**

**Environmental Permit No. EP-533/2017**

**Baseline Marine Water Quality Monitoring Report (Version 3.3a)**

8 April 2021

**By Email**

Dear Sir,

I refer to the Baseline Marine Water Quality Monitoring Report (Version 3.3a) under the captioned Project, which has been certified on 8 April 2021 (ref: LES-J2021-03/CS/L004) by the Environmental Team Leader appointed under Condition 2.3 of Environmental Permit No. EP-533/2017 (hereafter referred to as "EP").

I hereby verify the captioned report as having complied with the requirements as set out in the EM&A Manual for the captioned Project in accordance with EP Conditions 1.9 and 3.4.

Should you have any queries regarding the captioned or require any further information, please contact the undersigned at 2828 5875.

Yours faithfully

for MOTT MACDONALD HONG KONG LIMITED

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## TABLE OF CONTENTS

	<b>Page</b>
<b>EXECUTIVE SUMMARY</b>	<b>1</b>
Water Quality.....	1
<b>1 INTRODUCTION</b>	<b>3</b>
Project Background.....	3
Purpose of Baseline Marine Water Quality Monitoring Report.....	3
Structure of Baseline Marine Water Quality Monitoring Report.....	4
<b>2 WATER QUALITY MONITORING</b>	<b>5</b>
Monitoring Requirement.....	5
Monitoring Locations.....	5
Monitoring Equipment.....	6
Monitoring Equipment.....	9
Monitoring Parameters.....	10
Monitoring Frequency.....	10
Monitoring Methodology.....	10
Laboratory Analytical Methods.....	11
QA/QC Requirements.....	12
Method Blank.....	13
Matrix Quality Control Sample.....	13
Sample Duplicate.....	13
Matrix Spike.....	13
Acceptance Criteria of Laboratory QA/QC Samples.....	13
<b>3 BASELINE WATER QUALITY MONITORING RESULTS AND OBSERVATIONS</b>	<b>15</b>
Results.....	15
Observations.....	31
Setting Baseline Water Quality Conditions.....	31
Roles and Action of Stakeholders during Events of Discharge.....	32
<b>4 REVISIONS FOR INCLUSION IN THE EM&amp;A MANUAL</b>	<b>34</b>
<b>5 CONCLUSIONS</b>	<b>35</b>

## **LIST OF TABLES**

Table I	Baseline Marine Water Quality Monitoring Period
Table 2.1	Location for Marine Water Quality Monitoring Locations
Table 2.2	Types of Sampling Bottles, Sample Size and Preservation Methods
Table 2.3	Water Quality Monitoring Equipment
Table 2.4	Water Quality Monitoring Parameters
Table 2.5	Methods for Laboratory Analysis for Water Samples
Table 2.6	Acceptance Criteria of Laboratory QA/QC Samples
Table 3.1	Water Depth of Water Quality Monitoring Stations
Table 3.2-3.2d	Summary of Baseline Water Quality Monitoring Results (Mid-Ebb)
Table 3.3-3.3d	Summary of Baseline Water Quality Monitoring Results (Mid-Flood)
Table 3.4	Roles and Action of Stakeholders during Events of Discharge

## **LIST OF FIGURE**

Figure 1	Locations of Water Quality Monitoring Stations
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## **LIST OF APPENDICES**

Appendix A	Copies of Calibration Certificates of Multi-parameter Water Quality System
Appendix B	Baseline Water Quality Monitoring Results
Appendix C	Baseline Water Quality Monitoring Schedule
Appendix D	Laboratory Testing Reports and Quality Control Reports
Appendix E	Instrumental Value of Total Ammonia Nitrogen (for reference only)
Appendix F	Updated Construction Programme
Appendix G	Baseline Water Quality Conditions and Water Quality Objectives
Appendix H	Calculated Baseline Water Quality Conditions

**EXECUTIVE SUMMARY**

1. This Baseline Marine Water Quality Monitoring Report is prepared by Cinotech Consultants Ltd. (Cinotech) for Contract No. SPW 09/2018 “Environmental Team Baseline Surveys for Sha Tin Cavern Sewage Treatment Works” (hereinafter called the “Contract”). This report presents the baseline water quality monitoring works performed from June 2018 to December 2018.

**Water Quality**

2. The baseline water quality monitoring was conducted at thirteen monitoring stations (W1, W2, C1, F1, F2, F3, F4, CR1, CR15, CR16, CR17, G1, and CR9) for a seven-month covering the period from June to December (outside the algae blooming season). Monitoring was conducted at a frequency of twice per month at all of the monitoring locations to monitor water depth, dissolved oxygen (DO) concentration, DO saturation, turbidity, pH, temperature, salinity, suspended solids (SS), Biochemical Oxygen Demand (BOD5), Nitrate-Nitrogen, Nitrite-Nitrogen, Ammonia-Nitrogen, *E. coli* and chlorophyll-a. The data was processed, reviewed and analyzed to establish the baseline water quality conditions for THEES maintenance discharge prior to the commencement of the Project construction works.

**Table I Baseline Marine Water Quality Monitoring Period**

Designated Monitoring Stations under Contract	Parameters, unit	Baseline Monitoring Date(s)
W1, W2, C1, F1, F2, F3, F4, CR1, CR15, CR16, CR17, G1, and CR9	<ul style="list-style-type: none"> <li>• Temperature(°C)</li> <li>• pH(pH unit)</li> <li>• turbidity (NTU)</li> <li>• water depth (m)</li> <li>• salinity (ppt)</li> <li>• dissolved oxygen (DO) (mg/L and % of saturation)</li> <li>• suspended solids (SS) (mg/L)</li> <li>• 5-day Biochemical Oxygen Demand (BOD<sub>5</sub>) (mg-O<sub>2</sub>/L)</li> <li>• Ammonia Nitrogen (NH<sub>3</sub>-N) (mg NH<sub>3</sub>-N/L)</li> <li>• Unionized Ammonia (UIA) (mg/L)</li> <li>• Total Inorganic Nitrogen (TIN) (mg N/L)</li> <li>• Nitrite-nitrogen (NO<sub>2</sub>-N) (mg NO<sub>2</sub><sup>-</sup>-N/L)</li> </ul>	<ul style="list-style-type: none"> <li>• 20 June 2018</li> <li>• 26 June 2018</li> <li>• 16 July 2018</li> <li>• 24 July 2018</li> <li>• 16 August 2018</li> <li>• 25 August 2018</li> <li>• 20 September 2018</li> <li>• 23 September 2018</li> <li>• 13 October 2018</li> <li>• 22 October 2018</li> <li>• 8 November 2018</li> <li>• 10 November 2018</li> <li>• 17 December 2018</li> <li>• 19 December 2018</li> </ul>

<b>Designated Monitoring Stations under Contract</b>	<b>Parameters, unit</b>	<b>Baseline Monitoring Date(s)</b>
	<ul style="list-style-type: none"> <li>• Nitrate-nitrogen (NO<sub>3</sub>-N) (mg NO<sub>3</sub><sup>-</sup>-N/L)</li> <li>• <i>E. coli</i> (cfu/100mL)</li> <li>• Chlorophyll-a (mg/m<sup>3</sup>)</li> </ul>	



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## 1 INTRODUCTION

### Project Background

- 1.1 To support social and economic development in Hong Kong, there is a pressing need to optimize the supply of land for various uses by sustainable and innovative approaches. One possible approach is rock cavern development. The Policy Agenda of the 2016 Policy Address has stated that works for the relocation of the Sha Tin Sewage Treatment Works (STSTW) is to commence as soon as possible to release the existing site, of a size about 28 hectares, for development purpose.
- 1.2 The Relocation of Sha Tin Sewage Treatment Works (STSTW) to Caverns (the Project) is implemented so as to release the existing site, of a size about 28 hectares, for other uses.
- 1.3 The Project is a Designated Project under the Environmental Impact Assessment Ordinance (EIAO). An Environmental Impact Assessment (EIA) Report for the Project was approved under EIAO in November 2016 in accordance with the EIA Study Brief (No.ESB-273/2014) and the Technical Memorandum on Environmental Impact Assessment Process (EIAO-TM). The corresponding Environmental Permit was issued (EP no.: EP-533/2017) by the Director of Environmental Protection (DEP) in March 2017. The updated construction programme is shown in **Appendix F**.
- 1.4 According to approved Environmental Monitoring and Audit (EM&A) Manual, a marine water quality monitoring programme is recommended for the THEES tunnel maintenance during both construction and operational phases of this Project to confirm the water quality impact of the THEES maintenance discharge. Marine water quality monitoring is also recommended in case of any emergency discharge events during the operational phase of this Project. In order to establish the baseline water quality conditions for THEES maintenance discharge prior to the commencement of the Project construction works, a seven-month baseline water quality monitoring programmes is proposed.
- 1.5 Cinotech Consultants Limited (Cinotech) was commissioned by the Drainage Service Department as Environmental Team to undertake the Baseline Surveys including baseline water quality monitoring for the Project with reference to the requirements specified in the approved EM&A Manual of the approved EIA and Method Statement for baseline water quality monitoring plan submitted to EPD in June 2018 (the Plan).

### Purpose of Baseline Marine Water Quality Monitoring Report

- 1.6 The purpose of this “Baseline Marine Water Quality Monitoring Report” (the “Report”) is to establish the baseline water quality conditions in accordance with the EM&A Manual of the Project. These baseline water quality conditions will be used as the basis for the impact and compliance monitoring during the construction and operational phases of the Project. This report presents the monitoring locations, equipment, period,

methodology, results and observations for water quality during the baseline period.

### **Structure of Baseline Marine Water Quality Monitoring Report**

1.7 The structure of the Report is summarized as follows:

Section 1: Introduction, purpose, background and the structure of the report.

Section 2: Water Quality, which describes the baseline water quality monitoring

Section 3: Baseline Water Quality Monitoring Results and Observations

Section 4: Revisions for inclusion in the approved EM&A Manual

Section 5: Conclusions

## 2 WATER QUALITY MONITORING

### Monitoring Requirement

- 2.1 Baseline water quality monitoring shall be commenced prior to the commencement of the Project construction works. Baseline water quality monitoring shall be carried out for a seven-month covering the period from June to December (outside the algae blooming season) at a frequency of twice per month at all of the monitoring locations to establish the baseline water quality conditions without any discharge from the Project.
- 2.2 The proposed water quality monitoring schedule was submitted to EPD at least 4 weeks before the first day of the monitoring month. The baseline water quality monitoring was conducted without any THEES maintenance or emergency discharge. In addition, the baseline water quality will be established in this report and agreed with EPD prior to the commencement of Project works.
- 2.3 The measurements were taken at all designated monitoring stations at mid-flood (within  $\pm 1.5$  hours of the predicted time) and mid-ebb tides (within  $\pm 1.5$  hours of the predicted time), at three water depth (i.e. 1m below surface, mid-depth and 1m above seabed, except where the water depth less than 6m, mid-depth station may be omitted. Should the water depth be less than 3m, only the mid-depth station will be monitored) twice per month for seven-month. The interval between two sets of monitoring was not less than 36 hours. For selection of tides for *in-situ* measurement and water sampling, tidal range of individual flood and ebb tides were not less than 0.5 m.
- 2.4 Duplicate *in-situ* measurements and water sampling for single sample at each depth were carried out in each sampling event.

### Monitoring Locations

- 2.5 According to the EM&A Manual Section 4.3 of the Project, baseline water quality monitoring was conducted at 13 monitoring stations which are listed in **Table 2.1**. A drawing showing the route of each vessel (stations to be covered in sequence) is shown in **Figure 1**.

**Table 2.1 Location for Marine Water Quality Monitoring Locations**

Monitoring Stations	Description	Coordinates	
		Easting	Northing
W1	WSD Seawater Intake at Sha Tin	840238	830127
W2	WSD Seawater Intake at Tai Po	837753	834606
C1	Cooling Water Intake at CUHK Marine Science Laboratory	840142	831908
F1	Yim Tin Tsai Fish Culture Zone	839387	834907
F2	Yim Tin Tsai (East) Fish Culture Zone	840885	835077
F3	Yung Shue Au Fish Culture Zone / Important Nursery Area for Commercial Fisheries Resources at Three Fathoms Cove	846778	832054
F4	Lo Fu Wat Fish Culture Zone	846364	836709
CR1	Corals at Tai Po Industrial Estate	837888	834489
CR15	Corals at Science Park	839193	832710
CR16	Corals at Sha Tin Hoi North	840310	831665
CR17	Corals at Sha Tin Hoi South	840224	830692
G1	Potential Subzone of Yim Tin Tsai Fish Culture Zone / Gradient Station	840521	833311
CR9	Gruff Head Corals (Control Station)	850995	838008

**Monitoring Equipment****Dissolved Oxygen (DO) and Temperature Measuring Equipment**

- 2.6 The instrument for measuring dissolved oxygen and temperature was portable and weatherproof complete with cable, sensor, comprehensive operation manuals and use DC power source. The equipment should be capable of measuring:
- a dissolved oxygen level in the range of 0-20 mg/L and 0-200% saturation; and
  - a temperature of 0-45 degree Celsius.
- 2.7 It has a membrane electrode with automatic temperature compensation complete with a cable.
- 2.8 Sufficient stocks of spare electrodes and cables were available for replacement where necessary.

- 2.9 Salinity compensation was built-in in the DO equipment, *in-situ* salinity was measured to calibrate the DO equipment prior to each DO measurement.

### **Turbidity**

- 2.10 Turbidity was measured *in situ* by the nephelometric method. The instrument was portable and weatherproof using a DC power source complete with cable, sensor and comprehensive operation manuals. The equipment was capable of measuring turbidity between 0-1000 NTU. The probe cable was not less than 25m in length. The meter was calibrated in order to establish the relationship between NTU units and the levels of suspended solids.

### **Sampler**

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

### **Water Depth Detector**

- 2.12 A portable, battery-operated and hand held echo sounder was used for the determination of water depth at each designated monitoring station.

### **pH**

- 2.13 The instrument was consisting of a potentiometer, a glass electrode, a reference electrode and a temperature-compensating device. It was readable to 0.1pH in a range of 0 to 14. Standard buffer solutions of at least pH 7 and pH 10 were used for calibration of the instrument before and after use.

### **Salinity**

- 2.14 A portable salinometer capable of recording salinity within the range of 0-40 parts per thousand (ppt) was provided for measuring salinity of the water at each monitoring location.

**Monitoring Position Equipment**

- 2.15 A hand held Differential Global Positioning System (DGPS) was used during water quality monitoring to ensure the monitoring vessel is at the correct location before taking measurements.

**Sample Container and Storage**

- 2.16 Following collection, water samples for laboratory analysis were stored in high density polythene bottles with preservatives added according to **Table 2.2**, packed in ice (cooled to 4°C without being frozen), delivered to the laboratory and analysed as soon as possible. Sufficient volume of samples were collected to achieve the detection limit.
- 2.17 For the sample containers for *E. coli*, the water samples were collected in sterile bottles with leakproof lids.
- 2.18 Sufficient volume of samples were collected for proper analysis of all testing parameters. **Table 2.2** also summarizes the size of samples for respective tests.

**Table 2.2 Types of Sampling Bottles, Sample Size and Preservation Methods**

Parameters to be tested	Preservation	Min Sample Size, mL	Type of Sample Container
Total Suspended Solids	Refrigerate	400	1 liter plastic bottle
Biochemical Oxygen Demand (BOD <sub>5</sub> )	Refrigerate	400	
Nitrate-Nitrogen	Refrigerate	100	
Nitrite-Nitrogen	Refrigerate	100	
Ammonia-Nitrogen	Add H <sub>2</sub> SO <sub>4</sub> to pH<2; refrigerate	100	250mL plastic bottle
<i>E. coli</i>	Refrigerate	120	250mL sterilized glass bottle
chlorophyll-a	Refrigerate	500	500 mL light proof plastic bottle

**Calibration of In Situ Instruments**

- 2.19 All *in situ* monitoring instruments were checked, calibrated and certified by a laboratory accredited under HOKLAS or other international accreditation scheme before use, and subsequently re-calibrated at 3 monthly intervals throughout the baseline water quality monitoring programme. Responses of sensors and electrodes were checked with certified standard solutions before each use. Wet bulb calibration for a DO meter was carried out before measurement at each monitoring event.
- 2.20 For the on site calibration of field equipment (Multi-parameter Water Quality System), the BS 1427:2009, "Guide to on-site test methods for the analysis of waters" was observed.
- 2.21 Sufficient stocks of spare parts were maintained for replacements when necessary. Backup monitoring equipment was also made available so that monitoring could proceed uninterrupted even when some equipment is under maintenance, calibration, etc.

**Monitoring Equipment**

- 2.22 **Table 2.3** summarizes the equipment used in the water quality monitoring program. The copies of the calibration certificates of multi-parameter water quality system are shown in **Appendix A**.

**Table 2.3 Water Quality Monitoring Equipment**

<b>Equipment</b>	<b>Model and Make</b>	<b>Qty.</b>
Sonar Water Depth Detector	Garmin Fishfinder 140 ( <a href="https://www.cnet.com/products/garmin-fishfinder-140-fishfinder-series/specs/">https://www.cnet.com/products/garmin-fishfinder-140-fishfinder-series/specs/</a> )	2
Monitoring Position Equipment	KODEN DGPS (KGP913MKIID, GA-08 & BA-03) ( <a href="https://www.koden-electronics.co.jp/eng/marine/pdf/marine/kgp913mk2-e.pdf">https://www.koden-electronics.co.jp/eng/marine/pdf/marine/kgp913mk2-e.pdf</a> )	2
Multi-parameter Water Quality System	YSI EXO 1	6
Water Sampler	Kahlsico Water-Bottle Model 135DW 150	2

## Monitoring Parameters

2.23 **Table 2.4** summarizes the monitoring parameters of the water quality monitoring.

**Table 2.4 Water Quality Monitoring Parameters**

In-situ Measurement	Laboratory Measurement
Dissolved Oxygen	Suspended Solids (SS)
pH	5-day Biochemical Oxygen Demand (BOD5)
Temperature	Total Inorganic Nitrogen (TIN)
Salinity	Ammonia Nitrogen (NH <sub>3</sub> -N)
Turbidity	Nitrate-nitrogen (NO <sub>3</sub> -N)
	Nitrite-nitrogen (NO <sub>2</sub> -N)
	Unionized Ammonia (UIA)
	Chlorophyll-a
	<i>E. coli</i>

2.24 Monitoring location/position, time, water depth, sampling depth, tidal stages, weather conditions and any special phenomena or work underway nearby were also recorded.

### Monitoring Frequency

2.25 During each survey event, sampling was taken at 2 tide conditions (mid-flood and mid-ebb) to give adequate coverage of different tidal states from June to December 2018.

### Monitoring Methodology

2.26 The monitoring stations were accessed using survey boat by the guide of a hand held Differential Global Positioning System (DGPS). The depth of the monitoring location was measured using depth meter in order to determine the sampling depths. Afterwards, the probes of the in-situ measurement equipment was lowered to the predetermined depths (1 m below water surface, mid-depth and 1 m above seabed) and the measurements was carried out accordingly. The in-situ measurements at predetermined depths was carried out in duplicate. In case the difference in the duplicate in-situ measurement results was larger than 25%, the third set of in-situ measurement would be carried out for result confirmation purpose.

2.27 Water sampler was lowered into the water to the required depths of sampling. Upon



reaching the pre-determined depth, a messenger to activate the sampler was then released to travel down the wire. The water sample was sealed within the sampler before retrieving. At each station, water samples for required laboratory tests at three depths (1 m below water surface, mid-depth and 1 m above seabed) were collected accordingly. Water samples were stored in a cool box and kept at less than 4°C but without frozen according to Table 2.2 and sent to the laboratory as soon as possible.

### Laboratory Analytical Methods

- 2.28 The testing of all parameters were conducted by Wellab Ltd. (HOKLAS Registration No.083) and comprehensive quality assurance and control procedures in place in order to ensure quality and consistency in results. The testing method, reporting limit and detection limit are provided in **Table 2.5**.

**Table 2.5 Methods for Laboratory Analysis for Water Samples**

Determinant	Proposed Method	Limit of Reporting (LOR)	Lowest Detection Limit
Suspended Solids (SS)	APHA 17ed 2540 D	2.5 mg/L	0.5 mg/L
5-day Biochemical Oxygen Demand (BOD <sub>5</sub> )	APHA 19ed 5210 B	2 mg-O <sub>2</sub> /L	0.4 mg-O <sub>2</sub> /L
Ammonia Nitrogen (NH <sub>3</sub> -N)	In-house method SOP057 (FIA) [Ref. Method: APHA 20e 4500-NH <sub>3</sub> H (FIA)]	0.05mg NH <sub>3</sub> -N/L	0.01mg NH <sub>3</sub> -N/L
Unionized Ammonia (UIA)	By Calculation	0.001mg/L	-
Total Inorganic Nitrogen (TIN)	In-house Method SOP058 (FIA) [Ref. Method: APHA 20e 4500-Norg A, B, D (FIA)]	0.1mg N/L	0.01mg/L
Nitrite-nitrogen (NO <sub>2</sub> -N)	In-house Method SOP068 (FIA) [Ref. Method: APHA 20e 4500-NO <sub>2</sub> <sup>-</sup> B (FIA)]	0.01 mg NO <sub>2</sub> <sup>-</sup> -N/L	0.002 mg NO <sub>2</sub> <sup>-</sup> -N/L
Nitrate-nitrogen (NO <sub>3</sub> -N)	In-house Method SOP056 (FIA) [Ref. Method: APHA 20e 4500-NO <sub>3</sub> <sup>-</sup> F (FIA)]	0.05 mg NO <sub>3</sub> <sup>-</sup> -N/L	0.002 mg NO <sub>3</sub> <sup>-</sup> -N/L

Determinant	Proposed Method	Limit of Reporting (LOR)	Lowest Detection Limit
<i>E. coli</i>	In-house method SOP069 (Membrane Filtration Method by CHROMagar) [Ref. Method: APHA 20e 9221E & 9222D]	1 cfu/100mL	1 cfu/100mL
Chlorophyll-a	APHA 10200H	0.025mg/m <sup>3</sup>	0.005mg/m <sup>3</sup>

Remark: The testing of all parameters in Table 2.5 are HOKLAS accredited except UIA.

- 2.29 To calculate the amount of unionized ammonia present (UIA), the instrumental value of Total Ammonia Nitrogen (TAN) (**Appendix E**) must be multiplied by the appropriate factor based on the pH and temperature from the water sample. The calculation is in accordance with Ambient Water Quality Criteria for Ammonia published by United States Environmental Protection Agency<sup>1</sup>. The lowest reporting limit of UIA is 0.001mg/L.

**QA/QC Requirements**

Decontamination Procedures

- 2.30 Water sampling equipment used during the course of the monitoring programme was decontaminated by manual washing and rinsed clean seawater/distilled water after each sampling event. All disposal equipment was discarded after sampling.

Sampling Management and Supervision

- 2.31 All sampling bottles were labelled with the sample I.D (including the indication of sampling station and tidal stage e.g. IS1\_me\_a), laboratory number and sampling date. Water samples were dispatched to the testing laboratory for analysis as soon as possible after the sampling. All samples were stored in a cool box and kept at less than 4°C but without frozen. All water samples were handled under chain of custody protocols and relinquished to the laboratory representatives at locations specified by the laboratory.
- 2.32 The laboratory determination work was started within 24 hours after collection of the water samples.

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<sup>1</sup> Ambient Water Quality Criteria for Ammonia published by United States Environmental Protection Agency  
<https://www.epa.gov/sites/production/files/2019-02/documents/ambient-wqc-ammonia-saltwater-1989.pdf>

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### Quality Control Measures for Sample Testing

2.33 Water samples were collected and stored in appropriate sampling bottles. All procedures in our testing of the water samples were in accordance with our standard procedures as set in the Quality Manual Document “QCP001: Manual for Quality Assurance and Quality Control”. Wellab implemented QA/QC measures for the analysis of water samples in order to obtain reliable data that is technically defensible.

2.34 Wellab prepared and analyzed the following QC samples. At least one set of QC samples were analyzed for each batch of samples  $\leq 20$  samples. Test results of QC samples were submitted to Employer Representative.

#### Method Blank

2.35 A laboratory blank sample was analyzed with the same sample preparation and analytical procedure as the field samples. Method blank sample is to assess if there is contamination during laboratory testing.

#### Matrix Quality Control Sample

2.36 Known quantities of target analytes matrix quality control sample was analyzed with the same sample preparation and analytical procedure as the field samples. The recovery of matrix quality control sample will be reported.

#### Sample Duplicate

2.37 Two independent sub-sampled portions of the same sample are separately prepared and analyzed by the same analytical method. Duplicate sample test results are used to assess the precision of the test method.

#### Matrix Spike

2.38 Known quantities of target analytes are added to a sample in the laboratory. The matrix spike samples are analyzed exactly the same as field samples. The recovery of matrix spike samples will be reported.

#### Acceptance Criteria of Laboratory QA/QC Samples

2.39 The acceptance criteria of laboratory QA/QC samples are summarized in **Table 2.6**.

**Table 2.6 Acceptance Criteria of Laboratory QA/QC Samples**

QA/QC Sample	Acceptance Criteria
Method blank	Method blank results should not exceed the Method Detection Limit (MDL) for any target analyte.
Matrix Quality Control Sample	The matrix quality control sample recovery shall be within the following ranges: 75% to 125% for physical and chemical testing
Sample duplicate	Relative percentage difference (RPD) $\leq$ 50% for data $>$ 10 times of LOR; and difference $\leq$ 5x LOR for data $<$ 10 times of Limit of Reporting (LOR);
Matrix spike recovery	The matrix spike recovery shall be within the following ranges: 75% to 125% for physical and chemical testing

### 3 BASELINE WATER QUALITY MONITORING RESULTS AND OBSERVATIONS

#### Results

- 3.1 Baseline water quality monitoring at 13 monitoring stations was conducted in the period between June and December 2018. The monitoring results are shown in **Appendix B**. The water depth of each monitoring station at mid-ebb and mid-flood tide is shown in **Table 3.1** and **Appendix B**. The results DO, turbidity, suspended solids (SS), Biochemical Oxygen Demand (BOD5), Nitrate-Nitrogen, Nitrite-Nitrogen, Ammonia-Nitrogen, *E. coli* and chlorophyll-a are summarized in **Tables 3.2 and Table 3.3**, which show the averages and ranges of readings recorded. Detailed weather conditions at the monitoring locations during the baseline monitoring period are shown in **Appendix B**. The detailed monitoring schedule is shown in **Appendix C**.
- 3.2 Laboratory Testing Reports and QA/QC procedures as attached in **Appendix D** are available for the laboratory analysis in the HOKLAS-accredited laboratory, WELLAB Ltd.

**Table 3.1 Water Depth of Water Quality Monitoring Stations**

Station	Water Depth (m)					
	Mid-Ebb			Mid-Flood		
	Mean	Max.	Min.	Mean	Max.	Min.
W1	6.9	7.0	6.0	6.8	7.0	6.0
W2	5.0	5.6	4.5	5.1	6.0	4.6
C1	7.1	8.0	7.0	7.4	8.0	7.0
F1	5.8	7.0	5.1	5.9	7.0	5.2
F2	6.2	7.0	6.0	6.0	6.0	6.0
F3	7.1	8.0	7.0	6.9	7.0	6.0
F4	11.2	12.0	11.0	11.2	12.0	11.0
CR1	5.8	6.0	5.5	6.0	7.0	5.5
CR15	6.8	7.0	6.0	6.8	8.0	6.0
CR16	7.4	8.0	6.0	7.4	8.0	7.0
CR17	6.1	7.0	5.6	6.0	7.0	5.2
G1	8.9	9.0	8.0	8.9	9.0	8.0
CR9	24.9	26.0	24.0	25.1	26.0	24.0

**Table 3.2 Summary of Baseline Water Quality Monitoring Results (Mid-Ebb)**

Station		Temperature (oC)			pH			Salinity ppt		
		Mean	Max.	Min.	Mean	Max.	Min.	Mean	Max.	Min.
W1	Surface	27.1	30.8	20	8.1	8.5	7.8	28.2	31.2	22.6
	Middle	26.6	29.9	20.3	7.9	8.3	7.7	30.4	32.9	28.9
	Bottom	26.4	29.7	20.4	7.8	8.0	7.6	30.8	33.5	29.6
W2	Surface	27.3	30.8	20.4	8.2	8.6	7.9	27.9	31.4	21.4
	Middle	--	--	--	--	--	--	--	--	--
	Bottom	26.6	29.6	20.5	8.0	8.3	7.7	30.2	31.9	28.9
C1	Surface	27.1	30.4	19.9	8.2	8.6	7.7	28.3	31.0	23.6
	Middle	26.5	29.9	20.0	8.0	8.3	7.7	30.5	33.0	29.0
	Bottom	26.3	29.7	20.0	7.9	8.1	7.6	31.0	33.5	29.7
F1	Surface	27.2	30.4	20.1	8.2	8.5	7.8	28.8	31.4	25.2
	Middle	28.0	29.7	25.2	8.0	8.3	7.8	29.9	31.3	29.2
	Bottom	26.6	29.5	20.4	8.0	8.3	7.6	30.7	33.0	29.5
F2	Surface	27.3	31.2	20.0	8.1	8.4	7.9	29.1	32.5	24.5
	Middle	26.7	30.0	20.0	8.1	8.3	7.8	30.5	32.7	26.9
	Bottom	26.5	29.7	20.0	7.9	8.3	7.6	30.9	33.8	27.4
F3	Surface	26.8	30.4	19.7	8.1	8.3	8.0	29.9	33.3	26.7
	Middle	26.6	29.5	19.8	8.1	8.3	7.8	31.0	33.6	28.0
	Bottom	26.2	29.7	19.7	7.9	8.2	7.6	31.4	33.9	28.2
F4	Surface	27.0	30.3	20.1	8.2	8.4	8	30.0	33.4	27.2
	Middle	26.3	29.4	20.2	8.1	8.4	7.8	31.3	34.2	28.3
	Bottom	25.9	29.4	20.2	8.0	8.4	7.8	31.8	34.8	28.3
CR1	Surface	27.3	31.1	20.2	8.2	8.6	7.9	27.9	31.4	20.2
	Middle	27.7	29.7	25.6	8.2	8.4	8.0	29.3	30.9	27.4
	Bottom	26.5	29.6	20.4	8.0	8.3	7.7	30.5	31.9	29.5
CR15	Surface	27.2	30.5	20.0	8.2	8.6	7.8	28.5	31.2	23.9
	Middle	26.6	29.9	20.2	8.0	8.2	7.8	30.3	32.4	28.7
	Bottom	26.4	29.8	20.2	7.9	8.2	7.6	30.9	33.2	29.6
CR16	Surface	27.2	30.9	19.9	8.2	8.6	7.8	28.3	31.1	21.2
	Middle	26.5	29.8	19.9	8.0	8.2	7.6	30.5	33.0	28.8
	Bottom	26.2	29.7	19.9	7.9	8.1	7.6	31.1	33.6	29.6

Station		Temperature (oC)			pH			Salinity ppt		
		Mean	Max.	Min.	Mean	Max.	Min.	Mean	Max.	Min.
CR17	Surface	27.1	30.6	20.1	8.2	8.6	7.7	27.9	31.1	22.3
	Middle	26.0	29.3	20.1	8.0	8.4	7.8	30.4	32.8	28.6
	Bottom	26.4	29.8	20.3	7.9	8.1	7.7	30.8	33.5	29.4
G1	Surface	27.1	30.2	19.9	8.2	8.5	8.0	29.4	32.0	26.5
	Middle	26.4	29.6	20.0	8.0	8.5	7.7	31.0	33.5	27.5
	Bottom	26.1	29.6	20.2	7.9	8.1	7.6	31.6	34.6	27.7
CR9	Surface	26.9	30.0	20.0	8.2	8.4	8.0	30.4	33.7	25.7
	Middle	25.8	29.2	20.0	8.0	8.4	7.8	31.9	34.7	28.4
	Bottom	25.5	28.4	20.0	8.0	8.4	7.7	32.2	34.8	29.9

Note:

1. "--" means the water depth less than 6m, mid-depth monitoring was omitted.

**Table 3.2a Summary of Baseline Water Quality Monitoring Results (Mid-Ebb)  
(Con't)**

Station		DO (mg/L)			Turbidity (NTU)			SS (mg/L)		
		Mean	Max.	Min.	Mean	Max.	Min.	Mean	Max.	Min.
W1	Surface	7.8	11.5	5.1	1.1	2.0	0.2	6	13	3
	Middle	4.7	8.2	0.7	1.7	4.7	0.3	7	11	<2.5
	Bottom	3.2	6.4	0.6	2.6	4.1	0.8	4	7	3
W2	Surface	7.7	10.2	5.1	1.7	2.6	0.0	7	12	3
	Middle	--	--	--	--	--	--	--	--	--
	Bottom	4.7	8.3	0.6	3.0	5.4	0.8	7	15	3
C1	Surface	7.9	10.0	5.2	1.1	2.0	0.2	5	9	<2.5
	Middle	4.8	7.9	0.6	1.6	4.1	0.7	6	10	3
	Bottom	3.2	7.4	0.5	3.1	5.8	0.9	7	10	3
F1	Surface	7.7	9.0	6.1	1.0	1.8	0.4	4	11	<2.5
	Middle	6.5	8.4	4.5	0.9	1.1	0.4	4	5	<2.5
	Bottom	4.4	7.6	0.6	2.3	4.9	0.7	5	9	<2.5
F2	Surface	7.0	9.5	2.4	0.7	1.2	0.2	7	12	<2.5
	Middle	5.7	7.0	1.8	1.0	1.8	0.4	9	23	3
	Bottom	3.8	6.8	0.5	2.5	4.0	0.8	6	12	<2.5

Station		DO (mg/L)			Turbidity (NTU)			SS (mg/L)		
		Mean	Max.	Min.	Mean	Max.	Min.	Mean	Max.	Min.
F3	Surface	6.9	7.9	4.6	0.6	1.3	0.2	5	15	<2.5
	Middle	5.8	7.5	2.7	0.9	2.4	0.3	6	12	<2.5
	Bottom	3.9	7.3	0.5	2.9	8.6	0.4	6	11	<2.5
F4	Surface	7.3	8.3	6.6	0.5	0.9	0.1	7	18	<2.5
	Middle	6.1	7.7	2.8	0.6	1.0	0.2	5	15	<2.5
	Bottom	5.1	7.3	2.3	2.3	4.5	0.9	5	14	<2.5
CR1	Surface	8.2	10.6	5.3	1.6	3.1	0.4	6	11	3
	Middle	7.0	8.1	5.3	1.3	2.6	0.4	4	6	3
	Bottom	4.9	8.4	0.6	3.1	6.2	0.3	7	12	<2.5
CR15	Surface	7.9	10.3	5.7	1.2	2.3	0.2	8	18	3
	Middle	4.9	8.5	0.6	1.6	4.4	0.6	6	14	<2.5
	Bottom	3.1	8.3	0.5	3.6	5.9	1.4	5	12	<2.5
CR16	Surface	8.0	10.8	5.2	1.1	2.1	0.3	6	10	<2.5
	Middle	4.7	7.9	0.7	1.5	4.3	0.4	9	19	<2.5
	Bottom	3.4	7.5	0.6	2.4	5.0	1.1	7	17	<2.5
CR17	Surface	8.1	10.7	4.7	1.1	2.1	0.2	6	15	<2.5
	Middle	5.3	8.4	0.7	1.5	4.3	0.2	8	22	3
	Bottom	3.4	7.1	0.6	2.7	5.6	0.9	6	14	<2.5
G1	Surface	7.8	8.9	6.8	0.8	1.6	0.0	7	28	3
	Middle	5.6	8.1	1.1	0.8	2.4	0.2	6	15	<2.5
	Bottom	3.6	6.7	0.7	2.5	4.6	0.3	6	14	<2.5
CR9	Surface	7.3	9.6	6.1	0.5	1.1	0.2	5	12	<2.5
	Middle	5.3	7.7	2.3	1.6	3.2	0.6	6	14	<2.5
	Bottom	4.5	7.3	2.0	4.3	7.5	1.3	6	21	<2.5

Notes:

1. Values are expressed as arithmetic mean, unless all samples were below LOR. For samples that are below LOR, the value is substituted with LOR to allow for calculation.
2. "--" means the water depth less than 6m, mid-depth monitoring was omitted.



**Table 3.2b Summary of Baseline Water Quality Monitoring Results (Mid-Ebb)  
(Con't)**

Station		BOD <sub>5</sub> (mg-O <sub>2</sub> /L)			NH <sub>3</sub> -N (mg NH <sub>3</sub> -N/L)			UIA (mg/L)		
		Mean	Max.	Min.	Mean	Max.	Min.	Mean	Max.	Min.
W1	Surface	<2	<2	<2	0.07	0.29	<0.05	0.004	0.021	<0.001
	Middle	<2	<2	<2	0.06	0.12	<0.05	0.002	0.003	<0.001
	Bottom	<2	<2	<2	0.08	0.19	<0.05	0.003	0.007	<0.001
W2	Surface	<2	<2	<2	0.15	0.32	<0.05	0.015	0.098	<0.001
	Middle	--	--	--	--	--	--	--	--	--
	Bottom	<2	<2	<2	0.11	0.38	<0.05	0.006	0.036	<0.001
C1	Surface	<2	<2	<2	0.06	0.14	<0.05	0.003	0.008	<0.001
	Middle	<2	<2	<2	0.06	0.13	<0.05	0.002	0.007	<0.001
	Bottom	<2	<2	<2	0.08	0.36	<0.05	0.003	0.015	<0.001
F1	Surface	<2	<2	<2	0.08	0.35	<0.05	0.006	0.036	<0.001
	Middle	<2	<2	<2	0.07	0.13	<0.05	0.003	0.006	<0.001
	Bottom	<2	<2	<2	0.06	0.12	<0.05	0.002	0.006	<0.001
F2	Surface	<2	<2	<2	0.06	0.10	<0.05	0.004	0.011	<0.001
	Middle	<2	<2	<2	0.05	0.08	<0.05	0.002	0.005	<0.001
	Bottom	<2	<2	<2	0.07	0.17	<0.05	0.001	0.004	<0.001
F3	Surface	<2	<2	<2	0.06	0.11	<0.05	0.002	0.006	<0.001
	Middle	<2	<2	<2	0.06	0.14	<0.05	0.002	0.008	<0.001
	Bottom	<2	<2	<2	0.06	0.11	<0.05	0.002	0.005	<0.001
F4	Surface	<2	<2	<2	0.06	0.14	<0.05	0.002	0.009	<0.001
	Middle	<2	<2	<2	0.05	0.06	<0.05	0.002	0.004	<0.001
	Bottom	<2	<2	<2	0.06	0.15	<0.05	0.002	0.011	<0.001
CR1	Surface	<2	<2	<2	0.13	0.56	<0.05	0.009	0.059	<0.001
	Middle	<2	<2	<2	0.06	0.07	<0.05	0.002	0.004	<0.001
	Bottom	<2	<2	<2	0.06	0.17	<0.05	0.003	0.008	<0.001
CR15	Surface	<2	<2	<2	0.05	0.08	<0.05	0.003	0.008	<0.001
	Middle	<2	<2	<2	0.07	0.19	<0.05	0.002	0.007	<0.001
	Bottom	<2	<2	<2	0.09	0.18	<0.05	0.003	0.007	<0.001
CR16	Surface	<2	<2	<2	0.06	0.15	<0.05	0.003	0.007	<0.001
	Middle	<2	<2	<2	0.07	0.18	<0.05	0.003	0.006	<0.001
	Bottom	<2	<2	<2	0.06	0.18	<0.05	0.002	0.004	<0.001

Station		BOD <sub>5</sub> (mg-O <sub>2</sub> /L)			NH <sub>3</sub> -N (mg NH <sub>3</sub> -N/L)			UIA (mg/L)		
		Mean	Max.	Min.	Mean	Max.	Min.	Mean	Max.	Min.
CR17	Surface	<2	<2	<2	0.06	0.14	<0.05	0.004	0.013	<0.001
	Middle	<2	<2	<2	<0.05	<0.05	<0.05	0.001	0.002	<0.001
	Bottom	<2	<2	<2	0.07	0.24	<0.05	0.002	0.007	<0.001
G1	Surface	<2	<2	<2	0.05	0.08	<0.05	0.003	0.006	<0.001
	Middle	<2	<2	<2	0.07	0.12	<0.05	0.003	0.007	<0.001
	Bottom	<2	<2	<2	0.06	0.10	<0.05	0.002	0.004	<0.001
CR9	Surface	<2	<2	<2	0.06	0.17	<0.05	0.002	0.013	<0.001
	Middle	<2	<2	<2	0.06	0.10	<0.05	0.002	0.006	<0.001
	Bottom	<2	<2	<2	0.06	0.08	<0.05	0.002	0.004	<0.001

Notes:

1. Values are expressed as arithmetic mean, unless all samples were below LOR. For samples that are below LOR, the value is substituted with LOR to allow for calculation.
2. "--" means the water depth less than 6m, mid-depth monitoring was omitted.

**Table 3.2c Summary of Baseline Water Quality Monitoring Results (Mid-Ebb)  
(Con't)**

Station		TIN ( mg N/L )			NO <sub>2</sub> -N ( mg NO <sub>2</sub> <sup>-</sup> -N/L )			NO <sub>3</sub> -N ( mg NO <sub>3</sub> <sup>-</sup> -N/L )		
		Mean	Max.	Min.	Mean	Max.	Min.	Mean	Max.	Min.
W1	Surface	0.13	0.30	<0.1	<0.01	<0.01	<0.01	0.06	0.14	<0.05
	Middle	0.11	0.20	<0.1	0.01	0.02	<0.01	0.05	0.05	<0.05
	Bottom	0.14	0.35	<0.1	0.01	0.02	<0.01	0.05	0.06	<0.05
W2	Surface	0.20	0.54	<0.1	0.01	0.01	<0.01	0.08	0.21	<0.05
	Middle	--	--	--	--	--	--	--	--	--
	Bottom	0.17	0.40	<0.1	<0.01	<0.01	<0.01	0.06	0.14	<0.05
C1	Surface	0.14	0.30	<0.1	<0.01	<0.01	<0.01	0.08	0.22	<0.05
	Middle	0.11	0.20	<0.1	0.01	0.02	<0.01	0.06	0.18	<0.05
	Bottom	0.14	0.40	<0.1	0.01	0.02	<0.01	0.06	0.16	<0.05
F1	Surface	0.14	0.60	<0.1	<0.01	<0.01	<0.01	0.07	0.28	<0.05
	Middle	0.13	0.20	<0.1	<0.01	<0.01	<0.01	0.06	0.09	<0.05
	Bottom	0.12	0.20	<0.1	<0.01	<0.01	<0.01	0.06	0.10	<0.05

Station		TIN ( mg N/L )			NO <sub>2</sub> -N ( mg NO <sub>2</sub> <sup>-</sup> -N/L )			NO <sub>3</sub> -N ( mg NO <sub>3</sub> <sup>-</sup> -N/L )		
		Mean	Max.	Min.	Mean	Max.	Min.	Mean	Max.	Min.
F2	Surface	0.10	0.10	<0.1	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05
	Middle	0.10	0.10	<0.1	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05
	Bottom	0.10	0.10	<0.1	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05
F3	Surface	0.10	0.10	<0.1	<0.01	<0.01	<0.01	0.05	0.05	<0.05
	Middle	0.11	0.20	<0.1	0.01	0.01	0.01	<0.05	<0.05	<0.05
	Bottom	0.10	0.10	<0.1	<0.01	<0.01	<0.01	0.05	0.05	<0.05
F4	Surface	0.23	1.90	<0.1	<0.01	<0.01	<0.01	0.17	1.79	<0.05
	Middle	<0.1	<0.1	<0.1	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05
	Bottom	0.11	0.20	<0.1	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05
CR1	Surface	0.16	0.70	<0.1	<0.01	<0.01	<0.01	0.07	0.17	<0.05
	Middle	0.10	0.10	<0.1	<0.01	<0.01	<0.01	0.05	0.05	<0.05
	Bottom	0.11	0.17	<0.1	<0.01	<0.01	<0.01	0.06	0.16	<0.05
CR15	Surface	0.12	0.30	<0.1	<0.01	<0.01	<0.01	0.07	0.19	<0.05
	Middle	0.11	0.20	<0.1	0.01	0.02	0.01	0.06	0.09	<0.05
	Bottom	0.14	0.40	<0.1	<0.01	<0.01	<0.01	0.07	0.30	<0.05
CR16	Surface	0.11	0.20	<0.1	<0.01	<0.01	<0.01	0.05	0.09	<0.05
	Middle	0.11	0.20	<0.1	0.01	0.01	<0.01	0.05	0.08	<0.05
	Bottom	0.12	0.30	<0.1	<0.01	<0.01	<0.01	0.07	0.26	<0.05
CR17	Surface	0.15	0.40	<0.1	<0.01	<0.01	<0.01	0.09	0.30	<0.05
	Middle	0.10	0.10	<0.1	<0.01	<0.01	<0.01	0.06	0.12	<0.05
	Bottom	0.12	0.30	<0.1	0.01	0.02	<0.01	0.05	0.10	<0.05
G1	Surface	0.10	0.10	<0.1	<0.01	<0.01	<0.01	0.05	0.09	<0.05
	Middle	0.12	0.40	<0.1	<0.01	<0.01	<0.01	0.07	0.30	<0.05
	Bottom	0.11	0.20	<0.1	<0.01	<0.01	<0.01	0.06	0.14	<0.05
CR9	Surface	0.11	0.20	<0.1	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05
	Middle	0.10	0.10	<0.1	0.01	0.02	<0.01	0.05	0.09	<0.05
	Bottom	0.10	0.10	<0.1	0.01	0.02	<0.01	0.06	0.10	<0.05

Notes:

1. Values are expressed as arithmetic mean, unless all samples were below LOR. For samples that are below LOR, the value is substituted with LOR to allow for calculation.
2. "--" means the water depth less than 6m, mid-depth monitoring was omitted.

**Table 3.2d Summary of Baseline Water Quality Monitoring Results (Mid-Ebb)  
(Con't)**

Station		<i>E. coli</i> (cfu/100mL)			Chlorophyll-a (mg/m <sup>3</sup> )		
		Mean	Max.	Min.	Mean	Max.	Min.
W1	Surface	11	220	<1	11.0	24.0	3.3
	Middle	5	98	<1	12.8	25.0	5.4
	Bottom	4	34	<1	10.5	20.0	1.5
W2	Surface	265	19000	2	16.1	38.0	5.2
	Middle	--	--	--	--	--	--
	Bottom	81	4200	1	14.7	28.0	4.9
C1	Surface	10	220	1	10.6	22.0	5.1
	Middle	4	140	<1	12.3	23.0	5.3
	Bottom	5	110	<1	11.6	24.0	4.7
F1	Surface	7	860	1	9.8	26.0	4.4
	Middle	5	16	1	11.9	21.0	5.6
	Bottom	10	580	1	10.5	21.0	4.2
F2	Surface	3	9	<1	7.2	14.0	2.5
	Middle	2	11	<1	9.0	19.0	2.3
	Bottom	2	7	<1	7.7	15.0	2.4
F3	Surface	2	9	<1	5.0	8.6	1.8
	Middle	2	8	<1	5.6	9.1	2.2
	Bottom	2	10	<1	5.8	12.0	1.9
F4	Surface	1	1	<1	5.3	10.0	3.0
	Middle	1	2	<1	5.5	15.0	2.6
	Bottom	1	11	<1	4.7	8.6	2.0
CR1	Surface	36	1900	<1	16.5	38.0	4.6
	Middle	45	200	16	15.3	24.0	9.1
	Bottom	15	680	<1	13.4	27.0	4.6
CR15	Surface	56	820	6	11.1	28.0	4.6
	Middle	9	200	<1	11.2	20.0	5.8
	Bottom	10	300	<1	9.6	22.0	5.3
CR16	Surface	8	260	1	11.8	30.0	4.4
	Middle	6	420	<1	11.5	27.0	3.2
	Bottom	4	320	<1	12.9	29.0	2.9

Station		<i>E. coli</i> (cfu/100mL)			Chlorophyll-a (mg/m <sup>3</sup> )		
		Mean	Max.	Min.	Mean	Max.	Min.
CR17	Surface	9	820	<1	12.2	26.0	3.7
	Middle	6	360	<1	13.7	28.0	8.2
	Bottom	4	22	<1	12.9	25.0	2.4
G1	Surface	2	380	<1	11.2	20.0	5.2
	Middle	3	1600	<1	9.8	17.0	4.9
	Bottom	1	6	<1	8.3	16.0	2.6
CR9	Surface	<1	<1	<1	3.6	6.9	1.3
	Middle	<1	<1	<1	3.8	7.1	0.9
	Bottom	<1	<1	<1	3.1	5.1	1.1

Notes:

- Values are expressed as arithmetic mean / geometric means, unless all samples were below LOR. For samples that are below LOR, the value is substituted with LOR to allow for calculation.
- "--" means the water depth less than 6m, mid-depth monitoring was omitted.

Table 3.3 Summary of Baseline Water Quality Monitoring Results (Mid-Flood)

Station		Temperature (oC)			pH			Salinity ppt		
		Mean	Max.	Min.	Mean	Max.	Min.	Mean	Max.	Min.
W1	Surface	27.2	31.5	20.2	8.1	8.6	7.7	28.7	31.2	25.6
	Middle	26.7	29.8	20.1	8.0	8.2	7.6	30.4	31.8	28.9
	Bottom	26.5	29.8	20.3	7.9	8.2	7.6	30.8	29.6	32.6
W2	Surface	27.6	31.1	20.8	8.2	8.6	7.8	27.5	31.4	18.8
	Middle	28.3	28.3	28.3	7.9	7.9	7.9	28.8	28.8	28.8
	Bottom	26.8	29.6	20.5	8.0	8.3	7.6	30.3	31.8	29
C1	Surface	27.2	31.1	20.2	8.2	8.6	7.8	28.6	31.0	25.6
	Middle	26.6	29.9	20.1	8.0	8.4	7.7	30.3	32.8	28.7
	Bottom	26.4	29.7	20.2	7.9	8.2	7.6	30.9	33.6	29.6
F1	Surface	27.4	30.7	20.6	8.2	8.3	7.8	28.3	31.4	22.3
	Middle	28.0	29.6	25.2	8.0	8.3	7.8	29.6	29.9	28.9
	Bottom	26.5	29.5	20.4	8.0	8.3	7.6	30.6	33.0	29.3
F2	Surface	27.3	31.2	20.3	8.2	8.4	7.9	29.1	32.6	24.5
	Middle	26.8	30.4	20.1	8.1	8.3	7.7	30.3	32.8	26.4
	Bottom	26.5	29.5	20.2	7.9	8.2	7.6	31	33.8	27.2

Station		Temperature (oC)			pH			Salinity ppt		
		Mean	Max.	Min.	Mean	Max.	Min.	Mean	Max.	Min.
<b>F3</b>	<b>Surface</b>	26.9	30.8	19.7	8.2	8.3	7.9	30.2	32.8	28
	<b>Middle</b>	26.4	29.4	19.7	8.1	8.4	7.9	30.9	33.2	28.3
	<b>Bottom</b>	26.2	29.7	19.7	8.0	8.2	7.7	31.3	33.8	28.4
<b>F4</b>	<b>Surface</b>	27.2	31.2	30.3	8.2	8.4	8.0	29.8	33.2	27.3
	<b>Middle</b>	26.2	29.5	20.3	8.1	8.3	7.9	31.3	34.1	28.3
	<b>Bottom</b>	25.9	29.4	20.2	8.0	8.3	7.8	31.7	34.7	28.3
<b>CR1</b>	<b>Surface</b>	27.5	30.8	20.7	8.2	8.6	7.8	27.5	31.5	18.6
	<b>Middle</b>	28.3	29.6	26.3	7.9	7.9	7.7	29.6	29.9	29.0
	<b>Bottom</b>	26.6	29.6	20.5	8.0	8.3	7.6	30.6	33.2	29.5
<b>CR15</b>	<b>Surface</b>	27.3	31.2	20.3	8.2	8.5	7.8	28.3	31.4	20.5
	<b>Middle</b>	26.8	29.8	20.4	8.1	8.3	7.7	30.0	33.0	28.4
	<b>Bottom</b>	26.5	29.7	20.3	7.9	8.2	7.7	30.8	33.6	29.2
<b>CR16</b>	<b>Surface</b>	27.2	31.1	20.3	8.2	8.5	7.8	28.5	31.0	24.2
	<b>Middle</b>	26.6	29.8	20.0	8.0	8.3	7.7	30.3	32.4	28.9
	<b>Bottom</b>	26.4	29.7	20.3	7.9	8.2	7.7	30.9	33.6	29.6
<b>CR17</b>	<b>Surface</b>	27.2	31.7	20.3	8.2	8.6	7.7	28.8	31.0	24.4
	<b>Middle</b>	25.7	28.8	20.2	8.0	8.3	7.6	30.4	31.8	29.0
	<b>Bottom</b>	26.5	29.8	20.1	8.0	8.2	7.6	30.7	32.3	29.5
<b>G1</b>	<b>Surface</b>	27.2	30.8	20.1	8.3	8.5	7.9	29.1	32	26
	<b>Middle</b>	26.5	29.7	20.0	8.1	8.3	7.7	30.9	33.8	27.5
	<b>Bottom</b>	26.1	29.7	20.3	7.9	8.1	7.7	31.6	34.5	27.8
<b>CR9</b>	<b>Surface</b>	27.0	30.5	20.2	8.1	8.3	8.0	30.6	34.4	28.3
	<b>Middle</b>	25.8	29.3	20.0	8.0	8.3	7.8	31.8	34.7	28.3
	<b>Bottom</b>	25.5	28.8	20.0	8.0	8.3	7.8	32.1	34.7	28.9

**Table 3.3a Summary of Baseline Water Quality Monitoring Results (Mid-Flood)  
(Con't)**

Station		DO (mg/L)			Turbidity (NTU)			SS (mg/L)		
		Mean	Max.	Min.	Mean	Max.	Min.	Mean	Max.	Min.
W1	Surface	7.7	10.3	4.8	1.3	2.6	0.3	6	11	4
	Middle	4.7	8.3	1.2	1.8	4.5	0.2	6	15	<2.5
	Bottom	3.6	8.4	0.6	2.4	5.1	0.2	6	12	<2.5
W2	Surface	8.4	11.8	5.9	1.6	2.6	0.3	7	11	3
	Middle	5.6	5.6	5.6	1.7	1.7	1.7	6	6	6
	Bottom	4.9	8.2	0.9	2.8	5.4	0.8	6	13	<2.5
C1	Surface	8.2	10.8	5.8	1.1	1.9	0.3	5	9	<2.5
	Middle	5.4	8.9	1.1	1.2	2.0	0.4	6	13	<2.5
	Bottom	3.7	8.6	0.5	2.7	6.6	0.5	8	14	<2.5
F1	Surface	8.0	10.9	5.7	0.9	2.0	0.3	6	13	<2.5
	Middle	6.1	8.3	5.3	0.7	1.2	0.3	3	4	3
	Bottom	4.6	7.9	0.6	1.9	5.2	0.4	7	13	<2.5
F2	Surface	7.0	9.6	3.1	0.8	1.7	0.2	6	23	<2.5
	Middle	6.2	9.0	1.6	1.0	1.6	0.3	6	13	<2.5
	Bottom	3.6	7.1	0.9	2.9	5.4	0.9	7	14	3
F3	Surface	7.2	9.4	5.7	0.6	1.1	0.2	5	11	3
	Middle	6.1	7.8	1.5	0.9	2.5	0.2	6	12	<2.5
	Bottom	4.1	7.3	0.4	2.6	6.5	0.8	5	8	<2.5
F4	Surface	7.6	9.4	6.2	0.6	0.9	0.2	6	15	<2.5
	Middle	6.1	7.9	3.9	0.8	1.3	0.2	7	16	<2.5
	Bottom	5.2	7.3	2.0	2.5	5.3	0.3	5	13	<2.5
CR1	Surface	8.7	12.3	5.9	1.5	2.3	0.6	7	12	3
	Middle	4.9	5.5	4.4	1.4	2.0	0.7	5	9	<2.5
	Bottom	4.5	8.7	0.6	2.5	4.2	0.7	6	11	<2.5
CR15	Surface	8.3	10.2	6.0	1.2	2.2	0.2	6	11	3
	Middle	6.0	8.9	1.4	1.3	2.1	0.5	7	12	<2.5
	Bottom	3.2	8.2	0.6	3.1	5.3	0.9	6	10	<2.5
CR16	Surface	8.1	10.1	6.0	1.2	2.4	0.4	9	23	<2.5
	Middle	5.4	8.7	0.6	1.2	3.0	0.3	6	16	<2.5
	Bottom	3.6	7.7	0.5	2.2	3.8	0.4	8	21	<2.5

Station		DO (mg/L)			Turbidity (NTU)			SS (mg/L)		
		Mean	Max.	Min.	Mean	Max.	Min.	Mean	Max.	Min.
CR17	Surface	7.5	10.1	4.5	1.3	3.1	0.3	6	12	<2.5
	Middle	5.3	8.7	2.0	1.3	2.3	0.1	6	10	<2.5
	Bottom	4.0	8.1	0.6	3.1	9.0	0.2	6	14	<2.5
G1	Surface	8.2	11.1	5.6	0.8	1.2	0.3	6	14	<2.5
	Middle	5.6	8.3	0.8	0.8	1.3	0.3	6	21	<2.5
	Bottom	3.7	7.5	0.6	2.5	6.6	0.5	5	13	<2.5
CR9	Surface	7.2	9.9	5.8	0.6	1.4	0.2	6	14	<2.5
	Middle	5.4	7.6	2.5	1.7	3.5	0.4	8	27	<2.5
	Bottom	4.8	7.3	1.8	4.3	11.9	1.1	7	14	<2.5

Notes:

1. Values are expressed as arithmetic mean, unless all samples were below LOR. For samples that are below LOR, the value is substituted with LOR to allow for calculation.

**Table 3.3b Summary of Baseline Water Quality Monitoring Results (Mid-Flood)  
(Con't)**

Station		BOD <sub>5</sub> (mg-O <sub>2</sub> /L)			NH <sub>3</sub> -N (mg NH <sub>3</sub> -N/L)			UIA (mg/L)		
		Mean	Max.	Min.	Mean	Max.	Min.	Mean	Max.	Min.
W1	Surface	<2	<2	<2	0.06	0.12	<0.05	0.003	0.005	<0.001
	Middle	<2	<2	<2	0.08	0.15	<0.05	0.003	0.009	<0.001
	Bottom	<2	<2	<2	0.09	0.21	<0.05	0.003	0.008	<0.001
W2	Surface	<2	<2	<2	0.11	0.30	<0.05	0.010	0.04	<0.001
	Middle	<2	<2	<2	0.06	0.06	0.06	0.003	0.003	0.003
	Bottom	<2	<2	<2	0.12	0.36	<0.05	0.006	0.024	<0.001
C1	Surface	<2	<2	<2	0.06	0.16	<0.05	0.003	0.010	<0.001
	Middle	<2	<2	<2	0.06	0.12	<0.05	0.002	0.004	<0.001
	Bottom	<2	<2	<2	0.06	0.12	<0.05	0.002	0.003	<0.001
F1	Surface	<2	<2	<2	0.06	0.09	<0.05	0.003	0.008	<0.001
	Middle	<2	<2	<2	0.06	0.08	<0.05	0.002	0.003	<0.001
	Bottom	<2	<2	<2	0.07	0.21	<0.05	0.002	0.010	<0.001



Station		BOD <sub>5</sub> (mg-O <sub>2</sub> /L)			NH <sub>3</sub> -N (mg NH <sub>3</sub> -N/L)			UIA (mg/L)		
		Mean	Max.	Min.	Mean	Max.	Min.	Mean	Max.	Min.
F2	Surface	<2	<2	<2	0.06	0.18	<0.05	0.003	0.016	<0.001
	Middle	<2	<2	<2	0.06	0.12	<0.05	0.002	0.008	<0.001
	Bottom	<2	<2	<2	0.06	0.10	<0.05	0.001	0.004	<0.001
F3	Surface	<2	<2	<2	0.05	0.06	<0.05	0.002	0.005	<0.001
	Middle	<2	<2	<2	0.05	0.08	<0.05	0.002	0.003	<0.001
	Bottom	<2	<2	<2	0.06	0.12	<0.05	0.002	0.005	<0.001
F4	Surface	<2	<2	<2	0.05	0.06	<0.05	0.002	0.006	<0.001
	Middle	<2	<2	<2	0.05	0.11	<0.05	0.002	0.005	<0.001
	Bottom	<2	<2	<2	0.05	0.06	<0.05	0.001	0.004	<0.001
CR1	Surface	<2	<2	<2	0.09	0.34	<0.05	0.009	0.052	<0.001
	Middle	<2	<2	<2	0.06	0.09	<0.05	0.002	0.004	<0.001
	Bottom	<2	<2	<2	0.07	0.17	<0.05	0.002	0.007	<0.001
CR15	Surface	<2	<2	<2	0.05	0.08	<0.05	0.003	0.009	<0.001
	Middle	<2	<2	<2	0.05	0.06	<0.05	0.002	0.003	<0.001
	Bottom	<2	<2	<2	0.06	0.11	<0.05	0.002	0.003	<0.001
CR16	Surface	<2	<2	<2	0.06	0.08	<0.05	0.003	0.013	<0.001
	Middle	<2	<2	<2	0.06	0.1	<0.05	0.002	0.004	<0.001
	Bottom	<2	<2	<2	0.06	0.1	<0.05	0.002	0.004	<0.001
CR17	Surface	<2	<2	<2	0.05	0.07	<0.05	0.003	0.008	<0.001
	Middle	<2	<2	<2	0.07	0.17	<0.05	0.002	0.005	<0.001
	Bottom	<2	<2	<2	0.07	0.20	<0.05	0.002	0.006	<0.001
G1	Surface	<2	<2	<2	0.07	0.20	<0.05	0.004	0.018	<0.001
	Middle	<2	<2	<2	0.06	0.13	<0.05	0.002	0.005	<0.001
	Bottom	<2	<2	<2	0.06	0.13	<0.05	0.002	0.004	<0.001
CR9	Surface	<2	<2	<2	0.05	0.06	<0.05	0.002	0.004	<0.001
	Middle	<2	<2	<2	0.07	0.19	<0.05	0.003	0.014	<0.001
	Bottom	<2	<2	<2	0.05	0.08	<0.05	0.002	0.005	<0.001

Notes:

1. Values are expressed as arithmetic mean, unless all samples were below LOR. For samples that are below LOR, the value is substituted with LOR to allow for calculation.

**Table 3.3c Summary of Baseline Water Quality Monitoring Results (Mid-Flood)  
(Con't)**

Station		TIN ( mg N/L )			NO <sub>2</sub> -N ( mg NO <sub>2</sub> -N/L )			NO <sub>3</sub> -N ( mg NO <sub>3</sub> -N/L )		
		Mean	Max.	Min.	Mean	Max.	Min.	Mean	Max.	Min.
<b>W1</b>	Surface	0.11	0.20	<0.1	0.01	0.01	<0.01	0.05	0.05	<0.05
	Middle	0.12	0.30	<0.1	0.01	0.01	<0.01	0.06	0.19	<0.05
	Bottom	0.15	0.30	<0.1	0.01	0.01	<0.01	0.06	0.19	<0.05
<b>W2</b>	Surface	0.16	0.30	<0.1	<0.01	<0.01	<0.01	0.07	0.16	<0.05
	Middle	0.11	0.11	0.11	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05
	Bottom	0.17	0.40	<0.1	<0.01	<0.01	<0.01	0.06	0.08	<0.05
<b>C1</b>	Surface	0.11	0.20	<0.1	<0.01	<0.01	<0.01	0.06	0.10	<0.05
	Middle	0.14	0.40	<0.1	<0.01	<0.01	<0.01	0.08	0.35	<0.05
	Bottom	0.11	0.20	<0.1	0.01	0.02	<0.01	<0.05	<0.05	<0.05
<b>F1</b>	Surface	0.10	0.11	<0.1	<0.01	<0.01	<0.01	0.05	0.10	<0.05
	Middle	0.10	0.10	<0.1	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05
	Bottom	0.11	0.20	<0.1	<0.01	<0.01	<0.01	0.05	0.05	<0.05
<b>F2</b>	Surface	0.11	0.20	<0.1	<0.01	<0.01	<0.01	0.05	0.06	<0.05
	Middle	0.11	0.20	<0.1	0.01	0.02	<0.01	<0.05	<0.05	<0.05
	Bottom	0.10	0.10	<0.1	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05
<b>F3</b>	Surface	<0.1	<0.1	<0.1	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05
	Middle	0.10	0.10	<0.1	<0.01	<0.01	<0.01	0.05	0.05	<0.05
	Bottom	0.10	0.10	<0.1	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05
<b>F4</b>	Surface	<0.1	<0.1	<0.1	<0.01	<0.01	<0.01	0.05	0.05	<0.05
	Middle	0.10	0.10	<0.1	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05
	Bottom	<0.1	<0.1	<0.1	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05
<b>CR1</b>	Surface	0.15	0.40	<0.1	0.01	0.01	<0.01	0.07	0.13	<0.05
	Middle	0.10	0.10	<0.1	<0.01	<0.01	<0.01	0.05	0.07	<0.05
	Bottom	0.11	0.20	<0.1	<0.01	<0.01	<0.01	0.05	0.07	<0.05
<b>CR15</b>	Surface	0.11	0.20	<0.1	<0.01	<0.01	<0.01	0.06	0.11	0.05
	Middle	<0.1	<0.1	<0.1	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05
	Bottom	0.11	0.20	<0.1	<0.01	<0.01	<0.01	0.05	0.07	0.05
<b>CR16</b>	Surface	0.11	0.20	<0.1	<0.01	<0.01	<0.01	0.06	0.10	<0.05
	Middle	0.10	0.10	<0.1	0.01	0.02	<0.01	0.05	0.07	<0.05
	Bottom	0.10	0.10	<0.1	<0.01	<0.01	<0.01	0.05	0.06	<0.05

Station		TIN ( mg N/L )			NO <sub>2</sub> -N ( mg NO <sub>2</sub> <sup>-</sup> -N/L )			NO <sub>3</sub> -N ( mg NO <sub>3</sub> <sup>-</sup> -N/L )		
		Mean	Max.	Min.	Mean	Max.	Min.	Mean	Max.	Min.
CR17	Surface	0.11	0.20	<0.1	0.01	0.02	0.01	0.06	0.11	<0.05
	Middle	0.11	0.20	<0.1	<0.01	<0.01	<0.01	0.05	0.07	<0.05
	Bottom	0.11	0.30	<0.1	<0.01	<0.01	<0.01	0.05	0.07	<0.05
G1	Surface	0.11	0.20	<0.1	0.01	0.01	0.01	<0.05	<0.05	<0.05
	Middle	0.11	0.20	<0.1	<0.01	<0.01	<0.01	0.05	0.08	<0.05
	Bottom	0.11	0.20	<0.1	0.01	0.02	0.01	0.05	0.11	<0.05
CR9	Surface	<0.1	<0.1	<0.1	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05
	Middle	0.11	0.20	<0.1	<0.01	<0.01	<0.01	0.05	0.08	<0.05
	Bottom	0.11	0.20	<0.1	0.01	0.02	<0.01	0.06	0.10	<0.05

Notes:

1. Values are expressed as arithmetic mean, unless all samples were below LOR. For samples that are below LOR, the value is substituted with LOR to allow for calculation.

**Table 3.3d Summary of Baseline Water Quality Monitoring Results (Mid-Flood) (Con't)**

Station		<i>E. coli</i> (cfu/100mL)			Chlorophyll-a (mg/m <sup>3</sup> )		
		Mean	Max.	Min.	Mean	Max.	Min.
W1	Surface	7	960	<1	12.1	21.0	2.1
	Middle	5	940	<1	10.8	20.0	1.6
	Bottom	6	560	<1	9.3	18.0	1.9
W2	Surface	90	2300	1	16.3	29.0	3.0
	Middle	200	200	200	7.6	7.6	7.6
	Bottom	41	640	<1	14.5	28.0	6.2
C1	Surface	7	360	<1	9.5	21.0	2.8
	Middle	5	260	<1	11.8	30.0	2.7
	Bottom	4	87	<1	10.0	20.0	3.4
F1	Surface	6	76	<1	11.3	23.0	3.0
	Middle	6	23	1	9.0	18.0	2.9
	Bottom	7	64	<1	10.3	18.0	2.4
F2	Surface	5	200	<1	6.4	21.0	2.6
	Middle	3	300	<1	6.3	18.0	2.5
	Bottom	4	150	<1	7.8	27.0	2.7

Station		<i>E. coli</i> (cfu/100mL)			Chlorophyll-a (mg/m3)		
		Mean	Max.	Min.	Mean	Max.	Min.
<b>F3</b>	Surface	1	6	<1	4.2	9.6	1.0
	Middle	2	5	<1	5.3	19.0	1.1
	Bottom	2	17	<1	7.3	20.0	1.2
<b>F4</b>	Surface	1	84	<1	4.7	9.2	1.8
	Middle	1	2	<1	5.6	19.0	1.7
	Bottom	1	4	<1	5.9	16.0	1.6
<b>CR1</b>	Surface	38	2000	<1	16.5	30.0	7.2
	Middle	86	320	8	11.6	21.0	5.0
	Bottom	13	300	<1	11.7	23.0	5.3
<b>CR15</b>	Surface	16	340	<1	11.4	26.0	3.5
	Middle	8	160	<1	11.5	25.0	3.6
	Bottom	9	220	<1	10.2	19.0	4.0
<b>CR16</b>	Surface	7	300	<1	10.2	20.0	2.4
	Middle	8	320	<1	10.1	20.0	3.0
	Bottom	4	220	<1	9.3	16.0	1.9
<b>CR17</b>	Surface	12	260	<1	11.3	20.0	1.8
	Middle	6	340	1	8.3	12.0	1.8
	Bottom	8	580	<1	10.1	18.0	1.9
<b>G1</b>	Surface	2	110	<1	8.9	17.0	2.9
	Middle	2	30	<1	10.0	24.0	2.4
	Bottom	2	24	<1	8.7	23.0	1.6
<b>CR9</b>	Surface	1	6	<1	3.4	6.7	0.8
	Middle	1	1	<1	3.4	6.6	0.6
	Bottom	1	1	<1	3.1	5.1	0.6

Notes:

1. Values are expressed as arithmetic mean / geometric means, unless all samples were below LOR. For samples that are below LOR, the value is substituted with LOR to allow for calculation.

### **Observations**

- 3.3 During the baseline monitoring period, no construction works in the area (vicinity of all monitoring stations), THEES maintenance or emergency discharge were noted. Thus, there was no observable pollution source identified in the vicinity of all monitoring stations during the baseline monitoring programme.
- 3.4 Since no observable pollution activity was identified for all stations during sampling, the baseline monitoring results are considered representative of the ambient water quality levels.

### **Setting Baseline Water Quality Conditions**

- 3.5 As the aim of the impact monitoring is to confirm whether the water quality returns to the baseline water quality conditions or the water quality objectives (WQOs) in the Tolo Harbour and Channel Water Control Zone (WCZ), this level is proposed with reference to the water quality measured during baseline monitoring and/or control stations during the impact monitoring.
- 3.6 The guidelines for determination of the baseline water quality conditions and WQOs in Tolo Harbour and Channel WCZ for the water quality impact monitoring of the Project are shown in **Appendix G**.
- 3.7 The calculated baseline water quality conditions are shown in **Appendix H**. For samples that are below LOR, the value is substituted with LOR to allow for calculation.

**Roles and Action of Stakeholders during Events of Discharge**

3.8 According to Table 4.2 of the EM&A Manual, the following responses should be followed in case of THEES Maintenance / Emergency Discharge at Tolo Harbour. The action plan will be triggered when one of the parameter at a station is above the baseline water quality conditions.

**Table 3.4 Roles and Action of Stakeholders during Events of Discharge**

Event	Action			
	Environmental Team (Construction Stage)/ Environmental Consultant (Operational Stage)	Independent Environmental Checker (Construction Stage)	Resident Engineer (Construction Stage) & DSD	Contractor
<b>THEES Maintenance Discharge during construction and operation of this Project</b>				
Water Quality does not restore to baseline water quality conditions	1. Identify source to review if the exceedance is due to project. Propose remedial measures; 2. Inform IEC and RE; 3. Check monitoring data; 4. If exceedance occurs at WSD seawater intake, inform WSD; 5. If exceedance occurs at fish culture zone or coral habitat, inform AFCD. 6. If exceedance occurs in cooling water intake at CUHK, inform CUHK. 7. Discuss mitigation measures with IEC, RE, DSD and/or Contractor. 8. Continue monitoring at a frequency of 3 times per week until the baseline water quality condition(s) is restored or at least 1 months after termination of the THEES maintenance discharge (whichever is longer). 9. Assess the effectiveness of the implemented mitigation measures and identify alternative measures if necessary	1. Check monitoring data submitted by ET/EC; 2. Discuss with ET/EC, RE and DSD on the mitigation measures; 3. Review proposal on mitigation measures. 4. Assess the effectiveness of the implemented mitigation measure and identify alternative measures if necessary	1. Discuss with ET/EC and IEC on the proposed mitigation measures 2. Review proposal on mitigation measures. 3. Make agreement on the mitigation proposal 4. Assess the effectiveness of the implemented mitigation measures and identify alternative measures if necessary	1. Implement agreed mitigation measures (e.g. install silt curtains / silt screen at seawater intake point)

Event	Action			
	Environmental Team (Construction Stage)/ Environmental Consultant (Operational Stage)	Independent Environmental Checker (Construction Stage)	Resident Engineer (Construction Stage) & DSD	Contractor
<b>Emergency Discharge during operation of this Project</b>				
Water Quality does not restore to baseline water quality conditions	<ol style="list-style-type: none"> <li>1. Identify source to review if the exceedance is due to project. Propose remedial measures;</li> <li>2. Inform IEC and RE;</li> <li>3. Check monitoring data;</li> <li>4. If exceedance occurs at WSD seawater intake, inform WSD;</li> <li>5. If exceedance occurs at fish culture zone or coral habitat, inform AFCD.</li> <li>6. If exceedance occurs in cooling water intake at CUHK, inform CUHK.</li> <li>7. Discuss mitigation measures with IEC, RE, DSD and/or Contractor.</li> <li>8. Continue monitoring daily as proposed in Section 4.4.1.5 of the EM&amp;A Manual until the baseline water quality is restored or at least 2 weeks after termination of the emergency discharge (whichever is longer).</li> <li>9. Assess the effectiveness of the implemented mitigation measures and identify alternative measures if necessary</li> </ol>	<ol style="list-style-type: none"> <li>1. Check monitoring data submitted by ET/EC;</li> <li>2. Discuss with ET/EC, RE and DSD on the mitigation measures;</li> <li>3. Review proposal on mitigation measures.</li> <li>4. Assess the effectiveness of the implemented mitigation measure and identify alternative measures if necessary</li> </ol>	<ol style="list-style-type: none"> <li>1. Discuss with ET/EC and IEC on the proposed mitigation measures</li> <li>2. Review proposal on mitigation measures.</li> <li>3. Make agreement on the mitigation proposal</li> <li>4. Assess the effectiveness of the implemented mitigation measures and identify alternative measures if necessary</li> </ol>	<ol style="list-style-type: none"> <li>1. Implement agreed mitigation measures (e.g. install silt curtains / silt screen at seawater intake point)</li> </ol>

#### **4 REVISIONS FOR INCLUSION IN THE EM&A MANUAL**

- 4.1 The baseline water quality monitoring was conducted according to the approved EM&A Manual for water quality.
- 4.2 The monitoring methodology, parameters monitored, and monitoring locations are all in line with the approved EM&A Manual.
- 4.3 No amendment to the EM&A Manual is required.



## **5 CONCLUSIONS**

- 5.1 The baseline marine water quality was conducted at 13 stations (W1, W2, C1, F1, F2, F3, F4, CR1, CR15, CR16, CR17, G1, CR9) in the period between June and December 2018.
- 5.2 No observable pollution source was observed at the monitoring stations. Since no observable pollution activity was identified for all stations during monitoring period, the baseline monitoring results are considered representative of the ambient water quality levels without any discharge from the Project.

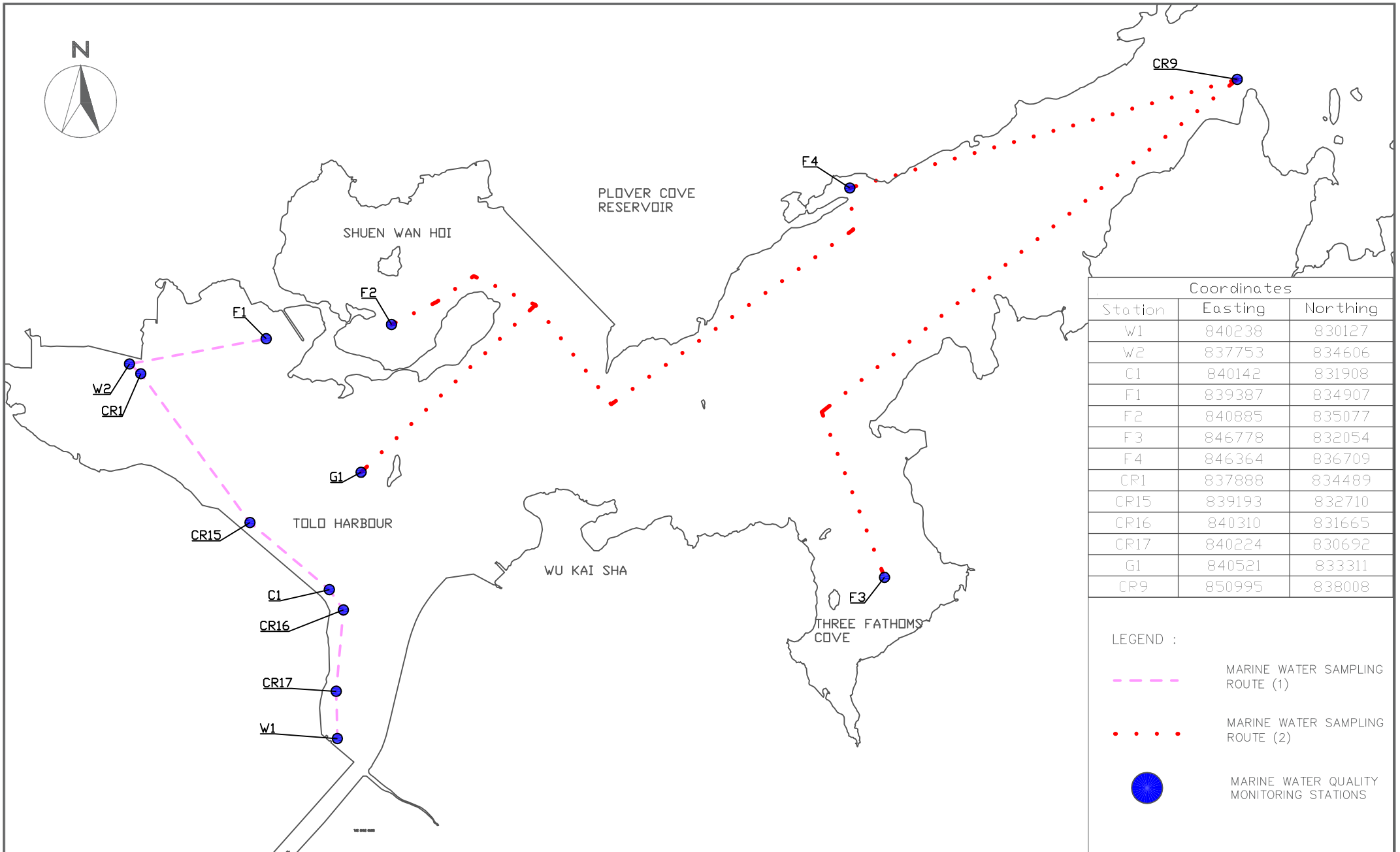
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## FIGURES

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Coordinates		
Station	Easting	Northing
W1	840238	830127
W2	837753	834606
C1	840142	831908
F1	839387	834907
F2	840885	835077
F3	846778	832054
F4	846364	836709
CR1	837888	834489
CR15	839193	832710
CR16	840310	831665
CR17	840224	830692
G1	840521	833311
CR9	850995	838008

LEGEND :

- MARINE WATER SAMPLING ROUTE (1)
- MARINE WATER SAMPLING ROUTE (2)
- MARINE WATER QUALITY MONITORING STATIONS



Contract No. SPW 09/2018  
 Environmental Team Baseline Surveys for Sha Tin Cavern  
 Sewage Treatment Works

## Baseline Marine Water Quality Monitoring Stations

SCALE	1:1500 A4	DATE	6/2018
CHECK	IT	DRAWN	VW
JOB No.	MA18061	FIGURE NO.	1
		REV	-

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**APPENDIX A  
COPIES OF CALIBRATION  
CERTIFICATES OF MULTI-  
PARAMETER WATER QUALITY  
SYSTEM**

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**TEST REPORT**

**APPLICANT:** Cinotech Consultants Limited  
RM 1710, Technology Park,  
18 On Lai Street,  
Shatin, N.T., Hong Kong

Test Report No.:	29025
Date of Issue:	2018-05-25
Date Received:	2018-05-25
Date Tested:	2018-05-25
Date Completed:	2018-05-25
Next Due Date:	2018-08-24

**ATTN:** Miss Mei Ling Tang

Page: 1 of 2

**Certificate of Calibration**

**Item for calibration:**

YSI EXO1 Multiparameter Sondes	Equipment No.:	SW-08-03
Manufacturer:	YSI Incorporated, a Xylem brand	
Description:	Model No.	Serial No.
- EXO Optical DO Sensor, Ti	599100-01	16H102982
- EXO conductivity/Temperature Sensor, Ti	599870	16G102304
- EXO Turbidity Sensor, Ti	599101-01	16H102460
- EXO pH Sensor Assembly, Guarded, Ti	599701	17K103110

**Test conditions:**

Room Temperature : 17-22 degree Celsius  
Relative Humidity : 40-70%

**Test Specifications:**

Performance checking for Conductivity, Temperature, pH, Dissolved oxygen (D.O.) and Turbidity

**Methodology:**

According to manufacturer instruction manual, APHA 20e 4500-O C

\*\*\*\*\*

PREPARED AND CHECKED BY:

For and On Behalf of **WELLAB Ltd.**

  
**PATRICK TSE**  
Laboratory Manager

### TEST REPORT

Test Report No.:	29025
Date of Issue:	2018-05-25
Date Received:	2018-05-25
Date Tested:	2018-05-25
Date Completed:	2018-05-25
Next Due Date:	2018-08-24
Page:	2 of 2

**Certificate of Calibration**

**Results:**

**Conductivity performance checking**

	Instrument Readings (µS/cm)	Acceptance Criteria	Comment
KCl stock solution (12890 µS/cm)	13000	12246-13534	Pass

**Temperature performance checking**

Reference thermometer- E431 Readings (°C)	Instrument Readings (°C)	Correction (°C)	Comment
20.7	20.701	-0.001	N/A

**pH performance checking**

	Instrument Readings (pH unit)	Acceptance Criteria	Comment
pH QC buffer 4.00	4.01	4.00 ± 0.10	Pass
pH QC buffer 6.86	6.86	6.86 ± 0.10	Pass
pH QC buffer 9.18	9.19	9.18 ± 0.10	Pass

**D.O. performance checking**

	Instrument Readings (mg/L)	Acceptance Criteria	Comment
Zero DO solution	0.05	<0.1mg/L	Pass

Winkler Titration value (mg/L)	Instrument Readings (mg/L)	Acceptance Criteria	Comment
8.00	8.03	Difference between Titration value and instrument reading <0.2mg/L	Pass

**Turbidity performance checking**

Turbidity stock solution	Instrument Readings (NTU)	Acceptance Criteria	Comment
10 NTU	10.02	9.0-11.0	Pass
50 NTU	50.08	45.0-55.0	Pass
100 NTU	100.7	90.0-110.0	Pass

**Depth performance checking**

Water Depth	Instrument Readings (NTU)	Acceptance Criteria	Comment
0.5 meter	0.50	0.45-0.55	Pass

\*\*\*\*\*END OF REPORT\*\*\*\*\*

**TEST REPORT**

**APPLICANT:** Cinotech Consultants Limited  
RM 1710, Technology Park,  
18 On Lai Street,  
Shatin, N.T., Hong Kong

Test Report No.:	29025A
Date of Issue:	2018-05-25
Date Received:	2018-05-25
Date Tested:	2018-05-25
Date Completed:	2018-05-25
Next Due Date:	2018-08-24

**ATTN:** Miss Mei Ling Tang

Page: 1 of 2

**Certificate of Calibration**

**Item for calibration:**

YSI EXO1 Multiparameter Sondes	Equipment No.:	SW-08-06
Manufacturer:	YSI Incorporated, a Xylem brand	
Description:	Model No.	Serial No.
- EXO Optical DO Sensor, Ti	599100-01	16H102985
- EXO conductivity/Temperature Sensor, Ti	599870	16G102307
- EXO Turbidity Sensor, Ti	599101-01	16H102463
- EXO pH Sensor Assembly, Guarded, Ti	599795-01	16J100416

**Test conditions:**

Room Temperature : 17-22 degree Celsius  
Relative Humidity : 40-70%

**Test Specifications:**

Performance checking for Conductivity, Temperature, pH, Dissolved oxygen (D.O.) and Turbidity

**Methodology:**

According to manufacturer instruction manual, APHA 20e 4500-O C

\*\*\*\*\*

PREPARED AND CHECKED BY:  
For and On Behalf of **WELLAB Ltd.**

  
**PATRICK TSE**  
Laboratory Manager

**TEST REPORT**

Test Report No.:	29025A
Date of Issue:	2018-05-25
Date Received:	2018-05-25
Date Tested:	2018-05-25
Date Completed:	2018-05-25
Next Due Date:	2018-08-24

Page: 2 of 2

**Certificate of Calibration**

**Results:**

**Conductivity performance checking**

	Instrument Readings (µS/cm)	Acceptance Criteria	Comment
KCl stock solution (12890 µS/cm)	13000	12246-13534	Pass

**Temperature performance checking**

Reference thermometer- E431 Readings (°C)	Instrument Readings (°C)	Correction (°C)	Comment
20.7	20.702	-0.002	N/A

**pH performance checking**

	Instrument Readings (pH unit)	Acceptance Criteria	Comment
pH QC buffer 4.00	4.00	4.00 ± 0.10	Pass
pH QC buffer 6.86	6.87	6.86 ± 0.10	Pass
pH QC buffer 9.18	9.22	9.18 ± 0.10	Pass

**D.O. performance checking**

	Instrument Readings (mg/L)	Acceptance Criteria	Comment
Zero DO solution	0.05	<0.1mg/L	Pass

Winkler Titration value (mg/L)	Instrument Readings (mg/L)	Acceptance Criteria	Comment
8.00	8.02	Difference between Titration value and instrument reading <0.2mg/L	Pass

**Turbidity performance checking**

Turbidity stock solution	Instrument Readings (NTU)	Acceptance Criteria	Comment
10 NTU	10.01	9.0-11.0	Pass
50 NTU	50.06	45.0-55.0	Pass
100 NTU	100.6	90.0-110.0	Pass

**Depth performance checking**

Water Depth	Instrument Readings (NTU)	Acceptance Criteria	Comment
0.5 meter	0.50	0.45-0.55	Pass

\*\*\*\*\*END OF REPORT\*\*\*\*\*



**TEST REPORT**

**APPLICANT:** Cinotech Consultants Limited  
RM 1710, Technology Park,  
18 On Lai Street,  
Shatin, N.T., Hong Kong

Test Report No.:	29025C
Date of Issue:	2018-05-25
Date Received:	2018-05-25
Date Tested:	2018-05-25
Date Completed:	2018-05-25
Next Due Date:	2018-08-24

**ATTN:** Miss Mei Ling Tang

Page: 1 of 2

**Certificate of Calibration**

**Item for calibration:**

YSI EXO1 Multiparameter Sondes	Equipment No.:	SW-08-15
Manufacturer:	YSI Incorporated, a Xylem brand	
Description:	Model No.	Serial No.
- EXO Optical DO Sensor, Ti	599100-01	17B101545
- EXO conductivity/Temperature Sensor, Ti	599870	17B100792
- EXO Turbidity Sensor, Ti	599101-01	17B102247
- EXO pH Sensor Assembly, Guarded, Ti	599701	16J100571

**Test conditions:**

Room Temperature : 17-22 degree Celsius  
Relative Humidity : 40-70%

**Test Specifications:**

Performance checking for Conductivity, Temperature, pH, Dissolved oxygen (D.O.) and Turbidity

**Methodology:**

According to manufacturer instruction manual, APHA 20e 4500-O C

\*\*\*\*\*

*PREPARED AND CHECKED BY:*

For and On Behalf of **WELLAB Ltd.**

  
**PATRICK TSE**  
Laboratory Manager

**TEST REPORT**

Test Report No.:	29025C
Date of Issue:	2018-05-25
Date Received:	2018-05-25
Date Tested:	2018-05-25
Date Completed:	2018-05-25
Next Due Date:	2018-08-24

Page: 2 of 2

**Certificate of Calibration**

**Results:**

**Conductivity performance checking**

	Instrument Readings (µS/cm)	Acceptance Criteria	Comment
KCl stock solution (12890 µS/cm)	13000	12246-13534	Pass

**Temperature performance checking**

Reference thermometer- E431 Readings (°C)	Instrument Readings (°C)	Correction (°C)	Comment
20.7	20.702	-0.002	N/A

**pH performance checking**

	Instrument Readings (pH unit)	Acceptance Criteria	Comment
pH QC buffer 4.00	4.04	4.00 ± 0.10	Pass
pH QC buffer 6.86	6.86	6.86 ± 0.10	Pass
pH QC buffer 9.18	9.23	9.18 ± 0.10	Pass

**D.O. performance checking**

	Instrument Readings (mg/L)	Acceptance Criteria	Comment
Zero DO solution	0.05	<0.1mg/L	Pass

Winkler Titration value (mg/L)	Instrument Readings (mg/L)	Acceptance Criteria	Comment
8.00	8.04	Difference between Titration value and instrument reading <0.2mg/L	Pass

**Turbidity performance checking**

Turbidity stock solution	Instrument Readings (NTU)	Acceptance Criteria	Comment
10 NTU	10.26	9.0-11.0	Pass
50 NTU	50.17	45.0-55.0	Pass
100 NTU	100.2	90.0-110.0	Pass

**Depth performance checking**

Water Depth	Instrument Readings (NTU)	Acceptance Criteria	Comment
0.5 meter	0.50	0.45-0.55	Pass

\*\*\*\*\*END OF REPORT\*\*\*\*\*

**TEST REPORT**

**APPLICANT:** Cinotech Consultants Limited  
RM 1710, Technology Park,  
18 On Lai Street,  
Shatin, N.T., Hong Kong

Test Report No.:	29025D
Date of Issue:	2018-05-25
Date Received:	2018-05-25
Date Tested:	2018-05-25
Date Completed:	2018-05-25
Next Due Date:	2018-08-24

**ATTN:** Miss Mei Ling Tang

Page: 1 of 2

**Certificate of Calibration**

**Item for calibration:**

YSI EXO1 Multiparameter Sondes	Equipment No.:	SW-08-20
Manufacturer:	YSI Incorporated, a Xylem brand	
Description:	Model No.	Serial No.
- EXO Optical DO Sensor, Ti	599100-01	16J100944
- EXO conductivity/Temperature Sensor, Ti	599870	16H100178
- EXO Turbidity Sensor, Ti	599101-01	16J101097
- EXO pH Sensor Assembly, Guarded, Ti	599701	17K103109

**Test conditions:**

Room Temperature : 17-22 degree Celsius  
Relative Humidity : 40-70%

**Test Specifications:**

Performance checking for Conductivity, Temperature, pH, Dissolved oxygen (D.O.) and Turbidity

**Methodology:**

According to manufacturer instruction manual, APHA 20e 4500-O C

\*\*\*\*\*

PREPARED AND CHECKED BY:

For and On Behalf of **WELLAB Ltd.**

  
\_\_\_\_\_  
**PATRICK TSE**  
Laboratory Manager

**TEST REPORT**

Test Report No.:	29025D
Date of Issue:	2018-05-25
Date Received:	2018-05-25
Date Tested:	2018-05-25
Date Completed:	2018-05-25
Next Due Date:	2018-08-24

Page: 2 of 2

**Certificate of Calibration**

**Results:**

**Conductivity performance checking**

	Instrument Readings ( $\mu\text{S}/\text{cm}$ )	Acceptance Criteria	Comment
KCl stock solution (12890 $\mu\text{S}/\text{cm}$ )	13000	12246-13534	Pass

**Temperature performance checking**

Reference thermometer- E431 Readings ( $^{\circ}\text{C}$ )	Instrument Readings ( $^{\circ}\text{C}$ )	Correction ( $^{\circ}\text{C}$ )	Comment
20.0	20.004	-0.004	N/A

**pH performance checking**

	Instrument Readings (pH unit)	Acceptance Criteria	Comment
pH QC buffer 4.00	4.03	4.00 $\pm$ 0.10	Pass
pH QC buffer 6.86	6.87	6.86 $\pm$ 0.10	Pass
pH QC buffer 9.18	9.20	9.18 $\pm$ 0.10	Pass

**D.O. performance checking**

	Instrument Readings (mg/L)	Acceptance Criteria	Comment
Zero DO solution	0.05	<0.1mg/L	Pass

Winkler Titration value (mg/L)	Instrument Readings (mg/L)	Acceptance Criteria	Comment
8.00	8.03	Difference between Titration value and instrument reading <0.2mg/L	Pass

**Turbidity performance checking**

Turbidity stock solution	Instrument Readings (NTU)	Acceptance Criteria	Comment
10 NTU	10.16	9.0-11.0	Pass
50 NTU	50.43	45.0-55.0	Pass
100 NTU	100.2	90.0-110.0	Pass

**Depth performance checking**

Water Depth	Instrument Readings (NTU)	Acceptance Criteria	Comment
0.5 meter	0.50	0.45-0.55	Pass

\*\*\*\*\*END OF REPORT\*\*\*\*\*

**TEST REPORT**

**APPLICANT:** Cinotech Consultants Limited  
RM 1710, Technology Park,  
18 On Lai Street,  
Shatin, N.T., Hong Kong

Test Report No.:	29025E
Date of Issue:	2018-05-25
Date Received:	2018-05-25
Date Tested:	2018-05-25
Date Completed:	2018-05-25
Next Due Date:	2018-08-24

**ATTN:** Miss Mei Ling Tang

Page: 1 of 2

**Certificate of Calibration**

**Item for calibration:**

YSI EXO1 Multiparameter Sondes	Equipment No.:	SW-08-26
Manufacturer:	YSI Incorporated, a Xylem brand	
Description:	Model No.	Serial No.
- EXO Optical DO Sensor, Ti	599100-01	17B101535
- EXO conductivity/Temperature Sensor, Ti	599870	16H100227
- EXO Turbidity Sensor, Ti	599101-01	17K100336
- EXO pH Sensor Assembly, Guarded, Ti	599701	17K103107

**Test conditions:**

Room Temperature : 17-22 degree Celsius  
Relative Humidity : 40-70%

**Test Specifications:**

Performance checking for Conductivity, Temperature, pH, Dissolved oxygen (D.O.) and Turbidity

**Methodology:**

According to manufacturer instruction manual, APHA 20e 4500-O C

\*\*\*\*\*

*PREPARED AND CHECKED BY:*

For and On Behalf of **WELLAB Ltd.**



**PATRICK TSE**

Laboratory Manager

**TEST REPORT**

Test Report No.:	29025E
Date of Issue:	2018-05-25
Date Received:	2018-05-25
Date Tested:	2018-05-25
Date Completed:	2018-05-25
Next Due Date:	2018-08-24

Page: 2 of 2

**Certificate of Calibration**

**Results:**

**Conductivity performance checking**

	Instrument Readings (µS/cm)	Acceptance Criteria	Comment
KCl stock solution (12890 µS/cm)	13000	12246-13534	Pass

**Temperature performance checking**

Reference thermometer- E431 Readings (°C)	Instrument Readings (°C)	Correction (°C)	Comment
20.0	20.001	-0.001	N/A

**pH performance checking**

	Instrument Readings (pH unit)	Acceptance Criteria	Comment
pH QC buffer 4.00	4.05	4.00 ± 0.10	Pass
pH QC buffer 6.86	6.88	6.86 ± 0.10	Pass
pH QC buffer 9.18	9.21	9.18 ± 0.10	Pass

**D.O. performance checking**

	Instrument Readings (mg/L)	Acceptance Criteria	Comment
Zero DO solution	0.05	<0.1mg/L	Pass

Winkler Titration value (mg/L)	Instrument Readings (mg/L)	Acceptance Criteria	Comment
8.00	8.01	Difference between Titration value and instrument reading <0.2mg/L	Pass

**Turbidity performance checking**

Turbidity stock solution	Instrument Readings (NTU)	Acceptance Criteria	Comment
10 NTU	10.24	9.0-11.0	Pass
50 NTU	50.46	45.0-55.0	Pass
100 NTU	100.3	90.0-110.0	Pass

**Depth performance checking**

Water Depth	Instrument Readings (NTU)	Acceptance Criteria	Comment
0.5 meter	0.50	0.45-0.55	Pass

\*\*\*\*\*END OF REPORT\*\*\*\*\*

**TEST REPORT**

**APPLICANT:** Cinotech Consultants Limited  
RM 1710, Technology Park,  
18 On Lai Street,  
Shatin, N.T., Hong Kong

Test Report No.:	29025G
Date of Issue:	2018-05-25
Date Received:	2018-05-25
Date Tested:	2018-05-25
Date Completed:	2018-05-25
Next Due Date:	2018-08-24

**ATTN:** Miss Mei Ling Tang

Page: 1 of 2

**Certificate of Calibration**

**Item for calibration:**

YSI EXO1 Multiparameter Sondes	Equipment No.: SW-08-132	
Manufacturer:	YSI Incorporated, a Xylem brand	
Description:	Model No.	Serial No.
- EXO Optical DO Sensor, Ti	599100-01	17B102219
- EXO conductivity/Temperature Sensor, Ti	599870	17B100807
- EXO Turbidity Sensor, Ti	599101-01	17B102262
- EXO pH Sensor Assembly, Guarded, Ti	599795-01	16J101314

**Test conditions:**

Room Temperature : 17-22 degree Celsius  
Relative Humidity : 40-70%

**Test Specifications:**

Performance checking for Conductivity, Temperature, pH, Dissolved oxygen (D.O.) and Turbidity

**Methodology:**

According to manufacturer instruction manual, APHA 20e 4500-O C

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PREPARED AND CHECKED BY:

For and On Behalf of **WELLAB Ltd.**

  
**PATRICK TSE**  
Laboratory Manager

**TEST REPORT**

Test Report No.:	29025G
Date of Issue:	2018-05-25
Date Received:	2018-05-25
Date Tested:	2018-05-25
Date Completed:	2018-05-25
Next Due Date:	2018-08-24

Page: 2 of 2

**Certificate of Calibration**

**Results:**

**Conductivity performance checking**

	Instrument Readings ( $\mu\text{S}/\text{cm}$ )	Acceptance Criteria	Comment
KCl stock solution (12890 $\mu\text{S}/\text{cm}$ )	13000	12246-13534	Pass

**Temperature performance checking**

Reference thermometer- E431 Readings ( $^{\circ}\text{C}$ )	Instrument Readings ( $^{\circ}\text{C}$ )	Correction ( $^{\circ}\text{C}$ )	Comment
20.7	20.701	-0.001	N/A

**pH performance checking**

	Instrument Readings (pH unit)	Acceptance Criteria	Comment
pH QC buffer 4.00	4.06	4.00 $\pm$ 0.10	Pass
pH QC buffer 6.86	6.87	6.86 $\pm$ 0.10	Pass
pH QC buffer 9.18	9.22	9.18 $\pm$ 0.10	Pass

**D.O. performance checking**

	Instrument Readings (mg/L)	Acceptance Criteria	Comment
Zero DO solution	0.05	<0.1mg/L	Pass

Winkler Titration value (mg/L)	Instrument Readings (mg/L)	Acceptance Criteria	Comment
8.00	8.02	Difference between Titration value and instrument reading <0.2mg/L	Pass

**Turbidity performance checking**

Turbidity stock solution	Instrument Readings (NTU)	Acceptance Criteria	Comment
10 NTU	10.26	9.0-11.0	Pass
50 NTU	50.34	45.0-55.0	Pass
100 NTU	100.1	90.0-110.0	Pass

**Depth performance checking**

Water Depth	Instrument Readings (NTU)	Acceptance Criteria	Comment
0.5 meter	0.50	0.45-0.55	Pass

\*\*\*\*\*END OF REPORT\*\*\*\*\*



**TEST REPORT**

**APPLICANT:** Cinotech Consultants Limited  
RM 1710, Technology Park,  
18 On Lai Street,  
Shatin, N.T., Hong Kong

Test Report No.:	29672
Date of Issue:	2018-08-25
Date Received:	2018-08-25
Date Tested:	2018-08-25
Date Completed:	2018-08-25
Next Due Date:	2018-11-24

**ATTN:** Miss Mei Ling Tang

Page: 1 of 2

**Certificate of Calibration**

**Item for calibration:**

YSI EXO1 Multiparameter Sondes	Equipment No.:	SW-08-06
Manufacturer:	YSI Incorporated, a Xylem brand	
Description:	Model No.	Serial No.
- EXO Optical DO Sensor, Ti	599100-01	16H102985
- EXO conductivity/Temperature Sensor, Ti	599870	16G102307
- EXO Turbidity Sensor, Ti	599101-01	16H102463
- EXO pH Sensor Assembly, Guarded, Ti	599795-01	16J100416

**Test conditions:**

Room Temperature : 17-22 degree Celsius  
Relative Humidity : 40-70%

**Test Specifications:**

Performance checking for Conductivity, Temperature, pH, Dissolved oxygen (D.O.) and Turbidity

**Methodology:**

According to manufacturer instruction manual, APHA 20e 4500-O C

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*PREPARED AND CHECKED BY:*  
For and On Behalf of **WELLAB Ltd.**

  
**PATRICK TSE**  
Laboratory Manager

**TEST REPORT**

Test Report No.:	29672
Date of Issue:	2018-08-25
Date Received:	2018-08-25
Date Tested:	2018-08-25
Date Completed:	2018-08-25
Next Due Date:	2018-11-24

Page: 2 of 2

**Certificate of Calibration**

**Results:**

**Conductivity performance checking**

	Instrument Readings (μS/cm)	Acceptance Criteria	Comment
KCl stock solution (12890 μS/cm)	13000	12246-13534	Pass

**Temperature performance checking**

Reference thermometer- E431 Readings (°C)	Instrument Readings (°C)	Correction (°C)	Comment
20.0	20.002	-0.002	N/A

**pH performance checking**

	Instrument Readings (pH unit)	Acceptance Criteria	Comment
pH QC buffer 4.00	4.00	4.00 ± 0.10	Pass
pH QC buffer 6.86	6.87	6.86 ± 0.10	Pass
pH QC buffer 9.18	9.16	9.18 ± 0.10	Pass

**D.O. performance checking**

	Instrument Readings (mg/L)	Acceptance Criteria	Comment
Zero DO solution	0.05	<0.1mg/L	Pass

Winkler Titration value (mg/L)	Instrument Readings (mg/L)	Acceptance Criteria	Comment
8.02	8.06	Difference between Titration value and instrument reading <0.2mg/L	Pass

**Turbidity performance checking**

Turbidity stock solution	Instrument Readings (NTU)	Acceptance Criteria	Comment
10 NTU	10.05	9.0-11.0	Pass
50 NTU	50.01	45.0-55.0	Pass
100 NTU	100.9	90.0-110.0	Pass

**Depth performance checking**

Water Depth	Instrument Readings (NTU)	Acceptance Criteria	Comment
0.5 meter	0.50	0.45-0.55	Pass

\*\*\*\*\*END OF REPORT\*\*\*\*\*

**TEST REPORT**

**APPLICANT:** Cinotech Consultants Limited  
RM 1710, Technology Park,  
18 On Lai Street,  
Shatin, N.T., Hong Kong

Test Report No.:	29674
Date of Issue:	2018-08-25
Date Received:	2018-08-25
Date Tested:	2018-08-25
Date Completed:	2018-08-25
Next Due Date:	2018-11-24

**ATTN:** Miss Mei Ling Tang

Page: 1 of 2

**Certificate of Calibration**

**Item for calibration:**

YSI EXO1 Multiparameter Sondes	Equipment No.:	SW-08-15
Manufacturer:	YSI Incorporated, a Xylem brand	
Description:	Model No.	Serial No.
- EXO Optical DO Sensor, Ti	599100-01	17B101545
- EXO conductivity/Temperature Sensor, Ti	599870	17B100792
- EXO Turbidity Sensor, Ti	599101-01	17B102247
- EXO pH Sensor Assembly, Guarded, Ti	599701	16J100571

**Test conditions:**

Room Temperature : 17-22 degree Celsius  
Relative Humidity : 40-70%

**Test Specifications:**

Performance checking for Conductivity, Temperature, pH, Dissolved oxygen (D.O.) and Turbidity

**Methodology:**

According to manufacturer instruction manual, APHA 20e 4500-O C

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*PREPARED AND CHECKED BY:*

For and On Behalf of **WELLAB Ltd.**



**PATRICK TSE**

Laboratory Manager

**TEST REPORT**

Test Report No.:	29674
Date of Issue:	2018-08-25
Date Received:	2018-08-25
Date Tested:	2018-08-25
Date Completed:	2018-08-25
Next Due Date:	2018-11-24

Page: 2 of 2

**Certificate of Calibration**

**Results:**

**Conductivity performance checking**

	Instrument Readings (μS/cm)	Acceptance Criteria	Comment
KCl stock solution (12890 μS/cm)	13000	12246-13534	Pass

**Temperature performance checking**

Reference thermometer- E431 Readings (°C)	Instrument Readings (°C)	Correction (°C)	Comment
20.0	20.002	-0.002	N/A

**pH performance checking**

	Instrument Readings (pH unit)	Acceptance Criteria	Comment
pH QC buffer 4.00	4.00	4.00 ± 0.10	Pass
pH QC buffer 6.86	6.86	6.86 ± 0.10	Pass
pH QC buffer 9.18	9.18	9.18 ± 0.10	Pass

**D.O. performance checking**

	Instrument Readings (mg/L)	Acceptance Criteria	Comment
Zero DO solution	0.05	<0.1mg/L	Pass

Winkler Titration value (mg/L)	Instrument Readings (mg/L)	Acceptance Criteria	Comment
8.02	8.06	Difference between Titration value and instrument reading <0.2mg/L	Pass

**Turbidity performance checking**

Turbidity stock solution	Instrument Readings (NTU)	Acceptance Criteria	Comment
10 NTU	10.07	9.0-11.0	Pass
50 NTU	50.01	45.0-55.0	Pass
100 NTU	100.0	90.0-110.0	Pass

**Depth performance checking**

Water Depth	Instrument Readings (NTU)	Acceptance Criteria	Comment
0.5 meter	0.50	0.45-0.55	Pass

\*\*\*\*\*END OF REPORT\*\*\*\*\*

**TEST REPORT**

**APPLICANT:** Cinotech Consultants Limited  
RM 1710, Technology Park,  
18 On Lai Street,  
Shatin, N.T., Hong Kong

Test Report No.:	29676
Date of Issue:	2018-08-25
Date Received:	2018-08-25
Date Tested:	2018-08-25
Date Completed:	2018-08-25
Next Due Date:	2018-11-24

**ATTN:** Miss Mei Ling Tang

Page: 1 of 2

**Certificate of Calibration**

**Item for calibration:**

YSI EXO1 Multiparameter Sondes	Equipment No.:	SW-08-26
Manufacturer:	YSI Incorporated, a Xylem brand	
Description:	Model No.	Serial No.
- EXO Optical DO Sensor, Ti	599100-01	17B101535
- EXO conductivity/Temperature Sensor, Ti	599870	16H100227
- EXO Turbidity Sensor, Ti	599101-01	17K100336
- EXO pH Sensor Assembly, Guarded, Ti	599701	17K103107

**Test conditions:**

Room Temperature : 17-22 degree Celsius  
Relative Humidity : 40-70%

**Test Specifications:**

Performance checking for Conductivity, Temperature, pH, Dissolved oxygen (D.O.) and Turbidity

**Methodology:**

According to manufacturer instruction manual, APHA 20e 4500-O C

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*PREPARED AND CHECKED BY:*

For and On Behalf of **WELLAB Ltd.**



**PATRICK TSE**  
Laboratory Manager

### TEST REPORT

Test Report No.:	29676
Date of Issue:	2018-08-25
Date Received:	2018-08-25
Date Tested:	2018-08-25
Date Completed:	2018-08-25
Next Due Date:	2018-11-24

Page: 2 of 2

#### Certificate of Calibration

**Results:**

**Conductivity performance checking**

	Instrument Readings ( $\mu\text{S}/\text{cm}$ )	Acceptance Criteria	Comment
KCl stock solution (12890 $\mu\text{S}/\text{cm}$ )	13000	12246-13534	Pass

**Temperature performance checking**

Reference thermometer- E431 Readings ( $^{\circ}\text{C}$ )	Instrument Readings ( $^{\circ}\text{C}$ )	Correction ( $^{\circ}\text{C}$ )	Comment
20.0	20.001	-0.001	N/A

**pH performance checking**

	Instrument Readings (pH unit)	Acceptance Criteria	Comment
pH QC buffer 4.00	4.00	$4.00 \pm 0.10$	Pass
pH QC buffer 6.86	6.87	$6.86 \pm 0.10$	Pass
pH QC buffer 9.18	9.19	$9.18 \pm 0.10$	Pass

**D.O. performance checking**

	Instrument Readings (mg/L)	Acceptance Criteria	Comment
Zero DO solution	0.05	$<0.1\text{mg}/\text{L}$	Pass

Winkler Titration value (mg/L)	Instrument Readings (mg/L)	Acceptance Criteria	Comment
8.02	8.03	Difference between Titration value and instrument reading $<0.2\text{mg}/\text{L}$	Pass

**Turbidity performance checking**

Turbidity stock solution	Instrument Readings (NTU)	Acceptance Criteria	Comment
10 NTU	10.05	9.0-11.0	Pass
50 NTU	50.09	45.0-55.0	Pass
100 NTU	100.1	90.0-110.0	Pass

**Depth performance checking**

Water Depth	Instrument Readings (NTU)	Acceptance Criteria	Comment
0.5 meter	0.50	0.45-0.55	Pass

\*\*\*\*\*END OF REPORT\*\*\*\*\*

**TEST REPORT**

**APPLICANT:** Cinotech Consultants Limited  
RM 1710, Technology Park,  
18 On Lai Street,  
Shatin, N.T., Hong Kong

Test Report No.:	29677
Date of Issue:	2018-08-25
Date Received:	2018-08-25
Date Tested:	2018-08-25
Date Completed:	2018-08-25
Next Due Date:	2018-11-24

**ATTN:** Miss Mei Ling Tang

Page: 1 of 2

**Certificate of Calibration**

**Item for calibration:**

YSI EXO1 Multiparameter Sondes	Equipment No.:	SW-08-132
Manufacturer:	YSI Incorporated, a Xylem brand	
Description:	Model No.	Serial No.
- EXO Optical DO Sensor, Ti	599100-01	17B102219
- EXO conductivity/Temperature Sensor, Ti	599870	17B100807
- EXO Turbidity Sensor, Ti	599101-01	17B102262
- EXO pH Sensor Assembly, Guarded, Ti	599795-01	16J101314

**Test conditions:**

Room Temperature : 17-22 degree Celsius  
Relative Humidity : 40-70%

**Test Specifications:**

Performance checking for Conductivity, Temperature, pH, Dissolved oxygen (D.O.) and Turbidity

**Methodology:**

According to manufacturer instruction manual, APHA 20e 4500-O C

\*\*\*\*\*

*PREPARED AND CHECKED BY:*

For and On Behalf of **WELLAB Ltd.**



**PATRICK TSE**  
Laboratory Manager

**TEST REPORT**

Test Report No.:	29677
Date of Issue:	2018-08-25
Date Received:	2018-08-25
Date Tested:	2018-08-25
Date Completed:	2018-08-25
Next Due Date:	2018-11-24

Page: 2 of 2

**Certificate of Calibration**

**Results:**

**Conductivity performance checking**

	Instrument Readings ( $\mu\text{S}/\text{cm}$ )	Acceptance Criteria	Comment
KCl stock solution (12890 $\mu\text{S}/\text{cm}$ )	13000	12246-13534	Pass

**Temperature performance checking**

Reference thermometer- E431 Readings ( $^{\circ}\text{C}$ )	Instrument Readings ( $^{\circ}\text{C}$ )	Correction ( $^{\circ}\text{C}$ )	Comment
20.0	20.001	-0.001	N/A

**pH performance checking**

	Instrument Readings (pH unit)	Acceptance Criteria	Comment
pH QC buffer 4.00	4.01	4.00 $\pm$ 0.10	Pass
pH QC buffer 6.86	6.86	6.86 $\pm$ 0.10	Pass
pH QC buffer 9.18	9.20	9.18 $\pm$ 0.10	Pass

**D.O. performance checking**

	Instrument Readings (mg/L)	Acceptance Criteria	Comment
Zero DO solution	0.05	<0.1mg/L	Pass

Winkler Titration value (mg/L)	Instrument Readings (mg/L)	Acceptance Criteria	Comment
8.02	8.06	Difference between Titration value and instrument reading <0.2mg/L	Pass

**Turbidity performance checking**

Turbidity stock solution	Instrument Readings (NTU)	Acceptance Criteria	Comment
10 NTU	10.09	9.0-11.0	Pass
50 NTU	50.05	45.0-55.0	Pass
100 NTU	100.0	90.0-110.0	Pass

**Depth performance checking**

Water Depth	Instrument Readings (NTU)	Acceptance Criteria	Comment
0.5 meter	0.50	0.45-0.55	Pass

\*\*\*\*\*END OF REPORT\*\*\*\*\*



**TEST REPORT**

**APPLICANT:** Cinotech Consultants Limited  
RM 1710, Technology Park,  
18 On Lai Street,  
Shatin, N.T., Hong Kong

Test Report No.:	30298
Date of Issue:	2018-11-24
Date Received:	2018-11-24
Date Tested:	2018-11-24
Date Completed:	2018-11-24
Next Due Date:	2019-02-23

**ATTN:** Miss Mei Ling Tang

Page: 1 of 2

**Certificate of Calibration**

**Item for calibration:**

YSI EXO1 Multiparameter Sondes	Equipment No.: SW-08-15	
Manufacturer:	YSI Incorporated, a Xylem brand	
Description:	Model No.	Serial No.
- EXO Optical DO Sensor, Ti	599100-01	17B101545
- EXO conductivity/Temperature Sensor, Ti	599870	17B100792
- EXO Turbidity Sensor, Ti	599101-01	17B102247
- EXO pH Sensor Assembly, Guarded, Ti	599701	17B103623

**Test conditions:**

Room Temperature : 17-22 degree Celsius  
Relative Humidity : 40-70%

**Test Specifications:**

Performance checking for Conductivity, Temperature, pH, Dissolved oxygen (D.O.) and Turbidity

**Methodology:**

According to manufacturer instruction manual, APHA 20e 4500-O C

\*\*\*\*\*

*PREPARED AND CHECKED BY:*

For and On Behalf of **WELLAB Ltd.**

  
**PATRICK TSE**  
Laboratory Manager

**TEST REPORT**

Test Report No.:	30298
Date of Issue:	2018-11-24
Date Received:	2018-11-24
Date Tested:	2018-11-24
Date Completed:	2018-11-24
Next Due Date:	2019-02-23

Page: 2 of 2

**Certificate of Calibration**

**Results:**

**Conductivity performance checking**

	Instrument Readings ( $\mu\text{S}/\text{cm}$ )	Acceptance Criteria	Comment
KCl stock solution (12890 $\mu\text{S}/\text{cm}$ )	13000	12246-13534	Pass

**Temperature performance checking**

Reference thermometer- E431 Readings ( $^{\circ}\text{C}$ )	Instrument Readings ( $^{\circ}\text{C}$ )	Correction ( $^{\circ}\text{C}$ )	Comment
20.0	20.001	-0.001	N/A

**pH performance checking**

	Instrument Readings (pH unit)	Acceptance Criteria	Comment
pH QC buffer 4.00	4.01	4.00 $\pm$ 0.10	Pass
pH QC buffer 6.86	6.86	6.86 $\pm$ 0.10	Pass
pH QC buffer 9.18	9.14	9.18 $\pm$ 0.10	Pass

**D.O. performance checking**

	Instrument Readings (mg/L)	Acceptance Criteria	Comment
Zero DO solution	0.08	<0.1mg/L	Pass

Winkler Titration value (mg/L)	Instrument Readings (mg/L)	Acceptance Criteria	Comment
8.00	8.10	Difference between Titration value and instrument reading <0.2mg/L	Pass

**Turbidity performance checking**

Turbidity stock solution	Instrument Readings (NTU)	Acceptance Criteria	Comment
10 NTU	10.00	9.0-11.0	Pass
50 NTU	50.02	45.0-55.0	Pass
100 NTU	100.2	90.0-110.0	Pass

**Depth performance checking**

Water Depth	Instrument Readings (NTU)	Acceptance Criteria	Comment
0.5 meter	0.50	0.45-0.55	Pass

\*\*\*\*\*END OF REPORT\*\*\*\*\*

**TEST REPORT**

**APPLICANT:** Cinotech Consultants Limited  
RM 1710, Technology Park,  
18 On Lai Street,  
Shatin, N.T., Hong Kong

Test Report No.:	30300
Date of Issue:	2018-11-24
Date Received:	2018-11-24
Date Tested:	2018-11-24
Date Completed:	2018-11-24
Next Due Date:	2019-02-23

**ATTN:** Miss Mei Ling Tang

Page: 1 of 2

**Certificate of Calibration**

**Item for calibration:**

YSI EXO1 Multiparameter Sondes	Equipment No.:	SW-08-26
Manufacturer:	YSI Incorporated, a Xylem brand	
Description:	Model No.	Serial No.
- EXO Optical DO Sensor, Ti	599100-01	17B101535
- EXO conductivity/Temperature Sensor, Ti	599870	16H100227
- EXO Turbidity Sensor, Ti	599101-01	17K100336
- EXO pH Sensor Assembly, Guarded, Ti	599701	17K103107

**Test conditions:**

Room Temperature : 17-22 degree Celsius  
Relative Humidity : 40-70%

**Test Specifications:**

Performance checking for Conductivity, Temperature, pH, Dissolved oxygen (D.O.) and Turbidity

**Methodology:**

According to manufacturer instruction manual, APHA 20e 4500-O C

\*\*\*\*\*

*PREPARED AND CHECKED BY:*

For and On Behalf of **WELLAB Ltd.**



**PATRICK TSE**

Laboratory Manager

**TEST REPORT**

Test Report No.:	30300
Date of Issue:	2018-11-24
Date Received:	2018-11-24
Date Tested:	2018-11-24
Date Completed:	2018-11-24
Next Due Date:	2019-02-23

Page: 2 of 2

**Certificate of Calibration**

**Results:**

**Conductivity performance checking**

	Instrument Readings (µS/cm)	Acceptance Criteria	Comment
KCl stock solution (12890 µS/cm)	13000	12246-13534	Pass

**Temperature performance checking**

Reference thermometer- E431 Readings (°C)	Instrument Readings (°C)	Correction (°C)	Comment
20.0	20.002	-0.001	N/A

**pH performance checking**

	Instrument Readings (pH unit)	Acceptance Criteria	Comment
pH QC buffer 4.00	4.01	4.00 ± 0.10	Pass
pH QC buffer 6.86	6.86	6.86 ± 0.10	Pass
pH QC buffer 9.18	9.16	9.18 ± 0.10	Pass

**D.O. performance checking**

	Instrument Readings (mg/L)	Acceptance Criteria	Comment
Zero DO solution	0.07	<0.1mg/L	Pass

Winkler Titration value (mg/L)	Instrument Readings (mg/L)	Acceptance Criteria	Comment
8.00	8.12	Difference between Titration value and instrument reading <0.2mg/L	Pass

**Turbidity performance checking**

Turbidity stock solution	Instrument Readings (NTU)	Acceptance Criteria	Comment
10 NTU	10.01	9.0-11.0	Pass
50 NTU	50.06	45.0-55.0	Pass
100 NTU	100.4	90.0-110.0	Pass

**Depth performance checking**

Water Depth	Instrument Readings (NTU)	Acceptance Criteria	Comment
0.5 meter	0.50	0.45-0.55	Pass

\*\*\*\*\*END OF REPORT\*\*\*\*\*

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**APPENDIX B  
BASELINE WATER QUALITY  
MONITORING RESULTS**

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Contract No. SPW 09 / 2018

Environmental Team Baseline Surveys for Sha Tin Cavern Sewage Treatment Works

Baseline Water Quality Monitoring Results at C1

(Mid-Ebb Tide)

Date	Weather Condition	Sea Condition*	Sampling Time	Depth (m)		Temperature (°C)		pH		Salinity ppt		DO Saturation (%)		Dissolved Oxygen (mg/L)		Turbidity (NTU)			
						Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*
20-Jun-18	Cloudy	Calm	18:18	Surface	1	29.0 29.0	29.0	7.7 7.7	7.7	30.0 30.0	30.0	79.7 78.1	78.9	5.2 5.1	5.2	4.6	1.4 1.4	1.4	3.5
				Middle	3.5	28.5 28.5	28.5	7.7 7.7	7.7	30.2 30.2	30.2	58.3 59.4	58.9	3.8 3.9	3.9		3.3 3.3	3.3	
				Bottom	6	28.4 28.4	28.4	7.6 7.6	7.6	30.3 30.3	30.3	45.6 45.1	45.4	3.0 3.0	3.0		5.9 5.4	5.7	
26-Jun-18	Cloudy	Calm	11:32	Surface	1	29.7 29.8	29.8	8.2 8.3	8.3	27.6 27.1	27.4	140.7 144.9	142.8	9.2 9.5	9.4	6.2	1.6 1.7	1.7	1.6
				Middle	3.5	28.7 28.7	28.7	7.9 7.9	7.9	31.1 31.1	31.1	44.9 45.1	45.0	2.9 2.9	2.9		1.4 1.2	1.3	
				Bottom	6	28.3 28.3	28.3	7.8 7.8	7.8	31.7 31.7	31.7	35.3 34.5	34.9	2.3 2.3	2.3		1.9 1.6	1.8	
16-Jul-18	Cloudy	Moderate	15:35	Surface	1	28.5 28.5	28.5	8.0 8.0	8.0	28.3 28.2	28.3	97.5 97.7	97.6	6.5 6.5	6.5	6.1	0.7 0.8	0.8	1.4
				Middle	3.5	28.6 28.5	28.6	7.9 7.9	7.9	29.7 29.6	29.7	86.4 86.5	86.5	5.7 5.7	5.7		0.6 0.7	0.7	
				Bottom	6	28.6 28.6	28.6	7.8 7.8	7.8	30.7 30.8	30.8	67.0 66.2	66.6	4.4 4.3	4.4		2.7 2.8	2.8	
24-Jul-18	Cloudy	Moderate	10:24	Surface	1	29.5 29.5	29.5	8.0 8.0	8.0	28.9 29.0	29.0	101.9 101.8	101.9	6.6 6.6	6.6	6.2	1.2 1.1	1.2	1.7
				Middle	4	29.3 29.3	29.3	7.9 7.9	7.9	30.1 30.1	30.1	88.5 88.4	88.5	5.7 5.7	5.7		1.5 1.5	1.5	
				Bottom	7	28.7 28.7	28.7	7.6 7.6	7.6	30.9 30.9	30.9	34.5 34.4	34.5	2.3 2.2	2.3		2.4 2.3	2.4	
16-Aug-18	Cloudy	Calm	16:18	Surface	1	29.6 29.4	29.5	8.3 8.2	8.3	24.8 24.0	24.4	140.3 140.7	140.5	9.3 9.4	9.4	6.5	1.5 1.6	1.6	1.4
				Middle	3.5	29.9 29.9	29.9	7.8 7.9	7.9	29.3 29.4	29.4	55.4 55.1	55.3	3.6 3.6	3.6		1.2 1.1	1.2	
				Bottom	6	29.7 29.7	29.7	7.8 7.9	7.9	29.7 29.7	29.7	56.8 56.4	56.6	3.7 3.6	3.7		1.4 1.5	1.5	
25-Aug-18	Fine	Calm	12:08	Surface	1	30.4 30.4	30.4	8.0 8.0	8.0	29.2 29.2	29.2	96.3 95.6	96.0	6.2 6.1	6.2	3.4	1.1 1.1	1.1	2.9
				Middle	3.5	26.0 26.1	26.1	7.8 7.8	7.8	32.0 32.0	32.0	8.7 8.7	8.7	0.6 0.6	0.6		4.1 4.0	4.1	
				Bottom	6	25.1 25.5	25.3	7.7 7.7	7.7	32.4 32.3	32.4	7.6 7.3	7.5	0.5 0.5	0.5		3.4 3.5	3.5	
20-Sep-18	Fine	Calm	09:26	Surface	1	28.6 28.5	28.6	8.3 8.3	8.3	22.6 24.5	23.6	128.0 127.7	127.9	8.8 8.6	8.7	6.5	1.1 1.1	1.1	1.5
				Middle	3.5	27.4 27.4	27.4	8.0 8.0	8.0	28.9 29.0	29.0	61.8 61.8	61.8	4.2 4.2	4.2		1.1 1.1	1.1	
				Bottom	6	27.1 27.1	27.1	8.0 8.0	8.0	29.9 29.9	29.9	60.3 60.9	60.6	4.1 4.1	4.1		2.6 2.1	2.4	
23-Sep-18	Sunny	Calm	11:25	Surface	1	30.0 30.0	30.0	8.5 8.5	8.5	25.2 25.2	25.2	132.1 130.4	131.3	8.7 8.6	8.7	7.9	1.7 1.7	1.7	2.5
				Middle	3.5	27.6 27.7	27.7	8.2 8.2	8.2	29.5 29.4	29.5	105.6 105.3	105.5	7.1 7.0	7.1		1.8 1.8	1.8	
				Bottom	6	27.2 27.2	27.2	7.9 7.9	7.9	30.0 30.0	30.0	36.2 35.8	36.0	2.4 2.4	2.4		4.0 4.1	4.1	
13-Oct-18	Sunny	Calm	15:12	Surface	1	27.1 27.2	27.2	8.4 8.4	8.4	30.7 30.7	30.7	118.1 117.4	117.8	7.9 7.9	7.9	5.0	0.6 0.6	0.6	2.5
				Middle	3.5	28.2 28.3	28.3	7.9 7.9	7.9	33.0 33.0	33.0	31.6 32.0	31.8	2.1 2.1	2.1		1.0 1.0	1.0	
				Bottom	6	27.8 27.8	27.8	7.9 7.8	7.9	33.5 33.5	33.5	10.1 9.9	10.0	0.7 0.6	0.7		5.8 5.7	5.8	
22-Oct-18	Fine	Calm	10:46	Surface	1	25.9 26.0	26.0	8.2 8.2	8.2	27.4 27.3	27.4	113.4 112.4	112.9	7.9 7.8	7.9	6.1	0.2 0.2	0.2	1.1
				Middle	4	26.2 26.2	26.2	7.9 7.9	7.9	29.7 29.7	29.7	61.6 61.3	61.5	4.2 4.2	4.2		0.9 0.9	0.9	
				Bottom	7	26.9 26.9	26.9	7.7 7.7	7.7	30.9 30.9	30.9	11.8 11.8	11.8	0.8 0.8	0.8		2.2 2.2	2.2	
8-Nov-18	Sunny	Calm	12:41	Surface	1	26.2 26.2	26.2	8.6 8.6	8.6	28.7 28.7	28.7	145.5 145.6	145.6	10.0 10.0	10.0	7.9	1.3 1.3	1.3	2.3
				Middle	3.5	25.1 25.1	25.1	8.3 8.3	8.3	30.3 30.3	30.3	81.6 80.7	81.2	5.7 5.6	5.7		1.4 1.3	1.4	
				Bottom	6	24.8 24.8	24.8	7.9 7.9	7.9	30.9 30.9	30.9	13.7 13.8	13.8	1.0 1.0	1.0		4.0 4.1	4.1	
10-Nov-18	Cloudy	Rough	13:48	Surface	1	25.3 25.4	25.4	8.2 8.2	8.2	29.9 30.0	30.0	112.3 110.5	111.4	7.8 7.7	7.8	6.8	0.5 0.5	0.5	0.7
				Middle	3.5	25.3 25.3	25.3	8.1 8.1	8.1	30.4 30.4	30.4	82.9 83.6	83.3	5.7 5.8	5.8		0.8 0.8	0.8	
				Bottom	6	25.2 25.2	25.2	8.0 8.0	8.0	30.5 30.5	30.5	63.2 61.4	62.3	4.4 4.3	4.4		0.9 0.9	0.9	
17-Dec-18	Sunny	Moderate	07:42	Surface	1	19.9 19.9	19.9	8.1 8.1	8.1	31.0 31.0	31.0	97.0 96.1	97.0	7.4 7.3	7.4	7.4	2.0 1.9	2.0	2.1
				Middle	3.5	19.9 20.0	20.0	8.1 8.1	8.1	31.1 31.1	31.1	98.0 97.2	97.6	7.4 7.4	7.4		2.2 2.2	2.2	
				Bottom	6	19.9 20.0	20.0	8.1 8.1	8.1	31.1 31.1	31.1	97.7 97.3	97.5	7.4 7.4	7.4		2.2 2.1	2.2	
19-Dec-18	Cloudy	Moderate	10:12	Surface	1	19.9 19.9	19.9	8.2 8.2	8.2	30.9 30.9	30.9	110.6 109.1	109.9	8.4 8.3	8.4	8.2	0.8 0.7	0.8	1.7
				Middle	3.5	20.2 20.2	20.2	8.1 8.1	8.1	31.1 31.1	31.1	103.7 106.0	104.9	7.8 8.0	7.9		1.0 1.0	1.0	
				Bottom	6	20.4 20.4	20.4	8.1 8.1	8.1	31.3 31.3	31.3	94.1 94.7	94.4	7.1 7.1	7.1		3.3 3.3	3.3	

Remarks: \*DA: Depth-Averaged

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

Contract No. SPW 09 / 2018

Environmental Team Baseline Surveys for Sha Tin Cavern Sewage Treatment Works

Baseline Water Quality Monitoring Results at C1

(Mid-Flood Tide)

Date	Weather Condition	Sea Condition*	Sampling Time	Depth (m)		Temperature (°C)		pH		Salinity ppt		DO Saturation (%)		Dissolved Oxygen (mg/L)		Turbidity (NTU)			
						Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*
20-Jun-18	Cloudy	Calm	09:51	Surface	1	29.1 29.0	29.1	7.8 7.8	7.8	29.5 29.5	29.5	91.1 85.1	88.1	6.0 5.6	5.8	5.1	1.1 1.1	1.1	3.1
				Middle	4	28.6 28.6	28.6	7.7 7.7	7.7	30.0 30.1	30.1	65.9 64.9	65.4	4.3 4.3	4.3		1.6 1.7	1.7	
				Bottom	7	28.4 28.4	28.4	7.6 7.6	7.6	30.3 30.3	30.3	46.5 46.2	46.4	3.1 3.0	3.1		6.6 6.6	6.6	
26-Jun-18	Fine	Calm	18:18	Surface	1	29.8 29.8	29.8	8.2 8.2	8.2	28.7 28.6	28.7	139.2 138.1	138.7	9.0 9.0	9.0	6.2	1.9 1.8	1.9	2.1
				Middle	3.5	28.7 28.7	28.7	7.9 7.9	7.9	31.1 31.1	31.1	50.5 51.7	51.1	3.3 3.4	3.4		1.7 1.6	1.7	
				Bottom	6	28.1 28.1	28.1	7.8 7.8	7.8	32.1 32.1	32.1	31.1 31.6	31.4	2.0 2.1	2.1		2.6 2.5	2.6	
16-Jul-18	Cloudy	Rough	06:28	Surface	1	28.0 27.9	28.0	7.9 7.9	7.9	27.6 27.5	27.6	87.9 89.1	88.5	5.9 6.0	6.0	6.0	0.8 0.7	0.8	0.6
				Middle	4	28.1 28.2	28.2	7.9 7.9	7.9	28.6 28.7	28.7	88.4 88.4	88.4	5.9 5.9	5.9		0.4 0.5	0.5	
				Bottom	7	28.6 28.6	28.6	7.9 7.9	7.9	30.4 30.4	30.4	82.1 82.3	82.2	5.4 5.4	5.4		0.5 0.4	0.5	
24-Jul-18	Cloudy	Calm	17:07	Surface	1	30.0 30.0	30.0	8.0 8.0	8.0	29.0 29.0	29.0	117.7 119.1	118.4	7.6 7.7	7.7	7.7	1.6 1.6	1.6	1.4
				Middle	3.5	29.4 29.4	29.4	8.1 8.1	8.1	29.5 29.5	29.5	116.2 116.6	116.4	7.5 7.6	7.6		1.1 1.0	1.1	
				Bottom	6	29.3 29.3	29.3	7.9 7.9	7.9	30.2 30.1	30.2	93.0 95.2	94.1	6.0 6.2	6.1		1.4 1.4	1.4	
16-Aug-18	Cloudy	Calm	07:59	Surface	1	29.8 29.8	29.8	8.1 8.1	8.1	25.3 26.0	25.7	107.8 108.2	108.0	7.1 7.1	7.1	5.1	1.6 1.6	1.6	1.2
				Middle	4	29.9 29.9	29.9	7.8 7.8	7.8	29.1 29.1	29.1	48.5 48.1	48.3	3.1 3.1	3.1		1.1 1.1	1.1	
				Bottom	7	29.7 29.7	29.7	7.9 7.9	7.9	29.6 29.6	29.6	63.2 63.4	63.3	4.1 4.1	4.1		1.0 1.0	1.0	
25-Aug-18	Fine	Calm	18:53	Surface	1	31.1 31.0	31.1	8.2 8.2	8.2	28.9 28.9	28.9	134.6 135.1	134.9	8.5 8.6	8.6	4.9	1.1 1.0	1.1	2.0
				Middle	3.5	27.1 27.1	27.1	7.9 7.9	7.9	31.4 31.4	31.4	16.3 16.3	16.3	1.1 1.1	1.1		2.0 2.0	2.0	
				Bottom	6	26.0 26.0	26.0	7.9 7.8	7.9	31.9 31.9	31.9	7.8 7.8	7.8	0.5 0.5	0.5		3.0 2.9	3.0	
20-Sep-18	Fine	Calm	17:17	Surface	1	28.9 28.9	28.9	8.5 8.5	8.5	26.2 26.2	26.2	160.9 161.4	161.2	10.7 10.8	10.8	7.9	1.7 1.7	1.7	2.2
				Middle	3.5	27.5 27.5	27.5	8.1 8.1	8.1	29.0 29.0	29.0	71.8 73.3	72.6	4.8 4.9	4.9		1.5 1.6	1.6	
				Bottom	6	27.3 27.3	27.3	8.0 8.0	8.0	29.8 29.8	29.8	54.5 53.1	53.8	3.7 3.6	3.7		3.2 3.1	3.2	
23-Sep-18	Cloudy	Calm	18:07	Surface	1	30.0 29.9	30.0	8.5 8.4	8.5	25.5 25.6	25.6	136.7 137.4	137.1	9.0 9.0	9.0	7.9	1.0 1.1	1.1	2.3
				Middle	3.5	27.6 27.6	27.6	8.2 8.2	8.2	29.6 29.7	29.7	100.5 100.4	100.5	6.7 6.7	6.7		1.2 1.1	1.2	
				Bottom	6	27.2 27.2	27.2	7.9 7.9	7.9	30.0 30.0	30.0	35.6 34.8	35.2	2.4 2.3	2.4		4.6 4.5	4.6	
13-Oct-18	Sunny	Calm	09:00	Surface	1	26.2 26.2	26.2	8.3 8.3	8.3	30.1 30.1	30.1	99.6 99.8	99.7	6.8 6.8	6.8	4.8	0.3 0.3	0.3	2.0
				Middle	3.5	28.0 28.1	28.1	8.0 8.0	8.0	32.8 32.8	32.8	40.6 39.7	40.2	2.7 2.6	2.7		0.4 0.4	0.4	
				Bottom	6	27.6 27.6	27.6	7.9 7.9	7.9	33.6 33.6	33.6	9.8 9.3	9.6	0.6 0.6	0.6		5.2 5.4	5.3	
22-Oct-18	Fine	Calm	17:49	Surface	1	26.4 26.3	26.4	8.2 8.2	8.2	28.2 28.3	28.3	126.2 124.4	125.3	8.7 8.6	8.7	6.7	0.7 0.7	0.7	1.1
				Middle	4	26.3 26.4	26.4	7.9 7.9	7.9	29.8 29.9	29.9	67.3 66.2	66.8	4.6 4.5	4.6		1.5 1.5	1.5	
				Bottom	7	26.6 26.6	26.6	7.8 7.8	7.8	30.8 30.7	30.8	30.6 31.7	31.2	2.1 2.1	2.1		1.2 1.2	1.2	
8-Nov-18	Sunny	Calm	17:27	Surface	1	26.5 26.6	26.6	8.6 8.6	8.6	29.4 29.5	29.5	147.4 147.4	147.4	10.0 10.0	10.0	8.8	0.9 0.9	0.9	1.3
				Middle	4	25.2 25.2	25.2	8.4 8.4	8.4	30.2 30.2	30.2	109.2 109.2	109.2	7.6 7.6	7.6		0.9 0.8	0.9	
				Bottom	7	24.6 24.6	24.6	8.1 8.1	8.1	30.9 30.9	30.9	53.1 52.8	53.0	3.7 3.7	3.7		1.9 2.1	2.0	
10-Nov-18	Cloudy	Rough	08:27	Surface	1	25.1 25.1	25.1	8.2 8.2	8.2	29.5 29.4	29.5	110.6 107.2	108.9	7.7 7.5	7.6	7.5	0.5 0.5	0.5	1.0
				Middle	3.5	25.5 25.5	25.5	8.2 8.2	8.2	30.2 30.2	30.2	107.6 107.8	107.7	7.4 7.4	7.4		0.8 0.8	0.8	
				Bottom	6	25.1 25.1	25.1	7.8 7.8	7.8	30.7 30.7	30.7	40.7 40.4	40.6	2.8 2.8	2.8		1.6 1.6	1.6	
17-Dec-18	Sunny	Moderate	14:37	Surface	1	20.2 20.2	20.2	8.1 8.1	8.1	31.0 31.0	31.0	109.9 109.6	109.8	8.3 8.3	8.3	7.9	1.2 1.1	1.2	2.0
				Middle	3.5	20.1 20.1	20.1	8.1 8.1	8.1	31.3 31.3	31.3	97.9 98.6	98.3	7.4 7.4	7.4		1.5 1.6	1.6	
				Bottom	6	20.4 20.4	20.4	8.0 8.0	8.0	31.4 31.4	31.4	90.8 90.6	90.7	6.8 6.8	6.8		3.1 3.3	3.2	
19-Dec-18	Cloudy	Moderate	15:41	Surface	1	20.1 20.2	20.2	8.2 8.2	8.2	30.7 30.7	30.7	117.2 117.9	117.6	8.9 8.9	8.9	8.9	0.8 0.8	0.8	0.8
				Middle	3.5	20.1 20.1	20.1	8.2 8.2	8.2	31.0 31.0	31.0	117.5 117.9	117.7	8.9 8.9	8.9		0.7 0.7	0.7	
				Bottom	6	20.2 20.2	20.2	8.2 8.2	8.2	31.1 31.1	31.1	115.1 112.6	113.9	8.7 8.5	8.6		1.0 0.9	1.0	

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

Contract No. SPW 09 / 2018

Environmental Team Baseline Surveys for Sha Tin Cavern Sewage Treatment Works

Baseline Water Quality Monitoring Results at CR1

(Mid-Ebb Tide)

Date	Weather Condition	Sea Condition*	Sampling Time	Depth (m)		Temperature (°C)		pH		Salinity ppt		DO Saturation (%)		Dissolved Oxygen (mg/L)		Turbidity (NTU)					
						Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*		
20-Jun-18	Cloudy	Calm	17:38	Surface	1	30.3 30.3	30.3	7.8 7.9	7.9	29.4 29.4	29.4	113.0 113.4	113.2	7.2 7.3	7.3	7.3	1.9 1.8	1.9	2.2		
				Middle	-	-	-	-	-	-	-	-	-	-	-		-	-		-	-
				Bottom	4.8	28.7 28.7	28.7	7.7 7.7	7.7	30.0 30.0	30.0	67.0 66.3	66.7	4.4 4.3	4.4		4.4	2.3 2.5		2.4	
26-Jun-18	Cloudy	Calm	12:18	Surface	1	29.8 29.8	29.8	8.4 8.4	8.4	25.5 25.7	25.6	160.7 160.1	160.4	10.6 10.5	10.6	10.6	2.5 2.4	2.5	4.4		
				Middle	-	-	-	-	-	-	-	-	-	-	-		-	-		-	
				Bottom	4.6	28.2 28.2	28.2	7.8 7.9	7.9	31.8 31.9	31.9	39.7 42.9	41.3	2.6 2.8	2.7		2.7	5.9 6.4		6.2	
16-Jul-18	Cloudy	Moderate	15:00	Surface	1	28.0 27.9	28.0	7.9 8.0	8.0	25.7 25.1	25.4	102.4 100.9	101.7	7.0 6.9	7.0	6.8	2.0 2.1	2.1	2.9		
				Middle	3	28.3 28.3	28.3	8.0 8.0	8.0	27.3 27.4	27.4	97.8 97.6	97.7	6.5 6.5	6.5		6.5	1.5 1.2		1.4	
				Bottom	5	28.5 28.5	28.5	7.9 7.9	7.9	30.3 30.3	30.3	74.4 74.5	74.5	4.9 4.9	4.9		4.9	5.2 5.0		5.1	
24-Jul-18	Cloudy	Moderate	11:14	Surface	1	29.8 29.7	29.8	8.1 8.1	8.1	27.4 27.6	27.5	115.4 115.1	115.3	7.5 7.5	7.5	7.5	0.9 0.8	0.9	0.6		
				Middle	-	-	-	-	-	-	-	-	-	-	-		-	-		-	
				Bottom	4.6	29.4 29.4	29.4	8.0 8.0	8.0	29.7 29.7	29.7	102.4 102.5	102.5	6.6 6.7	6.7		6.7	0.3 0.3		0.3	
16-Aug-18	Cloudy	Calm	15:35	Surface	1	29.1 29.1	29.1	8.4 8.4	8.4	20.2 20.2	20.2	143.8 143.5	143.7	9.9 9.9	9.9	7.6	1.9 1.9	1.9	2.1		
				Middle	3	29.7 29.7	29.7	8.0 7.9	8.0	28.7 28.8	28.8	81.4 79.4	80.4	5.3 5.2	5.3		5.3	0.9 0.8		0.9	
				Bottom	5	29.6 29.6	29.6	7.8 7.8	7.8	29.5 29.4	29.5	44.6 46.5	45.6	2.9 3.0	3.0		3.0	3.6 3.5		3.6	
25-Aug-18	Fine	Calm	12:57	Surface	1	29.7 29.7	29.7	7.9 8.0	8.0	30.0 30.0	30.0	81.6 81.4	81.5	5.3 5.3	5.3	5.3	3.0 3.2	3.1	3.2		
				Middle	-	-	-	-	-	-	-	-	-	-	-		-	-		-	
				Bottom	4.7	26.6 26.3	26.5	7.7 7.7	7.7	31.6 31.8	31.7	8.4 8.3	8.4	0.6 0.6	0.6		0.6	3.3 3.2		3.3	
20-Sep-18	Fine	Calm	10:12	Surface	1	28.1 28.1	28.1	8.3 8.3	8.3	26.7 26.9	26.8	115.3 114.7	115.0	7.8 7.7	7.8	7.8	1.8 1.8	1.8	2.2		
				Middle	-	-	-	-	-	-	-	-	-	-	-		-	-		-	
				Bottom	4.8	27.4 27.3	27.4	8.0 8.0	8.0	29.4 29.5	29.5	58.0 58.4	58.2	3.9 3.9	3.9		3.9	2.6 2.6		2.6	
23-Sep-18	Sunny	Calm	12:12	Surface	1	31.1 31.0	31.1	8.5 8.5	8.5	24.7 24.9	24.8	141.8 144.3	143.1	9.2 9.4	9.3	9.3	1.3 1.3	1.3	1.4		
				Middle	-	-	-	-	-	-	-	-	-	-	-		-	-		-	
				Bottom	4.7	27.6 27.5	27.6	8.2 8.2	8.2	29.7 29.6	29.7	92.3 93.7	93.0	6.2 6.3	6.3		6.3	1.5 1.5		1.5	
13-Oct-18	Sunny	Calm	14:36	Surface	1	27.1 27.1	27.1	8.4 8.4	8.4	30.9 30.9	30.9	121.1 121.3	121.2	8.1 8.1	8.1	8.1	0.5 0.6	0.6	0.5		
				Middle	3	27.0 27.0	27.0	8.4 8.4	8.4	30.9 30.9	30.9	119.7 120.2	120.0	8.0 8.1	8.1		8.1	0.4 0.4		0.4	
				Bottom	5	27.0 27.0	27.0	8.3 8.3	8.3	31.1 31.0	31.1	113.3 114.5	113.9	7.6 7.7	7.7		7.7	0.6 0.6		0.6	
22-Oct-18	Fine	Calm	11:33	Surface	1	26.3 26.3	26.3	8.2 8.2	8.2	28.4 28.5	28.5	117.0 117.4	117.2	8.1 8.1	8.1	8.1	0.4 0.4	0.4	1.6		
				Middle	-	-	-	-	-	-	-	-	-	-	-		-	-		-	
				Bottom	4.8	26.5 26.5	26.5	7.7 7.7	7.7	30.3 30.4	30.4	17.5 17.5	17.5	1.2 1.2	1.2		1.2	2.8 2.6		2.7	
8-Nov-18	Sunny	Calm	13:27	Surface	1	26.2 26.4	26.3	8.6 8.5	8.6	29.4 29.2	29.3	148.3 145.1	146.7	10.2 9.9	10.1	10.1	1.0 1.0	1.0	2.5		
				Middle	-	-	-	-	-	-	-	-	-	-	-		-	-		-	
				Bottom	4.5	25.0 25.0	25.0	8.1 8.1	8.1	30.2 30.2	30.2	56.6 56.4	56.5	3.9 3.9	3.9		3.9	4.0 4.0		4.0	
10-Nov-18	Cloudy	Rough	13:09	Surface	1	25.6 25.6	25.6	8.3 8.3	8.3	29.8 29.8	29.8	114.7 115.9	115.3	7.9 8.0	8.0	8.0	2.0 1.9	2.0	2.8		
				Middle	3	25.6 25.6	25.6	8.3 8.3	8.3	29.9 29.9	29.9	114.2 114.0	114.1	7.9 7.9	7.9		7.9	2.5 2.6		2.6	
				Bottom	5	25.3 25.4	25.4	8.3 8.3	8.3	29.9 29.9	29.9	113.9 112.3	113.1	7.9 7.8	7.9		7.9	3.7 4.0		3.9	
17-Dec-18	Sunny	Moderate	08:25	Surface	1	20.2 20.1	20.2	8.0 8.0	8.0	31.4 31.4	31.4	91.0 89.5	90.3	6.9 6.7	6.8	6.8	1.2 1.1	1.2	2.6		
				Middle	-	-	-	-	-	-	-	-	-	-	-		-	-			
				Bottom	4.8	20.8 20.8	20.8	8.1 8.1	8.1	31.9 31.9	31.9	84.6 84.5	84.6	6.3 6.3	6.3		6.3	3.9 4.0		4.0	
19-Dec-18	Cloudy	Moderate	11:02	Surface	1	20.4 20.5	20.5	8.2 8.2	8.2	31.2 31.2	31.2	112.4 113.5	113.0	8.4 8.5	8.5	8.5	1.8 1.9	1.9	2.4		
				Middle	-	-	-	-	-	-	-	-	-	-	-		-	-			
				Bottom	4.7	20.4 20.4	20.4	8.2 8.2	8.2	31.2 31.2	31.2	111.6 111.5	111.6	8.4 8.4	8.4		8.4	2.9 2.8		2.9	

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



Contract No. SPW 09 / 2018

Environmental Team Baseline Surveys for Sha Tin Cavern Sewage Treatment Works

Baseline Water Quality Monitoring Results at CR1

(Mid-Flood Tide)

Date	Weather Condition	Sea Condition*	Sampling Time	Depth (m)		Temperature (°C)		pH		Salinity ppt		DO Saturation (%)		Dissolved Oxygen (mg/L)		Turbidity(NTU)			
						Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*
20-Jun-18	Cloudy	Calm	10:38	Surface	1	29.6 29.6	29.6	7.8 7.8	7.8	28.4 28.4	28.4	97.5 97.2	97.4	6.4 6.3	6.4	5.4	1.4 1.3	1.4	2.4
				Middle	3	28.8 28.8	28.8	7.7 7.7	7.7	29.9 29.9	29.9	67.1 67.8	67.5	4.4 4.4	4.4		1.6 1.4	1.5	
				Bottom	5	28.5 28.5	28.5	7.6 7.6	7.6	30.1 30.1	30.1	44.0 45.5	44.8	2.9 3.0	3.0		4.3 4.1	4.2	
26-Jun-18	Fine	Calm	17:26	Surface	1	30.7 30.7	30.7	8.4 8.4	8.4	25.9 26.0	26.0	173.9 174.1	174.0	11.3 11.3	11.3	11.3	2.3 2.0	2.2	2.5
				Middle	-	-	-	-	-	-	-	-	-	-	-		-	-	
				Bottom	4.6	29.3 29.3	29.3	7.9 7.9	7.9	30.4 30.3	30.4	65.5 65.4	65.5	4.2 4.2	4.2		2.8 2.7	2.8	
16-Jul-18	Cloudy	Rough	07:14	Surface	1	27.9 27.9	27.9	7.9 7.9	7.9	25.8 25.8	25.8	86.7 85.6	86.2	5.9 5.8	5.9	5.7	2.1 2.0	2.1	1.9
				Middle	3.5	28.5 28.5	28.5	7.9 7.9	7.9	29.6 29.7	29.7	82.3 83.0	82.7	5.4 5.5	5.5		1.4 1.3	1.4	
				Bottom	6	28.5 28.5	28.5	7.9 7.9	7.9	30.3 30.3	30.3	79.9 80.4	80.2	5.2 5.3	5.3		2.2 2.3	2.3	
24-Jul-18	Cloudy	Calm	16:30	Surface	1	30.6 30.4	30.5	8.2 8.2	8.2	27.8 27.9	27.9	148.4 147.5	148.0	9.6 9.5	9.6	9.6	1.5 1.4	1.5	1.2
				Middle	-	-	-	-	-	-	-	-	-	-	-		-		
				Bottom	4.5	29.5 29.5	29.5	8.0 8.0	8.0	29.6 29.6	29.6	106.0 106.3	106.2	6.9 6.9	6.9		0.9 0.9	0.9	
16-Aug-18	Cloudy	Calm	08:53	Surface	1	28.6 28.6	28.6	8.4 8.4	8.4	18.4 18.7	18.6	121.3 121.0	121.2	8.5 8.5	8.5	6.9	1.7 1.7	1.7	1.3
				Middle	3.5	29.6 29.6	29.6	7.9 7.9	7.9	29.0 29.0	29.0	79.9 79.7	79.8	5.2 5.2	5.2		0.7 0.6	0.7	
				Bottom	6	29.6 29.6	29.6	7.8 7.8	7.8	29.4 29.5	29.5	56.2 56.4	56.3	3.6 3.7	3.7		1.5 1.5	1.5	
25-Aug-18	Fine	Calm	18:15	Surface	1	30.1 30.1	30.1	8.1 8.1	8.1	29.9 30.0	30.0	122.7 122.0	122.4	7.9 7.8	7.9	7.9	1.9 1.9	1.9	2.2
				Middle	-	-	-	-	-	-	-	-	-	-	-		-		
				Bottom	4.6	26.1 26.6	26.4	7.8 7.8	7.8	31.9 31.6	31.8	8.2 8.6	8.4	0.6 0.6	0.6		2.3 2.4	2.4	
20-Sep-18	Fine	Calm	16:43	Surface	1	30.4 30.2	30.3	8.5 8.5	8.5	22.6 23.1	22.9	185.4 184.7	185.1	12.3 12.3	12.3	12.3	2.3 2.2	2.3	3.2
				Middle	-	-	-	-	-	-	-	-	-	-	-		-		
				Bottom	4.7	27.4 27.3	27.4	8.0 8.0	8.0	29.6 29.6	29.6	54.8 56.4	55.6	3.7 3.8	3.8		4.1 4.1	4.1	
23-Sep-18	Cloudy	Calm	17:35	Surface	1	30.9 30.7	30.8	8.4 8.4	8.4	25.0 25.4	25.2	144.8 144.2	144.5	9.4 9.4	9.4	9.4	1.5 1.5	1.5	2.6
				Middle	-	-	-	-	-	-	-	-	-	-	-		-		
				Bottom	4.8	27.6 27.6	27.6	8.1 8.1	8.1	29.7 29.6	29.7	74.3 75.1	74.7	5.0 5.0	5.0		3.8 3.5	3.7	
13-Oct-18	Sunny	Calm	09:45	Surface	1	26.6 26.6	26.6	8.3 8.3	8.3	30.6 30.4	30.5	100.9 99.1	100.0	6.8 6.7	6.8	6.8	0.6 0.6	0.6	2.0
				Middle	-	-	-	-	-	-	-	-	-	-	-		-		
				Bottom	4.8	27.9 27.9	27.9	7.9 7.9	7.9	33.2 33.2	33.2	20.8 20.6	20.7	1.4 1.3	1.4		3.2 3.6	3.4	
22-Oct-18	Fine	Calm	17:11	Surface	1	26.6 26.6	26.6	8.2 8.2	8.2	28.1 28.1	28.1	124.9 124.7	124.8	8.6 8.6	8.6	6.6	0.8 0.8	0.8	1.4
				Middle	3	26.3 26.3	26.3	7.9 7.9	7.9	29.6 29.5	29.6	66.1 66.8	66.5	4.5 4.6	4.6		2.0 2.0	2.0	
				Bottom	5	26.6 26.6	26.6	7.7 7.7	7.7	30.6 30.6	30.6	29.3 29.3	29.3	2.0 2.0	2.0		1.3 1.3	1.3	
8-Nov-18	Sunny	Calm	16:52	Surface	1	26.9 26.8	26.9	8.6 8.6	8.6	28.9 28.9	28.9	152.1 152.7	152.4	10.3 10.4	10.4	10.4	1.1 1.1	1.1	1.7
				Middle	-	-	-	-	-	-	-	-	-	-	-		-		
				Bottom	4.8	24.9 24.9	24.9	8.1 8.1	8.1	30.5 30.6	30.6	57.8 51.5	54.7	4.0 3.6	3.8		2.1 2.2	2.2	
10-Nov-18	Cloudy	Rough	09:11	Surface	1	25.3 25.3	25.3	8.3 8.3	8.3	29.8 29.8	29.8	121.2 121.2	121.2	8.4 8.4	8.4	8.4	0.6 0.6	0.6	0.7
				Middle	-	-	-	-	-	-	-	-	-	-	-		-		
				Bottom	4.7	25.3 25.3	25.3	8.3 8.3	8.3	29.8 29.8	29.8	121.7 121.7	121.7	8.4 8.5	8.5		0.7 0.7	0.7	
17-Dec-18	Sunny	Moderate	13:59	Surface	1	21.0 21.0	21.0	8.1 8.0	8.1	31.5 31.4	31.5	99.0 98.9	99.0	7.4 7.3	7.4	7.4	1.0 1.0	1.0	2.3
				Middle	-	-	-	-	-	-	-	-	-	-	-		-		
				Bottom	5	20.8 20.8	20.8	8.0 8.0	8.0	31.8 31.8	31.8	88.8 88.5	88.7	6.6 6.6	6.6		3.6 3.6	3.6	
19-Dec-18	Cloudy	Moderate	15:08	Surface	1	20.7 20.7	20.7	8.2 8.2	8.2	31.2 31.2	31.2	118.2 118.4	118.3	8.8 8.8	8.8	8.8	1.7 1.6	1.7	2.1
				Middle	-	-	-	-	-	-	-	-	-	-	-		-		
				Bottom	4.9	20.5 20.5	20.5	8.2 8.2	8.2	31.2 31.2	31.2	114.8 115.7	115.3	8.6 8.7	8.7		2.5 2.5	2.5	

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

Contract No. SPW 09 / 2018

Environmental Team Baseline Surveys for Sha Tin Cavern Sewage Treatment Works

Baseline Water Quality Monitoring Results at CR15

(Mid-Ebb Tide)

Date	Weather Condition	Sea Condition*	Sampling Time	Depth (m)		Temperature (°C)		pH		Salinity ppt		DO Saturation (%)		Dissolved Oxygen (mg/L)		Turbidity (NTU)			
						Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*
20-Jun-18	Cloudy	Calm	18:01	Surface	1	28.8	28.8	7.8	7.8	30.0	30.0	87.5	87.6	5.7	5.7	5.5	1.3	1.4	1.4
				Middle	3.5	28.6	28.6	7.8	7.8	30.1	30.2	79.2	79.1	5.2	5.2		1.4	1.4	
				Bottom	6	28.6	28.6	7.8	7.8	30.2	30.2	77.7	77.0	5.1	5.1		1.4	1.4	
26-Jun-18	Cloudy	Calm	11:54	Surface	1	29.7	29.7	8.2	8.2	27.0	27.5	130.9	130.5	8.6	8.6	6.2	2.2	2.3	2.2
				Middle	3	28.8	28.9	7.9	7.9	31.0	31.0	53.2	55.5	3.5	3.7		1.5	1.5	
				Bottom	5	28.3	28.3	7.8	7.8	31.4	31.4	23.6	23.1	1.5	1.5		2.9	2.9	
16-Jul-18	Cloudy	Moderate	15:21	Surface	1	28.6	28.6	8.0	8.0	28.3	28.3	99.8	99.4	6.6	6.6	6.5	1.1	1.1	2.1
				Middle	3.5	28.5	28.5	8.0	8.0	29.0	29.1	97.6	96.2	6.5	6.4		1.0	1.0	
				Bottom	6	28.5	28.5	7.9	7.9	30.6	30.6	78.7	77.9	5.2	5.2		4.0	4.2	
24-Jul-18	Cloudy	Moderate	10:41	Surface	1	29.6	29.6	8.1	8.1	29.2	29.2	112.6	112.3	7.3	7.3	7.1	0.6	0.6	1.3
				Middle	3.5	29.4	29.4	8.0	8.0	29.4	29.4	104.8	104.9	6.8	6.8		0.7	0.7	
				Bottom	6	28.7	28.7	7.6	7.6	30.8	30.8	25.2	25.0	1.6	1.6		2.7	2.7	
16-Aug-18	Cloudy	Calm	15:59	Surface	1	29.5	29.5	8.3	8.3	23.8	23.9	134.7	135.4	9.0	9.1	6.2	1.5	1.5	2.8
				Middle	3.5	29.9	29.9	7.8	7.8	28.9	29.0	51.7	51.6	3.3	3.3		1.1	1.1	
				Bottom	6	29.8	29.8	7.7	7.7	29.6	29.6	9.0	8.6	0.6	0.6		5.9	5.4	
25-Aug-18	Fine	Calm	12:25	Surface	1	30.5	30.5	8.1	8.1	29.3	29.3	107.9	106.7	6.9	6.8	3.7	1.1	1.1	2.8
				Middle	3	26.9	27.0	7.8	7.8	31.5	31.5	8.9	8.9	0.6	0.6		4.1	4.4	
				Bottom	5	26.1	26.1	7.8	7.8	32.0	31.9	7.7	7.6	0.5	0.5		3.1	2.9	
20-Sep-18	Fine	Calm	09:43	Surface	1	28.2	28.2	8.3	8.3	26.2	26.3	130.3	130.6	8.8	8.8	6.2	1.2	1.3	1.8
				Middle	3.5	27.6	27.6	8.0	8.0	28.6	28.7	52.9	52.8	3.6	3.6		1.3	1.4	
				Bottom	6	27.2	27.2	8.0	8.0	29.9	29.9	50.5	50.9	3.4	3.4		2.9	2.7	
23-Sep-18	Sunny	Calm	11:41	Surface	1	30.3	30.3	8.5	8.5	24.9	24.9	135.9	135.8	8.9	8.9	7.4	0.8	0.8	2.4
				Middle	3	27.8	27.8	8.1	8.1	29.4	29.4	87.3	87.7	5.8	5.9		1.1	1.1	
				Bottom	5	27.2	27.2	7.9	7.9	30.0	30.0	31.3	32.1	2.1	2.2		5.6	5.4	
13-Oct-18	Sunny	Calm	14:56	Surface	1	27.1	27.1	8.3	8.3	30.7	30.7	109.2	109.4	7.3	7.3	5.5	0.7	0.7	1.3
				Middle	3.5	27.9	27.9	8.1	8.1	32.4	32.4	56.4	56.2	3.7	3.7		1.2	1.2	
				Bottom	6	28.1	28.1	7.8	7.8	33.2	33.2	16.4	15.6	1.1	1.1		1.8	1.9	
22-Oct-18	Fine	Calm	11:02	Surface	1	26.2	26.2	8.1	8.1	28.4	28.5	110.7	110.9	7.6	7.7	5.1	0.2	0.2	2.3
				Middle	3.5	26.3	26.3	7.8	7.8	29.9	29.9	35.6	35.8	2.4	2.5		2.3	2.3	
				Bottom	6	26.6	26.6	7.7	7.7	30.6	30.7	10.3	11.6	0.7	0.8		4.6	4.4	
8-Nov-18	Sunny	Calm	12:58	Surface	1	26.5	26.5	8.6	8.6	27.5	27.5	149.0	148.5	10.3	10.3	6.9	0.9	0.9	2.9
				Middle	3.5	24.9	24.9	8.1	8.1	30.5	30.5	48.4	48.7	3.4	3.4		1.9	1.9	
				Bottom	6	24.9	24.9	7.9	7.9	30.9	30.9	13.4	14.1	0.9	1.0		5.9	5.9	
10-Nov-18	Cloudy	Rough	13:33	Surface	1	25.4	25.4	8.2	8.2	29.9	29.9	109.5	109.3	7.6	7.6	7.7	0.9	0.9	2.2
				Middle	3.5	25.4	25.4	8.2	8.2	30.0	30.0	112.0	111.9	7.8	7.8		0.6	0.6	
				Bottom	6	25.5	25.5	8.0	8.1	30.3	30.3	70.6	72.2	4.9	5.0		5.1	5.1	
17-Dec-18	Sunny	Moderate	07:56	Surface	1	20.0	20.0	8.1	8.1	31.1	31.1	95.6	95.0	7.2	7.2	7.0	1.8	1.8	2.3
				Middle	3.5	20.2	20.2	8.1	8.1	31.3	31.3	90.4	89.5	6.8	6.8		1.7	2.0	
				Bottom	6	20.4	20.5	8.1	8.1	31.5	31.5	86.6	86.3	6.5	6.5		2.1	3.1	
19-Dec-18	Cloudy	Moderate	10:30	Surface	1	20.4	20.4	8.2	8.2	31.2	31.2	111.0	111.5	8.3	8.4	8.5	1.7	1.7	1.8
				Middle	3.5	20.2	20.2	8.2	8.2	31.2	31.2	111.9	112.2	8.4	8.5		1.6	1.6	
				Bottom	6	20.2	20.2	8.2	8.2	31.2	31.2	111.0	108.9	8.4	8.3		2.2	2.2	

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

Baseline Water Quality Monitoring Results at CR15

(Mid-Flood Tide)

Date	Weather Condition	Sea Condition*	Sampling Time	Depth (m)		Temperature (°C)		pH		Salinity ppt		DO Saturation (%)		Dissolved Oxygen (mg/L)		Turbidity(NTU)			
						Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*
20-Jun-18	Cloudy	Calm	10:12	Surface	1	29.1	29.1	7.8	7.8	29.0	29.0	100.6	100.2	6.6	6.6	5.8	1.2	1.2	2.6
				Middle	3.5	28.6	28.6	7.7	7.7	30.0	30.0	73.4	73.9	4.9	4.9		1.2	1.2	
				Bottom	6	28.5	28.5	7.6	7.7	30.2	30.3	49.6	51.8	3.3	3.4		5.6	5.3	
26-Jun-18	Fine	Calm	17:50	Surface	1	30.1	30.1	8.2	8.2	28.8	28.7	144.9	144.2	9.3	9.3	8.1	1.8	1.8	2.2
				Middle	3	29.4	29.4	8.1	8.1	30.0	30.0	104.3	104.2	6.8	6.8		1.9	1.9	
				Bottom	5	28.4	28.4	7.7	7.7	31.2	31.3	14.5	14.7	1.0	1.0		2.9	2.8	
16-Jul-18	Cloudy	Rough	06:45	Surface	1	27.8	27.8	7.9	7.9	27.0	27.1	88.0	88.9	6.0	6.0	6.0	1.4	1.4	1.1
				Middle	4	28.1	28.1	8.0	8.0	28.6	28.6	89.8	89.5	6.0	6.0		0.8	0.9	
				Bottom	7	28.4	28.4	7.9	7.9	30.4	30.4	85.2	84.5	5.6	5.6		0.9	0.9	
24-Jul-18	Cloudy	Calm	16:49	Surface	1	30.1	30.1	8.1	8.1	28.9	28.9	127.4	127.6	8.2	8.2	8.2	1.6	1.7	1.6
				Middle	3	29.6	29.6	8.1	8.1	29.2	29.2	124.2	124.1	8.1	8.1		1.3	1.3	
				Bottom	5	29.2	29.2	7.9	7.9	30.2	30.2	74.0	73.6	4.8	4.8		1.7	1.7	
16-Aug-18	Cloudy	Calm	08:18	Surface	1	29.7	29.7	8.3	8.3	20.5	20.5	129.4	128.0	8.8	8.7	5.9	2.2	2.1	2.1
				Middle	3.5	29.8	29.8	7.8	7.8	29.3	29.3	46.2	46.4	3.0	3.0		1.6	1.6	
				Bottom	6	29.7	29.7	7.7	7.7	29.7	29.7	22.0	23.0	1.4	1.5		2.5	2.3	
25-Aug-18	Fine	Calm	18:36	Surface	1	31.2	31.2	8.1	8.1	29.3	29.4	125.5	125.2	7.9	7.9	4.7	1.1	1.1	2.0
				Middle	3	27.7	27.8	7.9	7.9	31.1	31.1	20.2	21.1	1.3	1.4		2.0	2.0	
				Bottom	5	26.0	26.0	7.9	7.9	32.0	32.0	8.5	8.5	0.6	0.6		3.1	2.9	
20-Sep-18	Fine	Calm	17:03	Surface	1	28.6	28.6	8.4	8.4	26.6	26.6	152.4	152.3	10.2	10.2	8.2	1.2	1.2	1.8
				Middle	3	27.8	27.8	8.2	8.2	28.4	28.4	91.1	91.4	6.1	6.1		1.4	1.4	
				Bottom	5	27.6	27.6	8.0	8.0	29.1	29.2	50.2	49.6	3.4	3.4		2.8	2.8	
23-Sep-18	Cloudy	Calm	17:54	Surface	1	30.3	30.3	8.5	8.5	25.1	25.2	139.7	139.8	9.2	9.2	8.7	1.0	1.0	1.9
				Middle	3.5	28.3	28.4	8.3	8.3	28.9	28.9	123.6	123.1	8.2	8.2		1.0	1.1	
				Bottom	6	27.5	27.5	8.0	8.0	29.7	29.7	55.2	54.3	3.7	3.7		3.2	3.6	
13-Oct-18	Sunny	Calm	09:16	Surface	1	26.3	26.6	8.3	8.3	30.1	30.3	97.3	96.6	6.6	6.6	4.4	0.6	0.5	2.0
				Middle	3.5	28.2	28.2	8.0	8.0	33.0	33.0	31.2	31.9	2.0	2.1		0.7	0.7	
				Bottom	6	27.7	27.7	7.9	7.9	33.6	33.5	9.2	9.2	0.6	0.6		4.5	4.6	
22-Oct-18	Fine	Calm	17:33	Surface	1	26.5	26.5	8.2	8.2	28.4	28.3	129.4	128.6	8.9	8.9	8.4	0.2	0.2	1.1
				Middle	3.5	26.1	26.1	8.2	8.2	29.2	29.3	114.3	112.1	7.9	7.7		0.6	0.6	
				Bottom	6	26.7	26.6	7.7	7.7	30.7	30.6	11.1	11.6	0.8	0.8		2.3	2.5	
8-Nov-18	Sunny	Calm	17:12	Surface	1	26.0	25.8	8.5	8.5	29.5	29.7	143.3	139.8	9.8	9.6	8.0	1.5	1.5	2.7
				Middle	3.5	25.2	25.2	8.3	8.3	30.2	30.2	87.2	89.3	6.1	6.2		2.1	2.1	
				Bottom	6	25.0	25.0	8.0	8.0	30.5	30.5	40.1	40.8	2.8	2.8		4.5	4.3	
10-Nov-18	Cloudy	Rough	08:41	Surface	1	25.3	25.4	8.2	8.2	30.0	30.0	113.7	111.3	7.9	7.7	7.8	0.6	0.6	1.3
				Middle	3.5	25.4	25.4	8.2	8.2	30.0	30.0	113.1	111.8	7.8	7.7		0.5	0.5	
				Bottom	6	25.4	25.3	7.9	7.9	30.4	30.5	57.3	52.6	4.0	3.8		2.6	2.7	
17-Dec-18	Sunny	Moderate	14:19	Surface	1	20.4	20.5	8.1	8.1	31.4	31.4	98.9	97.9	7.4	7.4	7.3	1.7	1.8	2.8
				Middle	3.5	20.4	20.4	8.0	8.0	31.4	31.4	97.0	96.0	7.3	7.2		1.9	1.9	
				Bottom	6	20.9	20.9	8.0	8.0	31.8	31.8	68.9	69.4	5.1	5.2		4.4	4.6	
19-Dec-18	Cloudy	Moderate	15:27	Surface	1	20.3	20.3	8.2	8.2	30.8	30.8	117.9	118.0	8.9	8.9	8.9	0.7	0.8	1.3
				Middle	3.5	20.4	20.5	8.2	8.2	31.2	31.2	117.8	118.0	8.8	8.9		1.1	1.1	
				Bottom	6	20.3	20.3	8.2	8.2	31.2	31.2	109.0	109.4	8.2	8.2		2.0	2.1	

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

Contract No. SPW 09 / 2018

Environmental Team Baseline Surveys for Sha Tin Cavern Sewage Treatment Works

Baseline Water Quality Monitoring Results at CR16

(Mid-Ebb Tide)

Date	Weather Condition	Sea Condition*	Sampling Time	Depth (m)		Temperature (°C)		pH		Salinity ppt		DO Saturation (%)		Dissolved Oxygen (mg/L)		Turbidity(NTU)			
						Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*
20-Jun-18	Cloudy	Calm	18:28	Surface	1	28.9	28.9	7.7	7.8	30.0	30.0	79.4	79.4	5.2	5.2	4.1	1.8	1.7	3.7
				Middle	4	28.5	28.5	7.6	7.6	30.2	30.3	46.2	45.8	3.0	3.0		4.2	4.3	
				Bottom	7	28.4	28.4	7.6	7.6	30.3	30.3	48.3	48.1	3.2	3.2		4.9	5.0	
26-Jun-18	Cloudy	Calm	11:21	Surface	1	29.5	29.5	8.1	8.1	28.6	28.8	121.6	121.4	7.9	7.9	5.4	1.5	1.5	1.9
				Middle	4	28.6	28.6	7.8	7.8	31.1	31.2	42.1	42.2	2.7	2.8		1.3	1.3	
				Bottom	7	28.1	28.1	7.9	7.9	32.3	32.4	49.2	48.6	3.2	3.2		2.7	2.8	
16-Jul-18	Cloudy	Moderate	15:44	Surface	1	28.7	28.7	7.9	7.9	28.5	28.7	91.3	91.1	6.0	6.0	5.8	0.6	0.6	0.8
				Middle	3.5	28.5	28.6	7.9	7.9	30.1	30.1	84.8	85.1	5.6	5.6		0.5	0.5	
				Bottom	6	28.6	28.6	7.9	7.9	30.8	30.8	76.1	74.2	5.0	4.8		1.4	1.4	
24-Jul-18	Cloudy	Moderate	10:14	Surface	1	29.5	29.6	7.9	8.0	29.0	29.0	98.3	98.4	6.4	6.4	6.0	0.7	0.7	0.9
				Middle	4	29.2	29.2	7.9	7.9	30.0	30.0	85.4	85.6	5.6	5.6		0.8	0.8	
				Bottom	7	28.8	28.8	7.7	7.7	30.8	30.8	43.6	44.0	2.8	2.9		1.1	1.1	
16-Aug-18	Cloudy	Calm	16:29	Surface	1	29.6	29.6	8.4	8.4	21.5	21.2	159.7	159.1	10.8	10.8	8.1	1.8	1.9	1.4
				Middle	3	29.8	29.8	8.0	8.0	28.9	28.9	84.0	83.2	5.4	5.4		1.0	1.0	
				Bottom	5	29.7	29.7	7.9	7.9	29.6	29.6	68.6	68.4	4.4	4.4		1.4	1.4	
25-Aug-18	Fine	Calm	11:58	Surface	1	30.8	30.9	8.1	8.1	28.6	28.6	124.7	124.8	8.0	8.0	4.4	0.9	0.9	1.5
				Middle	4	26.0	26.0	7.8	7.8	31.9	32.0	9.7	9.7	0.7	0.7		1.7	1.8	
				Bottom	7	24.7	24.6	7.8	7.8	32.5	32.5	8.1	7.8	0.6	0.5		1.8	1.9	
20-Sep-18	Fine	Calm	09:17	Surface	1	28.6	28.6	8.4	8.4	25.5	25.4	142.6	143.3	9.6	9.7	7.1	1.4	1.5	1.6
				Middle	4	27.4	27.4	8.0	8.0	28.8	28.8	66.3	66.2	4.5	4.5		1.2	1.2	
				Bottom	7	27.1	27.1	8.0	8.0	29.9	29.9	64.2	64.1	4.3	4.3		2.0	2.0	
23-Sep-18	Sunny	Calm	11:15	Surface	1	29.9	29.9	8.5	8.5	25.6	25.5	135.8	134.6	8.9	8.9	8.0	1.8	1.8	2.3
				Middle	3.5	27.6	27.7	8.2	8.2	29.5	29.5	104.8	105.6	7.0	7.1		1.7	1.8	
				Bottom	6	27.1	27.1	7.9	7.9	30.0	30.0	38.9	38.7	2.6	2.6		3.4	3.4	
13-Oct-18	Sunny	Calm	15:21	Surface	1	27.2	27.2	8.4	8.4	30.9	30.9	116.7	116.0	7.8	7.8	5.4	0.4	0.4	1.1
				Middle	3.5	28.2	28.2	8.0	8.0	33.0	33.0	46.7	46.6	3.0	3.0		0.4	0.4	
				Bottom	6	27.6	27.6	7.9	7.9	33.6	33.6	11.9	12.3	0.8	0.8		2.5	2.4	
22-Oct-18	Fine	Calm	10:36	Surface	1	25.7	25.8	8.2	8.2	27.8	27.6	116.4	114.9	8.1	8.0	6.5	0.3	0.3	1.4
				Middle	4	26.2	26.2	8.0	8.0	29.5	29.5	73.3	73.4	5.0	5.0		1.1	1.2	
				Bottom	7	26.9	26.9	7.7	7.7	30.8	30.8	10.7	11.6	0.7	0.8		2.5	2.7	
8-Nov-18	Sunny	Calm	12:32	Surface	1	26.4	26.4	8.6	8.6	28.9	29.0	142.2	140.8	9.7	9.6	6.3	0.7	0.7	1.9
				Middle	4	25.0	25.0	8.0	8.0	30.4	30.4	42.9	42.1	3.0	2.9		2.3	2.3	
				Bottom	7	24.7	24.7	8.0	8.0	30.9	30.9	31.1	30.9	2.2	2.2		2.8	2.8	
10-Nov-18	Cloudy	Rough	14:01	Surface	1	25.2	25.3	8.3	8.3	29.8	29.9	115.5	113.6	8.0	7.9	6.7	0.4	0.4	1.0
				Middle	3.5	25.2	25.2	8.0	8.1	30.3	30.3	76.4	75.7	5.3	5.3		0.6	0.6	
				Bottom	6	25.0	25.0	7.9	7.9	30.7	30.7	42.5	42.8	3.0	3.0		1.9	1.9	
17-Dec-18	Sunny	Moderate	07:35	Surface	1	19.9	20.0	8.1	8.1	31.1	31.1	99.0	98.8	7.5	7.5	7.5	2.2	2.1	2.3
				Middle	3.5	19.9	19.9	8.1	8.1	31.1	31.1	97.8	97.7	7.4	7.4		1.9	2.1	
				Bottom	6	19.9	19.9	8.1	8.1	31.1	31.1	97.1	97.1	7.4	7.4		2.6	2.6	
19-Dec-18	Cloudy	Moderate	09:49	Surface	1	19.8	19.9	8.1	8.1	30.9	30.9	109.4	109.1	8.3	8.3	8.1	1.0	1.1	1.7
				Middle	3.5	20.3	20.4	8.1	8.1	31.3	31.3	105.0	105.4	7.9	7.9		1.9	1.9	
				Bottom	6	20.2	20.3	8.1	8.1	31.3	31.3	100.1	100.2	7.5	7.5		2.0	2.0	

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

Contract No. SPW 09 / 2018

Environmental Team Baseline Surveys for Sha Tin Cavern Sewage Treatment Works

Baseline Water Quality Monitoring Results at CR16

(Mid-Flood Tide)

Date	Weather Condition	Sea Condition*	Sampling Time	Depth (m)		Temperature (°C)		pH		Salinity ppt		DO Saturation (%)		Dissolved Oxygen (mg/L)		Turbidity (NTU)			
						Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*
20-Jun-18	Cloudy	Calm	09:37	Surface	1	29.1 29.1	29.1	7.8 7.8	7.8	29.6 29.6	29.6	95.0 91.7	93.4	6.2 6.0	6.1	5.5	1.1 1.2	1.2	1.6
				Middle	4	28.6 28.7	28.7	7.7 7.7	7.7	30.0 30.0	30.0	73.2 74.2	73.7	4.8 4.9	4.9		1.1 1.0	1.1	
				Bottom	7	28.5 28.4	28.5	7.7 7.6	7.7	30.3 30.3	30.3	53.3 53.1	53.2	3.5 3.5	3.5		2.4 2.8	2.6	
26-Jun-18	Fine	Calm	18:26	Surface	1	29.7 29.7	29.7	8.2 8.2	8.2	28.6 28.8	28.7	133.4 133.5	133.5	8.7 8.7	8.7	5.1	2.4 2.4	2.4	2.7
				Middle	3.5	28.5 28.5	28.5	7.7 7.7	7.7	31.2 31.2	31.2	22.3 21.8	22.1	1.5 1.4	1.5		2.9 3.0	3.0	
				Bottom	6	28.2 28.2	28.2	7.8 7.8	7.8	31.9 31.9	31.9	34.8 34.7	34.8	2.3 2.3	2.3		2.7 2.7	2.7	
16-Jul-18	Cloudy	Rough	06:20	Surface	1	27.9 27.9	27.9	8.0 7.9	8.0	27.4 27.3	27.4	88.8 88.4	88.6	6.0 6.0	6.0	5.8	0.8 0.7	0.8	0.5
				Middle	4	28.6 28.6	28.6	7.9 7.9	7.9	29.8 29.7	29.8	85.8 85.4	85.6	5.6 5.6	5.6		0.3 0.3	0.3	
				Bottom	7	28.6 28.6	28.6	7.9 7.9	7.9	30.5 30.5	30.5	84.1 84.5	84.3	5.5 5.5	5.5		0.4 0.4	0.4	
24-Jul-18	Cloudy	Calm	17:17	Surface	1	30.2 30.2	30.2	8.0 8.0	8.0	28.7 28.6	28.7	118.3 118.9	118.6	7.6 7.7	7.7	7.5	1.4 1.3	1.4	1.1
				Middle	3.5	29.3 29.4	29.4	8.0 8.0	8.0	29.9 29.8	29.9	110.8 109.9	110.4	7.2 7.1	7.2		0.8 0.7	0.8	
				Bottom	6	29.3 29.3	29.3	7.9 7.9	7.9	30.2 30.2	30.2	86.9 86.3	86.6	5.6 5.6	5.6		1.2 1.2	1.2	
16-Aug-18	Cloudy	Calm	07:48	Surface	1	29.7 29.7	29.7	8.1 8.1	8.1	24.1 24.2	24.2	114.1 113.6	113.9	7.6 7.6	7.6	6.4	1.2 1.1	1.2	0.8
				Middle	4	29.8 29.8	29.8	7.9 7.9	7.9	28.9 28.9	28.9	78.0 78.2	78.1	5.1 5.1	5.1		0.6 0.6	0.6	
				Bottom	7	29.7 29.6	29.7	7.9 7.9	7.9	29.6 29.6	29.6	73.5 73.3	73.4	4.8 4.7	4.8		0.5 0.4	0.5	
25-Aug-18	Fine	Calm	19:03	Surface	1	31.1 31.0	31.1	8.1 8.2	8.2	28.8 28.7	28.8	135.1 136.6	135.9	8.6 8.7	8.7	4.7	1.4 1.6	1.5	2.0
				Middle	3.5	26.8 26.8	26.8	7.8 7.8	7.8	31.5 31.5	31.5	9.0 9.0	9.0	0.6 0.6	0.6		2.1 2.2	2.2	
				Bottom	6	25.9 25.9	25.9	7.8 7.9	7.9	32.0 32.0	32.0	7.7 7.6	7.7	0.5 0.5	0.5		2.4 2.4	2.4	
20-Sep-18	Fine	Calm	17:28	Surface	1	28.9 28.9	28.9	8.4 8.4	8.4	26.0 25.9	26.0	151.4 151.1	151.3	10.1 10.1	10.1	7.7	1.8 1.9	1.9	2.2
				Middle	3.5	27.4 27.4	27.4	8.1 8.1	8.1	29.2 29.1	29.2	78.4 79.3	78.9	5.3 5.3	5.3		1.3 1.4	1.4	
				Bottom	6	27.2 27.2	27.2	8.0 8.0	8.0	29.9 29.9	29.9	55.7 56.1	55.9	3.7 3.8	3.8		3.3 3.4	3.4	
23-Sep-18	Cloudy	Calm	18:15	Surface	1	30.0 30.0	30.0	8.5 8.5	8.5	26.0 26.0	26.0	145.3 145.6	145.5	9.5 9.6	9.6	8.5	0.9 0.9	0.9	1.8
				Middle	3.5	27.7 27.7	27.7	8.2 8.2	8.2	29.5 29.5	29.5	110.3 110.5	110.4	7.4 7.4	7.4		0.8 0.6	0.8	
				Bottom	6	27.2 27.2	27.2	7.9 7.9	7.9	30.0 30.0	30.0	27.9 27.5	27.7	1.9 1.8	1.9		3.8 3.8	3.8	
13-Oct-18	Sunny	Calm	08:48	Surface	1	26.1 26.1	26.1	8.3 8.3	8.3	29.7 29.8	29.8	97.9 98.6	98.3	6.7 6.8	6.8	5.4	0.4 0.4	0.4	0.9
				Middle	3.5	28.0 28.0	28.0	8.1 8.1	8.1	32.4 32.4	32.4	58.6 59.0	58.8	3.8 3.9	3.9		0.3 0.3	0.3	
				Bottom	6	27.5 27.5	27.5	7.9 7.9	7.9	33.6 33.6	33.6	9.9 9.8	9.9	0.7 0.6	0.7		2.1 2.1	2.1	
22-Oct-18	Fine	Calm	18:00	Surface	1	26.2 26.2	26.2	8.2 8.2	8.2	28.3 28.4	28.4	122.9 122.9	122.9	8.5 8.5	8.5	7.1	0.7 0.7	0.7	1.3
				Middle	4	26.2 26.2	26.2	8.0 8.0	8.0	29.5 29.5	29.5	80.9 81.7	81.3	5.5 5.6	5.6		1.0 1.1	1.1	
				Bottom	7	26.8 26.8	26.8	7.7 7.7	7.7	30.9 30.9	30.9	16.1 16.0	16.1	1.1 1.1	1.1		2.0 2.0	2.0	
8-Nov-18	Sunny	Calm	17:37	Surface	1	26.3 26.3	26.3	8.5 8.5	8.5	29.5 29.5	29.5	140.7 140.7	140.7	9.6 9.6	9.6	8.3	1.4 1.4	1.4	2.0
				Middle	4	25.2 25.2	25.2	8.3 8.3	8.3	30.2 30.2	30.2	100.6 100.5	100.6	7.0 7.0	7.0		1.5 1.6	1.6	
				Bottom	7	24.7 24.7	24.7	8.1 8.1	8.1	30.9 30.9	30.9	44.0 44.4	44.2	3.1 3.1	3.1		2.8 2.9	2.9	
10-Nov-18	Cloudy	Rough	08:00	Surface	1	25.1 25.1	25.1	8.2 8.2	8.2	29.5 29.4	29.5	109.0 106.6	107.8	7.6 7.4	7.5	6.1	0.6 0.6	0.6	0.7
				Middle	3.5	25.3 25.3	25.3	8.0 8.0	8.0	30.4 30.4	30.4	68.6 67.5	68.1	4.7 4.7	4.7		0.5 0.5	0.5	
				Bottom	6	25.1 25.1	25.1	7.9 7.9	7.9	30.6 30.6	30.6	51.1 52.2	51.7	3.5 3.6	3.6		1.0 1.0	1.0	
17-Dec-18	Sunny	Moderate	14:45	Surface	1	20.4 20.2	20.3	8.1 8.1	8.1	31.0 31.0	31.0	107.9 108.7	108.3	8.1 8.2	8.2	8.1	1.5 1.5	1.5	2.1
				Middle	3.5	20.0 20.0	20.0	8.1 8.1	8.1	31.1 31.1	31.1	105.1 105.0	105.1	8.0 7.9	8.0		1.7 1.7	1.7	
				Bottom	6	20.3 20.3	20.3	8.0 8.0	8.0	31.4 31.4	31.4	91.5 90.9	91.2	6.9 6.8	6.9		2.9 3.5	3.2	
19-Dec-18	Cloudy	Moderate	15:49	Surface	1	20.3 20.3	20.3	8.2 8.2	8.2	30.8 30.8	30.8	117.5 117.5	117.5	8.9 8.9	8.9	8.8	0.7 0.8	0.8	1.3
				Middle	3.5	20.1 20.2	20.2	8.2 8.2	8.2	31.1 31.1	31.1	114.9 114.1	114.5	8.7 8.6	8.7		0.9 1.0	1.0	
				Bottom	6	20.3 20.3	20.3	8.1 8.2	8.2	31.3 31.3	31.3	101.4 102.2	101.8	7.6 7.7	7.7		2.0 2.1	2.1	

Remarks: \*DA: Depth-Averaged

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

Contract No. SPW 09 / 2018

Environmental Team Baseline Surveys for Sha Tin Cavern Sewage Treatment Works

Baseline Water Quality Monitoring Results at CR17

(Mid-Ebb Tide)

Date	Weather Condition	Sea Condition*	Sampling Time	Depth (m)		Temperature (°C)		pH		Salinity ppt		DO Saturation (%)		Dissolved Oxygen (mg/L)		Turbidity (NTU)					
						Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*		
20-Jun-18	Cloudy	Calm	18:47	Surface	1	28.7	28.7	7.7	7.7	30.1	30.1	72.2	72.2	4.7	4.7	4.7	2.1	2.1	2.7		
				Middle	-	-	-	-	-	-	-	-	-	-	-		-	-		-	-
				Bottom	4.7	28.5	28.5	7.7	7.7	30.2	30.2	53.6	53.6	3.5	3.5		3.5	3.4		3.2	3.3
26-Jun-18	Cloudy	Calm	11:04	Surface	1	29.5	29.5	8.2	8.3	26.3	24.9	141.8	141.4	9.4	9.4	6.0	1.7	1.7	2.0		
				Middle	3.5	28.7	28.7	7.8	7.8	30.9	30.9	38.9	38.7	2.5	2.5		2.5	1.2		1.4	1.3
				Bottom	6	28.2	28.2	7.8	7.8	31.9	31.9	28.2	28.6	1.8	1.9		1.9	3.2		3.0	3.1
16-Jul-18	Cloudy	Moderate	15:58	Surface	1	28.6	28.6	7.9	7.9	28.8	28.9	90.5	90.3	6.0	6.0	6.0	0.2	0.2	0.6		
				Middle	-	-	-	-	-	-	-	-	-	-	-		-	-		-	-
				Bottom	4.8	28.7	28.7	7.9	7.9	30.6	30.6	81.0	79.5	5.3	5.2		5.3	0.9		0.9	0.9
24-Jul-18	Cloudy	Moderate	10:00	Surface	1	29.6	29.6	8.0	8.0	29.5	29.5	100.6	100.6	6.5	6.5	5.9	0.6	0.6	1.1		
				Middle	3	29.3	29.3	7.9	7.9	30.2	30.2	80.0	79.3	5.2	5.1		5.2	0.9		1.0	1.0
				Bottom	5	28.9	28.9	7.7	7.7	30.6	30.6	45.3	44.5	3.0	2.9		3.0	1.8		1.7	1.8
16-Aug-18	Cloudy	Calm	16:44	Surface	1	29.6	29.7	8.4	8.4	21.4	22.3	158.1	159.3	10.7	10.7	10.7	1.4	1.4	1.2		
				Middle	-	-	-	-	-	-	-	-	-	-	-		-	-		-	-
				Bottom	4.6	29.8	29.8	7.9	7.9	29.4	29.4	59.2	60.0	3.8	3.9		3.9	0.9		1.0	1.0
25-Aug-18	Fine	Calm	11:45	Surface	1	30.7	30.6	8.1	8.1	27.5	27.7	132.9	125.2	8.5	8.0	4.4	1.1	1.2	2.8		
				Middle	3	27.9	27.7	7.8	7.8	30.9	31.1	10.0	9.8	0.7	0.7		0.7	4.2		4.3	4.3
				Bottom	5	25.7	25.7	7.9	7.9	32.2	32.2	8.2	8.1	0.6	0.6		0.6	2.7		2.8	2.8
20-Sep-18	Fine	Calm	09:06	Surface	1	28.7	28.7	8.4	8.4	24.1	24.3	143.4	143.7	9.7	9.7	6.8	1.6	1.6	1.8		
				Middle	3	27.6	27.6	8.0	8.0	28.6	28.6	57.2	57.6	3.9	3.9		3.9	2.0		1.7	1.9
				Bottom	5	27.3	27.3	8.0	8.0	29.5	29.5	57.4	58.6	3.9	3.9		3.9	2.0		1.9	2.0
23-Sep-18	Sunny	Calm	11:00	Surface	1	30.0	30.0	8.5	8.5	25.1	25.1	135.5	135.3	8.9	8.9	7.9	1.8	1.8	2.6		
				Middle	3	28.2	28.2	8.2	8.2	28.8	28.9	101.9	101.6	6.8	6.8		6.8	2.1		2.1	2.1
				Bottom	5	27.3	27.3	7.9	7.9	29.9	29.9	42.2	42.7	2.8	2.9		2.9	4.0		3.9	4.0
13-Oct-18	Sunny	Calm	15:34	Surface	1	26.9	26.9	8.3	8.4	30.2	30.2	116.5	117.0	7.8	7.9	5.3	0.7	0.7	1.8		
				Middle	3	27.9	27.9	8.0	8.0	32.7	32.8	39.7	40.0	2.6	2.6		2.6	0.9		0.9	0.9
				Bottom	5	27.8	27.8	7.9	7.9	33.4	33.5	10.3	10.0	0.7	0.7		0.7	3.8		3.8	3.8
22-Oct-18	Fine	Calm	10:22	Surface	1	25.8	25.8	8.1	8.1	28.5	28.6	109.5	108.7	7.6	7.6	7.2	0.2	0.2	0.9		
				Middle	3	26.0	26.1	8.1	8.1	29.2	29.2	99.0	98.7	6.8	6.8		6.8	0.2		0.2	0.2
				Bottom	5	26.4	26.4	7.7	7.7	30.0	30.0	26.4	26.1	1.8	1.8		1.8	2.3		2.1	2.2
8-Nov-18	Sunny	Calm	12:17	Surface	1	26.2	26.2	8.6	8.6	27.8	27.8	142.8	143.1	9.9	9.9	8.9	1.0	1.0	2.5		
				Middle	3	25.3	25.3	8.4	8.4	30.1	30.1	113.7	113.4	7.9	7.9		7.9	1.0		1.0	1.0
				Bottom	5	25.0	25.0	8.0	8.0	30.4	30.4	35.3	34.9	2.5	2.4		2.5	5.5		5.6	5.6
10-Nov-18	Cloudy	Rough	14:28	Surface	1	25.4	25.4	8.3	8.3	29.6	29.6	121.6	120.4	8.4	8.4	7.2	0.6	0.6	1.2		
				Middle	3.5	25.3	25.3	8.1	8.1	30.1	30.1	83.8	84.3	5.8	5.9		5.9	0.7		0.7	0.7
				Bottom	6	25.1	25.1	7.9	7.9	30.6	30.6	49.8	50.0	3.5	3.5		3.5	2.2		2.3	2.3
17-Dec-18	Sunny	Moderate	07:22	Surface	1	20.2	20.2	8.0	8.0	31.0	31.0	90.4	90.5	6.8	6.8	6.9	1.6	1.6	2.2		
				Middle	3	20.2	20.2	8.1	8.1	31.0	31.0	93.1	93.0	7.0	7.0		7.0	1.7		1.8	1.8
				Bottom	5	20.3	20.3	8.1	8.1	31.1	31.1	92.1	92.4	6.9	7.0		7.0	3.0		3.1	3.1
19-Dec-18	Cloudy	Moderate	09:35	Surface	1	20.1	20.1	8.1	8.1	31.1	31.1	109.4	109.3	8.3	8.3	8.4	0.7	0.7	1.3		
				Middle	3	20.1	20.1	8.1	8.1	31.2	31.2	110.8	111.7	8.4	8.4		8.4	0.7		0.7	0.7
				Bottom	5	20.3	20.4	8.1	8.1	31.3	31.3	93.6	94.2	7.0	7.1		7.1	2.3		2.5	2.4

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

Contract No. SPW 09 / 2018

Environmental Team Baseline Surveys for Sha Tin Cavern Sewage Treatment Works

Baseline Water Quality Monitoring Results at CR17

(Mid-Flood Tide)

Date	Weather Condition	Sea Condition*	Sampling Time	Depth (m)		Temperature (°C)		pH		Salinity ppt		DO Saturation (%)		Dissolved Oxygen (mg/L)		Turbidity(NTU)				
						Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	
20-Jun-18	Cloudy	Calm	08:59	Surface	1	28.6 28.6	28.6	7.6 7.7	7.7	29.9 29.9	29.9	70.3 67.5	68.9	4.6 4.4	4.5	4.1	1.5 1.7	2.6	1.6	
				Middle	3	28.5 28.5	28.5	7.6 7.6	7.6	30.2 30.1	30.2	53.1 54.2	53.7	3.5 3.6	3.6		2.3 2.3			
				Bottom	5	28.5 28.5	28.5	7.6 7.6	7.6	30.2 30.2	30.2	44.7 43.2	44.0	2.9 2.8	2.9		3.7 4.3			4.0
26-Jun-18	Fine	Calm	18:43	Surface	1	29.5 29.6	29.6	8.1 8.1	8.1	29.9 29.8	29.9	118.0 116.4	117.2	7.6 7.5	7.6	7.6	2.1 2.2	2.5	2.2	
				Middle	-	-	-	-	-	-	-	-	-	-	-		-			-
				Bottom	4.9	28.6 28.6	28.6	7.8 7.8	7.8	31.1 31.2	31.2	42.1 41.9	42.0	2.7 2.7	2.7		2.7 2.8			2.8
16-Jul-18	Cloudy	Rough	05:57	Surface	1	28.3 28.3	28.3	7.9 7.9	7.9	28.4 28.1	28.3	87.1 86.9	87.0	5.8 5.8	5.8	5.7	0.8 0.9	0.6	0.9	
				Middle	3	28.8 28.8	28.8	7.9 7.9	7.9	29.9 30.0	30.0	84.1 83.9	84.0	5.5 5.5	5.5		0.3 0.3			
				Bottom	5	29.0 29.1	29.1	7.9 7.9	7.9	30.5 30.5	30.5	78.9 78.6	78.8	5.1 5.1	5.1		0.6 0.6			
24-Jul-18	Cloudy	Calm	17:32	Surface	1	29.9 29.8	29.9	8.0 8.0	8.0	29.6 29.6	29.6	122.1 122.0	122.1	7.9 7.9	7.9	7.9	2.9 3.2	6.1	3.1	
				Middle	-	-	-	-	-	-	-	-	-	-	-		-			
				Bottom	4.2	29.6 29.6	29.6	8.0 8.0	8.0	29.9 29.9	29.9	110.6 109.9	110.3	7.1 7.1	7.1		9.0 9.0			9.0
16-Aug-18	Cloudy	Calm	07:35	Surface	1	29.5 29.8	29.7	8.1 8.1	8.1	23.5 25.3	24.4	114.8 116.6	115.7	7.7 7.7	7.7	7.7	1.2 1.2	1.0	1.2	
				Middle	-	-	-	-	-	-	-	-	-	-	-		-			
				Bottom	4.8	29.8 29.8	29.8	7.9 7.9	7.9	29.5 29.5	29.5	73.4 72.5	73.0	4.7 4.7	4.7		0.6 0.7			0.7
25-Aug-18	Fine	Calm	19:20	Surface	1	31.6 31.7	31.7	8.3 8.3	8.3	27.9 27.9	27.9	138.2 137.8	138.0	8.7 8.7	8.7	8.7	1.1 1.2	3.1	1.2	
				Middle	-	-	-	-	-	-	-	-	-	-	-		-			
				Bottom	4.9	26.3 26.2	26.3	8.1 8.1	8.1	31.9 31.9	31.9	9.2 9.1	9.2	0.6 0.6	0.6		4.9 5.0			5.0
20-Sep-18	Fine	Calm	17:42	Surface	1	28.1 28.0	28.1	8.2 8.2	8.2	27.9 27.9	27.9	103.5 103.6	103.6	6.9 6.9	6.9	5.8	2.2 2.1	2.6	2.2	
				Middle	3	27.6 27.4	27.5	8.1 8.1	8.1	28.9 29.1	29.0	66.3 68.4	67.4	4.5 4.6	4.6		2.2 2.0			2.1
				Bottom	5	27.4 27.3	27.4	8.0 8.0	8.0	29.6 29.6	29.6	55.2 55.3	55.3	3.7 3.7	3.7		3.3 3.6			3.5
23-Sep-18	Cloudy	Calm	18:29	Surface	1	29.6 29.9	29.8	8.4 8.5	8.5	26.2 25.8	26.0	144.2 146.5	145.4	9.5 9.6	9.6	7.5	1.1 1.6	1.6	1.1	
				Middle	3	27.5 27.5	27.5	8.1 8.1	8.1	29.7 29.7	29.7	78.2 79.9	79.1	5.2 5.3	5.3		1.5 1.5			
				Bottom	5	27.4 27.4	27.4	8.0 8.0	8.0	29.9 29.9	29.9	61.1 60.8	61.0	4.1 4.1	4.1		2.2 2.2			2.2
13-Oct-18	Sunny	Calm	08:36	Surface	1	26.8 26.5	26.7	8.3 8.2	8.3	30.9 29.9	30.4	93.1 87.8	90.5	6.3 6.0	6.2	6.0	0.3 0.3	0.2	0.3	
				Middle	3	27.4 27.5	27.5	8.2 8.2	8.2	31.8 31.8	31.8	85.5 84.6	85.1	5.7 5.6	5.7		0.1 0.1			
				Bottom	5	27.8 27.7	27.8	8.1 8.1	8.1	32.3 32.2	32.3	53.7 54.3	54.0	3.5 3.6	3.6		0.2 0.2			0.2
22-Oct-18	Fine	Calm	18:16	Surface	1	26.2 26.2	26.2	8.2 8.2	8.2	27.7 27.7	27.7	116.8 116.5	116.7	8.1 8.1	8.1	5.1	0.6 0.6	2.5	0.6	
				Middle	3	26.5 26.5	26.5	7.8 7.8	7.8	30.2 30.2	30.2	28.7 29.3	29.0	2.0 2.0	2.0		1.1 1.2			
				Bottom	5	26.8 26.8	26.8	7.7 7.7	7.7	30.6 30.6	30.6	9.9 10.1	10.0	0.7 0.7	0.7		5.6 6.0			5.8
8-Nov-18	Sunny	Calm	17:50	Surface	1	26.5 26.5	26.5	8.6 8.6	8.6	28.8 28.8	28.8	147.7 147.6	147.7	10.1 10.1	10.1	7.8	1.0 1.0	2.3	1.0	
				Middle	3.5	25.1 25.1	25.1	8.3 8.3	8.3	30.3 30.3	30.3	78.6 78.4	78.5	5.5 5.4	5.5		1.9 1.8			
				Bottom	6	24.9 24.9	24.9	8.0 8.0	8.0	30.7 30.7	30.7	31.9 31.6	31.8	2.2 2.2	2.2		3.9 3.8			3.9
10-Nov-18	Cloudy	Rough	07:46	Surface	1	25.2 25.2	25.2	8.0 8.0	8.0	29.8 29.9	29.9	84.3 83.1	83.7	5.9 5.8	5.9	5.3	0.7 0.7	0.9	0.7	
				Middle	3	25.2 25.2	25.2	7.9 7.9	7.9	30.3 30.3	30.3	66.9 66.6	66.8	4.6 4.6	4.6		0.9 0.8			
				Bottom	5	25.1 25.1	25.1	7.9 7.9	7.9	30.6 30.6	30.6	53.6 53.3	53.5	3.7 3.7	3.7		1.0 0.9			1.0
17-Dec-18	Sunny	Moderate	14:57	Surface	1	20.4 20.4	20.4	8.1 8.0	8.1	30.9 30.9	30.9	105.9 106.1	106.0	8.0 8.0	8.0	7.9	1.2 1.2	1.7	1.2	
				Middle	3	20.2 20.2	20.2	8.1 8.1	8.1	31.1 31.1	31.1	102.9 101.6	102.3	7.8 7.7	7.8		1.8 1.8			
				Bottom	5	20.1 20.1	20.1	8.1 8.1	8.1	31.1 31.1	31.1	97.1 96.3	96.7	7.3 7.3	7.3		2.2 2.2			2.2
19-Dec-18	Cloudy	Moderate	16:00	Surface	1	20.2 20.3	20.3	8.2 8.2	8.2	31.0 31.0	31.0	112.3 114.0	113.2	8.5 8.6	8.6	8.7	1.0 1.1	1.4	1.1	
				Middle	3	20.2 20.2	20.2	8.2 8.2	8.2	31.1 31.1	31.1	114.8 115.1	115.0	8.7 8.7	8.7		1.2 1.2			
				Bottom	5	20.2 20.2	20.2	8.2 8.2	8.2	31.2 31.2	31.2	107.8 108.0	107.9	8.1 8.1	8.1		1.7 1.8			1.8

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

Contract No. SPW 09 / 2018

Environmental Team Baseline Surveys for Sha Tin Cavern Sewage Treatment Works

Baseline Water Quality Monitoring Results at CR9

(Mid-Ebb Tide)

Date	Weather Condition	Sea Condition*	Sampling Time	Depth (m)		Temperature (°C)		pH		Salinity ppt		DO Saturation (%)		Dissolved Oxygen (mg/L)		Turbidity(NTU)			
						Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*
20-Jun-18	Rainy	Calm	17:02	Surface	1	30.0	30.0	7.9	8.0	29.4	29.5	113.9	113.6	7.3	7.3	6.2	0.9	0.9	3.1
				Middle	13	28.4	28.4	7.8	7.9	31.3	31.3	77.5	77.3	5.1	5.1		1.7	1.6	
				Bottom	25	28.3	28.3	7.8	7.8	31.4	31.4	61.5	61.6	4.0	4.0		6.7	6.7	
26-Jun-18	Cloudy	Moderate	11:52	Surface	1	29.2	29.2	8.1	8.1	30.5	30.6	120.1	119.4	7.8	7.8	6.2	0.5	0.5	0.8
				Middle	13	27.9	27.9	7.9	7.9	33.0	33.0	70.8	69.8	4.6	4.6		0.5	0.6	
				Bottom	25	27.9	27.9	7.9	7.9	33.0	33.0	65.4	66.0	4.3	4.3		1.3	1.4	
16-Jul-18	Cloudy	Moderate	14:18	Surface	1	28.2	28.2	8.2	8.1	28.3	28.3	100.5	100.3	6.7	6.7	6.4	0.2	0.2	2.4
				Middle	12.5	28.0	28.0	8.1	8.1	28.4	28.4	91.7	91.0	6.1	6.1		1.0	1.1	
				Bottom	24	25.8	25.8	7.7	7.7	29.9	29.9	29.7	30.4	2.0	2.1		6.0	6.0	
24-Jul-18	Cloudy	Moderate	10:47	Surface	1	29.5	29.4	8.2	8.2	30.0	30.1	106.9	104.7	6.9	6.8	5.6	0.3	0.3	2.0
				Middle	13	28.2	28.2	8.0	8.0	31.4	31.4	65.8	64.7	4.3	4.3		1.7	1.8	
				Bottom	25	27.6	27.6	7.8	7.8	31.6	31.6	31.8	27.0	2.1	2.0		4.0	4.0	
16-Aug-18	Cloudy	Calm	15:05	Surface	1	29.3	29.3	8.0	8.1	30.3	30.3	95.2	94.3	6.2	6.2	5.7	1.0	1.1	2.1
				Middle	13	29.2	29.2	8.0	8.0	30.6	30.6	78.1	77.4	5.1	5.1		1.6	1.6	
				Bottom	25	28.4	28.4	7.8	7.8	31.4	31.4	36.7	37.0	2.4	2.4		3.8	3.7	
25-Aug-18	Fine	Calm	12:41	Surface	1	30.0	30.0	8.1	8.2	29.7	29.7	104.1	105.4	6.7	6.8	4.6	0.3	0.3	2.3
				Middle	12	23.7	23.7	7.7	7.8	33.6	33.7	30.8	33.5	2.2	2.3		1.0	1.0	
				Bottom	23	23.3	23.3	7.8	7.8	33.8	33.8	36.1	36.1	2.5	2.5		5.6	5.5	
20-Sep-18	Fine	Moderate	10:16	Surface	1	29.1	29.2	8.3	8.4	26.0	25.7	141.6	143.4	9.4	9.6	7.3	0.6	0.6	2.5
				Middle	12	26.7	26.8	8.0	8.0	31.1	31.1	73.4	74.4	4.9	5.0		1.6	1.6	
				Bottom	23	26.9	27.0	8.0	8.0	31.7	31.7	73.7	74.3	4.9	5.0		5.2	5.2	
23-Sep-18	Sunny	Calm	12:04	Surface	1	28.8	28.7	8.2	8.2	29.2	29.4	120.7	119.7	7.9	7.9	6.1	0.2	0.2	3.3
				Middle	12	26.8	26.8	8.0	8.0	31.8	31.8	62.4	62.3	4.2	4.2		2.1	2.1	
				Bottom	23	26.2	26.2	8.0	8.0	32.8	32.8	66.5	66.4	4.5	4.5		7.4	7.5	
13-Oct-18	Sunny	Calm	14:05	Surface	1	26.9	26.9	8.1	8.2	33.6	33.7	92.4	91.8	6.1	6.1	5.6	0.3	0.3	2.3
				Middle	12.5	26.6	26.6	8.1	8.1	34.4	34.4	75.0	74.8	5.0	5.0		2.1	2.1	
				Bottom	24	26.6	26.6	8.1	8.1	34.4	34.4	70.4	70.3	4.7	4.7		4.5	4.5	
22-Oct-18	Fine	Calm	11:10	Surface	1	26.1	26.1	8.3	8.3	33.7	33.7	105.3	106.1	7.1	7.2	6.2	0.6	0.6	2.5
				Middle	12.5	26.1	26.1	8.2	8.2	34.7	34.7	75.8	75.6	5.1	5.1		2.0	2.0	
				Bottom	24	26.0	26.0	8.2	8.2	34.8	34.8	72.8	72.8	4.9	4.9		4.7	4.8	
8-Nov-18	Sunny	Calm	13:13	Surface	1	25.0	25.0	8.2	8.2	30.8	30.8	105.8	105.9	7.3	7.4	6.7	0.2	0.2	1.7
				Middle	12.5	24.4	24.4	8.1	8.1	31.5	31.5	86.9	85.0	6.1	6.0		1.7	1.7	
				Bottom	24	24.4	24.4	8.1	8.1	31.5	31.5	82.0	81.6	5.7	5.7		3.1	3.3	
10-Nov-18	Cloudy	Rough	13:09	Surface	1	24.6	24.6	8.4	8.4	31.2	31.2	94.3	94.0	6.6	6.6	6.5	0.4	0.4	1.2
				Middle	12	24.5	24.5	8.4	8.4	31.2	31.2	88.5	89.6	6.2	6.3		0.7	0.7	
				Bottom	23	24.5	24.5	8.4	8.4	31.3	31.3	87.1	89.3	6.1	6.2		2.5	2.5	
17-Dec-18	Sunny	Moderate	08:31	Surface	1	20.6	20.6	8.0	8.0	31.4	31.4	103.7	104.1	7.8	7.8	7.8	0.8	0.8	1.0
				Middle	12.5	20.4	20.4	8.0	8.0	31.4	31.4	99.6	101.8	7.5	7.7		1.1	1.0	
				Bottom	24	20.4	20.4	8.0	8.0	31.5	31.5	97.5	97.5	7.3	7.3		0.9	1.3	
19-Dec-18	Cloudy	Calm	09:49	Surface	1	20.0	20.0	8.1	8.1	31.5	31.6	101.1	100.0	7.6	7.6	7.3	1.0	1.1	2.8
				Middle	12	20.0	20.0	8.1	8.1	32.0	32.0	91.8	91.4	6.9	6.9		3.1	3.2	
				Bottom	23	20.0	19.9	8.0	8.0	32.0	32.0	90.9	90.2	6.8	6.8		4.2	4.1	

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



Contract No. SPW 09 / 2018

Environmental Team Baseline Surveys for Sha Tin Cavern Sewage Treatment Works

Baseline Water Quality Monitoring Results at CR9

(Mid-Flood Tide)

Date	Weather Condition	Sea Condition*	Sampling Time	Depth (m)		Temperature (°C)		pH		Salinity ppt		DO Saturation (%)		Dissolved Oxygen (mg/L)		Turbidity(NTU)			
						Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*
20-Jun-18	Cloudy	Calm	10:21	Surface	1	29.4 29.4	29.4	8.0 8.0	8.0	29.3 29.3	29.3	108.1 108.0	108.1	7.0 7.0	7.0	5.9	0.5 0.5	0.5	1.9
				Middle	13	28.4 28.4	28.4	7.9 7.9	7.9	31.2 31.2	31.2	73.6 73.7	73.7	4.8 4.8	4.8		1.4 1.4	1.4	
				Bottom	25	28.3 28.3	28.3	7.8 7.8	7.8	31.4 31.4	31.4	64.6 63.4	64.0	4.2 4.2	4.2		3.6 3.9	3.8	
26-Jun-18	Cloudy	Moderate	16:54	Surface	1	29.8 29.8	29.8	8.1 8.1	8.1	30.3 30.6	30.5	122.1 119.0	120.6	7.8 7.6	7.7	6.3	0.6 0.6	0.6	1.7
				Middle	13	28.0 28.0	28.0	7.9 7.9	7.9	32.8 32.8	32.8	76.5 69.4	73.0	5.0 4.5	4.8		1.1 1.0	1.1	
				Bottom	25	27.1 27.4	27.3	7.9 7.9	7.9	33.4 33.2	33.3	57.4 58.4	57.9	3.8 3.8	3.8		3.3 3.3	3.3	
16-Jul-18	Cloudy	Rough	07:18	Surface	1	27.9 27.9	27.9	8.1 8.1	8.1	28.3 28.3	28.3	95.9 95.3	95.6	6.4 6.4	6.4	6.3	0.4 0.4	0.4	1.3
				Middle	13	27.9 27.9	27.9	8.0 8.0	8.0	28.3 28.3	28.3	91.7 91.6	91.7	6.2 6.1	6.2		0.4 0.4	0.4	
				Bottom	25	27.1 27.1	27.1	7.9 7.9	7.9	28.9 28.9	28.9	67.8 67.7	67.8	4.6 4.6	4.6		3.2 3.2	3.2	
24-Jul-18	Cloudy	Calm	16:23	Surface	1	30.0 29.9	30.0	8.1 8.2	8.2	29.8 29.8	29.8	111.6 109.7	110.7	7.2 7.1	7.2	6.2	0.4 0.4	0.4	1.8
				Middle	13	28.4 28.6	28.5	8.0 8.0	8.0	31.3 31.3	31.3	75.4 80.0	77.7	4.9 5.2	5.1		1.1 1.2	1.2	
				Bottom	25	27.5 27.7	27.6	7.8 7.8	7.8	31.6 31.5	31.6	29.5 24.7	27.1	2.0 1.6	1.8		3.9 3.7	3.8	
16-Aug-18	Cloudy	Calm	08:35	Surface	1	29.3 29.3	29.3	8.1 8.1	8.1	30.3 30.3	30.3	92.8 92.3	92.6	6.0 6.0	6.0	5.9	0.4 0.4	0.4	1.7
				Middle	13	29.3 29.3	29.3	8.1 8.1	8.1	30.4 30.4	30.4	87.4 87.0	87.2	5.7 5.6	5.7		0.9 1.1	1.0	
				Bottom	25	28.7 28.8	28.8	7.9 8.0	8.0	31.1 31.1	31.1	53.9 57.0	55.5	3.5 3.7	3.6		3.5 3.6	3.6	
25-Aug-18	Fine	Calm	18:20	Surface	1	30.6 30.3	30.5	8.2 8.3	8.3	29.5 29.7	29.6	154.4 155.4	154.9	9.9 9.9	9.9	6.2	0.7 0.7	0.7	2.5
				Middle	13	23.5 23.6	23.6	7.8 7.8	7.8	33.7 33.7	33.7	35.7 36.2	36.0	2.5 2.5	2.5		2.9 2.5	2.7	
				Bottom	25	23.3 23.3	23.3	7.8 7.8	7.8	33.8 33.8	33.8	37.8 37.9	37.9	2.7 2.7	2.7		4.1 4.1	4.1	
20-Sep-18	Fine	Moderate	16:28	Surface	1	28.3 28.3	28.3	8.2 8.2	8.2	28.4 28.4	28.4	125.1 121.8	123.5	8.3 8.1	8.2	6.7	1.0 1.0	1.0	2.8
				Middle	12	26.8 26.8	26.8	8.0 8.0	8.0	31.0 31.1	31.1	77.1 73.7	75.4	5.2 5.0	5.1		2.0 2.0	2.0	
				Bottom	23	26.9 26.9	26.9	8.0 8.0	8.0	31.5 31.6	31.6	71.1 70.7	70.9	4.8 4.7	4.8		5.2 5.8	5.5	
23-Sep-18	Cloudy	Moderate	17:14	Surface	1	29.0 29.0	29.0	8.2 8.2	8.2	29.7 29.7	29.7	108.5 108.3	108.4	7.1 7.1	7.1	5.7	0.4 0.4	0.4	4.0
				Middle	12	26.8 26.7	26.8	8.1 8.1	8.1	31.9 32.0	32.0	64.2 63.7	64.0	4.3 4.3	4.3		3.1 3.1	3.1	
				Bottom	23	26.2 26.2	26.2	8.1 8.1	8.1	32.8 32.8	32.8	67.9 67.7	67.8	4.6 4.6	4.6		8.6 8.5	8.6	
13-Oct-18	Sunny	Calm	09:42	Surface	1	26.5 26.5	26.5	8.2 8.2	8.2	33.5 33.5	33.5	86.8 86.1	86.5	5.8 5.7	5.8	5.2	0.2 0.2	0.2	5.2
				Middle	12.5	26.6 26.6	26.6	8.2 8.1	8.2	34.4 34.4	34.4	67.6 68.6	68.1	4.5 4.5	4.5		3.5 3.5	3.5	
				Bottom	24	26.6 26.6	26.6	8.1 8.1	8.1	34.5 34.5	34.5	64.1 63.9	64.0	4.2 4.2	4.2		11.8 12.0	11.9	
22-Oct-18	Fine	Calm	16:38	Surface	1	26.2 26.2	26.2	8.2 8.2	8.2	34.4 34.3	34.4	96.5 96.2	96.4	6.4 6.4	6.4	6.0	1.3 1.4	1.4	2.0
				Middle	12.5	26.0 25.9	26.0	8.1 8.2	8.2	34.6 34.7	34.7	83.6 82.7	83.2	5.6 5.5	5.6		1.5 1.5	1.5	
				Bottom	24	25.9 25.9	25.9	8.2 8.1	8.2	34.7 34.7	34.7	80.4 81.4	80.9	5.4 5.4	5.4		3.0 3.2	3.1	
8-Nov-18	Sunny	Calm	16:43	Surface	1	25.1 25.1	25.1	8.0 8.0	8.0	31.0 31.0	31.0	106.8 105.7	106.3	7.4 7.3	7.4	7.1	0.2 0.2	0.2	0.6
				Middle	12.5	24.7 24.6	24.7	8.0 8.0	8.0	31.2 31.3	31.3	100.2 94.5	97.4	7.0 6.6	6.8		0.6 0.6	0.6	
				Bottom	24	24.5 24.6	24.6	8.0 8.0	8.0	31.4 31.4	31.4	92.3 90.9	91.6	6.4 6.3	6.4		1.1 1.0	1.1	
10-Nov-18	Cloudy	Rough	09:20	Surface	1	24.5 24.5	24.5	8.3 8.3	8.3	31.2 31.2	31.2	91.7 88.9	90.3	6.4 6.2	6.3	6.2	0.5 0.5	0.5	1.5
				Middle	12	24.5 24.5	24.5	8.3 8.3	8.3	31.2 31.2	31.2	87.7 87.9	87.8	6.1 6.1	6.1		1.4 1.4	1.4	
				Bottom	23	24.5 24.5	24.5	8.3 8.3	8.3	31.2 31.3	31.3	87.2 87.2	87.2	6.1 6.1	6.1		2.4 2.7	2.6	
17-Dec-18	Sunny	Moderate	14:04	Surface	1	20.6 20.5	20.6	8.0 8.0	8.0	31.4 31.4	31.4	103.8 104.6	104.2	7.8 7.8	7.8	7.7	0.8 0.8	0.8	1.1
				Middle	12.5	20.4 20.4	20.4	8.0 8.0	8.0	31.4 31.4	31.4	100.0 102.6	101.3	7.5 7.7	7.6		1.1 1.0	1.1	
				Bottom	24	20.4 20.4	20.4	8.0 8.0	8.0	31.5 31.5	31.5	97.0 97.2	97.1	7.3 7.3	7.3		1.3 1.3	1.3	
19-Dec-18	Cloudy	Calm	14:38	Surface	1	20.2 20.2	20.2	7.9 8.0	8.0	31.5 31.7	31.6	101.8 99.6	100.7	7.7 7.5	7.6	7.4	1.4 1.3	1.4	2.8
				Middle	12	20.0 20.0	20.0	7.9 8.0	8.0	31.9 31.9	31.9	95.1 93.5	94.3	7.2 7.0	7.1		3.3 3.4	3.4	
				Bottom	23	20.0 20.0	20.0	7.9 8.0	8.0	32.0 32.0	32.0	92.4 91.6	92.0	7.0 6.9	7.0		3.4 3.9	3.7	

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

Baseline Water Quality Monitoring Results at F1

(Mid-Ebb Tide)

Date	Weather Condition	Sea Condition*	Sampling Time	Depth (m)		Temperature (°C)		pH		Salinity ppt		DO Saturation (%)		Dissolved Oxygen (mg/L)		Turbidity (NTU)			
						Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*
20-Jun-18	Cloudy	Calm	17:10	Surface	1	30.4 30.4	30.4	7.7 7.8	7.8	28.4 28.4	28.4	108.4 107.0	107.7	7.0 6.9	7.0	6.9	0.9 0.9	0.9	2.0
				Middle	3	29.2 29.3	29.3	7.8 7.8	7.8	29.6 29.4	29.5	104.9 104.5	104.7	6.8 6.8	6.8		1.0 1.1	1.1	
				Bottom	5	28.6 28.6	28.6	7.6 7.6	7.6	30.1 30.1	30.1	44.3 45.7	45.0	2.9 3.0	3.0		3.9 3.9	3.9	
26-Jun-18	Cloudy	Calm	12:50	Surface	1	30.1 30.1	30.1	8.2 8.3	8.3	27.5 27.3	27.4	139.2 138.5	138.9	9.0 9.0	9.0	9.0	1.8 1.8	1.8	2.6
				Middle	-	-	-	-	-	-	-	-	-	-	-		-	-	
				Bottom	4.6	28.2 28.2	28.2	7.9 7.9	7.9	31.9 31.9	31.9	40.3 39.5	39.9	2.6 2.6	2.6		3.4 3.2	3.3	
16-Jul-18	Cloudy	Moderate	14:11	Surface	1	28.4 28.4	28.4	7.8 7.9	7.9	28.4 28.4	28.4	93.5 91.0	92.3	6.2 6.0	6.1	5.8	0.9 0.9	0.9	1.3
				Middle	3.5	28.6 28.6	28.6	7.8 7.9	7.9	29.6 29.6	29.6	81.8 81.5	81.7	5.4 5.4	5.4		1.1 1.0	1.1	
				Bottom	6	28.5 28.5	28.5	7.8 7.8	7.8	30.4 30.4	30.4	80.1 78.2	79.2	5.3 5.1	5.2		1.7 1.8	1.8	
24-Jul-18	Cloudy	Moderate	11:30	Surface	1	29.6 29.7	29.7	8.1 8.1	8.1	28.3 28.3	28.3	111.8 110.9	111.4	7.3 7.2	7.3	7.3	1.0 0.9	1.0	1.0
				Middle	-	-	-	-	-	-	-	-	-	-	-		-		
				Bottom	4.4	29.5 29.5	29.5	8.0 8.0	8.0	29.9 29.9	29.9	99.0 98.2	98.6	6.4 6.4	6.4		1.0 1.0	1.0	
16-Aug-18	Cloudy	Calm	15:04	Surface	1	29.5 29.5	29.5	8.2 8.2	8.2	25.5 24.8	25.2	127.3 126.8	127.1	8.4 8.4	8.4	6.5	1.4 1.3	1.4	1.5
				Middle	3	29.7 29.6	29.7	7.9 7.9	7.9	29.1 29.2	29.2	69.1 69.1	69.1	4.5 4.5	4.5		0.8 0.8	0.8	
				Bottom	5	29.5 29.5	29.5	7.8 7.8	7.8	29.5 29.5	29.5	55.9 55.2	55.6	3.6 3.6	3.6		2.1 2.2	2.2	
25-Aug-18	Fine	Calm	13:14	Surface	1	29.8 29.8	29.8	8.0 8.1	8.1	29.9 29.9	29.9	96.7 97.0	96.9	6.2 6.3	6.3	6.3	1.6 1.7	1.7	3.3
				Middle	-	-	-	-	-	-	-	-	-	-	-		-		
				Bottom	4.1	26.6 26.5	26.6	7.8 7.8	7.8	31.6 31.6	31.6	9.2 9.2	9.2	0.6 0.6	0.6		4.8 4.9	4.9	
20-Sep-18	Fine	Calm	10:27	Surface	1	28.2 28.2	28.2	8.3 8.3	8.3	26.6 26.6	26.6	112.0 113.0	112.5	7.5 7.6	7.6	7.6	1.4 1.4	1.4	2.3
				Middle	-	-	-	-	-	-	-	-	-	-	-		-		
				Bottom	4.4	27.3 27.3	27.3	8.0 8.0	8.0	29.6 29.6	29.6	56.4 56.9	56.7	3.8 3.8	3.8		3.2 2.9	3.1	
23-Sep-18	Sunny	Calm	12:29	Surface	1	30.1 30.1	30.1	8.4 8.4	8.4	26.0 25.9	26.0	135.7 136.0	135.9	8.9 8.9	8.9	8.9	1.7 1.6	1.7	2.2
				Middle	-	-	-	-	-	-	-	-	-	-	-		-		
				Bottom	4.5	27.6 27.6	27.6	8.1 8.1	8.1	29.7 29.7	29.7	88.5 89.2	88.4	5.9 5.9	5.9		2.5 2.6	2.6	
13-Oct-18	Sunny	Calm	14:12	Surface	1	27.0 27.0	27.0	8.3 8.3	8.3	31.1 31.1	31.1	111.9 112.5	112.2	7.5 7.5	7.5	7.4	0.4 0.4	0.4	0.8
				Middle	3	27.0 27.0	27.0	8.3 8.3	8.3	31.3 31.3	31.3	107.9 107.7	107.8	7.2 7.2	7.2		1.0 1.0	1.0	
				Bottom	5	27.9 27.9	27.9	7.9 8.0	8.0	32.9 33.0	33.0	44.0 43.6	43.8	2.9 2.9	2.9		0.9 0.9	0.9	
22-Oct-18	Fine	Calm	11:50	Surface	1	26.1 26.1	26.1	8.2 8.2	8.2	29.0 29.0	29.0	116.8 116.8	116.8	8.0 8.0	8.0	8.0	0.4 0.4	0.4	1.2
				Middle	-	-	-	-	-	-	-	-	-	-	-		-		
				Bottom	4.4	26.5 26.5	26.5	7.8 7.8	7.8	30.4 30.4	30.4	28.8 29.1	29.0	2.0 2.0	2.0		1.8 1.9	1.9	
8-Nov-18	Sunny	Calm	13:46	Surface	1	25.7 25.8	25.8	8.5 8.5	8.5	30.0 30.0	30.0	123.9 125.6	124.8	8.5 8.6	8.6	8.6	0.7 0.7	0.7	1.3
				Middle	-	-	-	-	-	-	-	-	-	-	-		-		
				Bottom	4.7	25.0 25.0	25.0	8.2 8.2	8.2	30.5 30.5	30.5	75.3 78.2	76.8	5.2 5.4	5.3		1.8 1.8	1.8	
10-Nov-18	Cloudy	Rough	13:19	Surface	1	25.2 25.2	25.2	8.3 8.3	8.3	29.9 29.9	29.9	120.5 119.8	120.2	8.4 8.3	8.4	8.4	0.5 0.5	0.5	0.5
				Middle	3	25.2 25.2	25.2	8.3 8.3	8.3	29.9 29.9	29.9	120.3 120.4	120.4	8.4 8.4	8.4		0.4 0.4	0.4	
				Bottom	5	25.2 25.2	25.2	8.2 8.3	8.3	30.1 30.1	30.1	105.1 108.4	106.8	7.3 7.5	7.4		0.7 0.7	0.7	
17-Dec-18	Sunny	Moderate	08:41	Surface	1	20.1 20.1	20.1	8.0 8.0	8.0	31.3 31.4	31.4	91.3 89.6	90.5	6.9 6.8	6.9	6.9	0.5 0.5	0.5	1.5
				Middle	-	-	-	-	-	-	-	-	-	-	-		-		
				Bottom	4.8	20.9 20.9	20.9	8.0 8.0	8.0	31.8 31.8	31.8	73.3 73.6	73.5	5.4 5.5	5.5		2.5 2.4	2.5	
19-Dec-18	Cloudy	Moderate	11:17	Surface	1	20.3 20.3	20.3	8.2 8.2	8.2	31.2 31.2	31.2	111.0 110.4	110.7	8.4 8.3	8.4	8.4	0.8 0.8	0.8	1.1
				Middle	-	-	-	-	-	-	-	-	-	-	-		-		
				Bottom	4.9	20.3 20.4	20.4	8.1 8.1	8.1	31.3 31.3	31.3	100.9 101.0	101.0	7.6 7.6	7.6		1.3 1.4	1.4	

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

Contract No. SPW 09 / 2018

Environmental Team Baseline Surveys for Sha Tin Cavern Sewage Treatment Works

Baseline Water Quality Monitoring Results at F1

(Mid-Flood Tide)

Date	Weather Condition	Sea Condition*	Sampling Time	Depth (m)		Temperature (°C)		pH		Salinity ppt		DO Saturation (%)		Dissolved Oxygen (mg/L)		Turbidity (NTU)			
						Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*
20-Jun-18	Cloudy	Calm	11:15	Surface	1	29.5 29.3	29.4	7.8 7.8	7.8	28.7 29.0	28.9	87.0 86.5	86.8	5.7 5.6	5.7	5.5	0.6 0.7	0.7	2.2
				Middle	3.5	28.8 28.8	28.8	7.8 7.8	7.8	29.9 29.9	29.9	80.3 79.7	80.0	5.3 5.2	5.3		0.8 0.8	0.8	
				Bottom	6	28.5 28.5	28.5	7.6 7.6	7.6	30.1 30.1	30.1	32.3 31.7	32.0	2.1 2.1	2.1		5.1 5.2	5.2	
26-Jun-18	Fine	Calm	16:57	Surface	1	30.7 30.7	30.7	8.3 8.3	8.3	26.5 26.5	26.5	155.4 155.4	155.4	10.0 10.0	10.0	10.0	2.0 2.0	2.0	1.9
				Middle	-	-	-	-	-	-	-	-	-	-	-		-	-	
				Bottom	4.2	28.4 28.4	28.4	7.8 7.8	7.8	31.4 31.4	31.4	36.6 36.6	36.6	2.4 2.4	2.4		1.7 1.8	1.8	
16-Jul-18	Cloudy	Rough	07:37	Surface	1	28.1 28.2	28.2	7.9 7.9	7.9	28.6 28.6	28.6	85.0 83.7	84.4	5.7 5.6	5.7	5.5	0.9 0.9	0.9	1.2
				Middle	3	28.5 28.5	28.5	7.9 7.9	7.9	29.7 29.5	29.6	79.8 80.7	80.3	5.3 5.3	5.3		1.2 1.1	1.2	
				Bottom	5	28.6 28.6	28.6	7.9 7.9	7.9	30.3 30.3	30.3	75.0 73.7	74.4	4.9 4.8	4.9		1.5 1.5	1.5	
24-Jul-18	Cloudy	Calm	16:05	Surface	1	30.1 30.1	30.1	8.1 8.1	8.1	28.1 28.1	28.1	127.5 128.1	127.8	8.3 8.3	8.3	8.3	0.5 0.5	0.5	0.6
				Middle	-	-	-	-	-	-	-	-	-	-	-		-		
				Bottom	4.6	29.5 29.5	29.5	7.9 7.9	7.9	29.8 29.8	29.8	102.9 103.5	103.2	6.7 6.7	6.7		0.6 0.6	0.6	
16-Aug-18	Cloudy	Calm	09:15	Surface	1	29.6 29.6	29.6	8.2 8.2	8.2	22.2 22.4	22.3	120.8 119.8	120.3	8.1 8.1	8.1	6.8	1.3 1.3	1.3	1.0
				Middle	3.5	29.6 29.6	29.6	8.0 8.0	8.0	28.9 28.8	28.9	84.3 84.1	84.2	5.5 5.5	5.5		0.6 0.6	0.6	
				Bottom	6	29.5 29.5	29.5	7.9 7.9	7.9	29.5 29.5	29.5	73.2 73.1	73.2	4.7 4.7	4.7		1.2 1.2	1.2	
25-Aug-18	Fine	Calm	17:50	Surface	1	29.7 29.8	29.8	8.1 8.1	8.1	30.0 29.9	30.0	116.0 116.4	116.2	7.5 7.5	7.5	7.5	1.5 1.5	1.5	2.5
				Middle	-	-	-	-	-	-	-	-	-	-	-		-		
				Bottom	4.7	26.5 26.5	26.5	7.9 7.9	7.9	31.7 31.7	31.7	9.4 9.3	9.4	0.6 0.6	0.6		3.6 3.4	3.5	
20-Sep-18	Fine	Calm	16:19	Surface	1	29.7 29.7	29.7	8.3 8.3	8.3	24.2 24.2	24.2	163.1 163.6	163.4	10.9 10.9	10.9	10.9	1.3 1.3	1.3	1.9
				Middle	-	-	-	-	-	-	-	-	-	-	-		-		
				Bottom	4.4	27.5 27.4	27.5	7.9 7.9	7.9	29.3 29.3	29.3	50.3 50.0	50.2	3.4 3.4	3.4		2.3 2.4	2.4	
23-Sep-18	Cloudy	Calm	17:12	Surface	1	30.6 30.6	30.6	8.3 8.3	8.3	25.5 25.5	25.5	125.1 124.9	125.0	8.1 8.1	8.1	8.1	0.9 0.9	0.9	2.3
				Middle	-	-	-	-	-	-	-	-	-	-	-		-		
				Bottom	4.9	27.4 27.4	27.4	7.9 7.9	7.9	29.8 29.8	29.8	57.0 56.3	56.7	3.8 3.8	3.8		3.7 3.6	3.7	
13-Oct-18	Sunny	Calm	10:01	Surface	1	26.4 26.5	26.5	8.3 8.3	8.3	31.0 31.0	31.0	97.5 95.3	96.4	6.6 6.4	6.5	6.5	0.3 0.3	0.3	0.4
				Middle	-	-	-	-	-	-	-	-	-	-	-		-		
				Bottom	4.4	27.5 27.6	27.6	8.1 8.1	8.1	33.1 32.8	33.0	51.5 51.6	51.6	3.4 3.4	3.4		0.4 0.4	0.4	
22-Oct-18	Fine	Calm	16:44	Surface	1	26.3 26.3	26.3	8.0 8.1	8.1	28.8 28.9	28.9	116.4 115.5	116.0	8.0 7.9	8.0	8.0	0.3 0.3	0.3	1.0
				Middle	-	-	-	-	-	-	-	-	-	-	-		-		
				Bottom	4.6	26.4 26.4	26.4	7.7 7.7	7.7	30.2 30.2	30.2	38.4 38.1	38.3	2.6 2.6	2.6		1.7 1.7	1.7	
8-Nov-18	Sunny	Calm	16:29	Surface	1	26.0 25.8	25.9	8.3 8.3	8.3	29.9 30.0	30.0	123.9 125.2	124.6	8.5 8.6	8.6	8.6	0.5 0.4	0.5	0.6
				Middle	-	-	-	-	-	-	-	-	-	-	-		-		
				Bottom	4.5	25.1 25.1	25.1	8.3 8.3	8.3	30.4 30.4	30.4	103.6 102.6	103.1	7.2 7.1	7.2		0.5 0.6	0.6	
10-Nov-18	Cloudy	Rough	09:24	Surface	1	25.1 25.2	25.2	8.3 8.3	8.3	29.9 29.9	29.9	118.3 119.2	118.8	8.2 8.3	8.3	8.3	0.3 0.3	0.3	0.4
				Middle	3	25.2 25.2	25.2	8.3 8.3	8.3	29.9 29.9	29.9	119.4 119.6	119.5	8.3 8.3	8.3		0.3 0.3	0.3	
				Bottom	5	25.3 25.3	25.3	8.3 8.3	8.3	30.1 30.1	30.1	113.8 113.8	113.8	7.9 7.9	7.9		0.5 0.5	0.5	
17-Dec-18	Sunny	Moderate	13:32	Surface	1	20.7 20.7	20.7	8.1 8.1	8.1	31.4 31.3	31.4	107.2 106.6	106.9	8.0 8.0	8.0	8.0	0.8 0.7	0.8	1.6
				Middle	-	-	-	-	-	-	-	-	-	-	-		-		
				Bottom	4.8	20.7 20.7	20.7	8.0 8.0	8.0	31.7 31.7	31.7	87.7 87.2	87.5	6.5 6.5	6.5		2.3 2.3	2.3	
19-Dec-18	Cloudy	Moderate	14:46	Surface	1	20.6 20.5	20.6	8.0 8.1	8.1	31.3 31.3	31.3	109.0 109.7	109.4	8.2 8.2	8.2	8.2	0.8 0.8	0.8	1.2
				Middle	-	-	-	-	-	-	-	-	-	-	-		-		
				Bottom	4.9	20.4 20.4	20.4	8.0 8.1	8.1	31.3 31.3	31.3	103.3 102.6	103.0	7.8 7.7	7.8		1.6 1.6	1.6	

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

Contract No. SPW 09 / 2018

Environmental Team Baseline Surveys for Sha Tin Cavern Sewage Treatment Works

Baseline Water Quality Monitoring Results at F2

(Mid-Ebb Tide)

Date	Weather Condition	Sea Condition*	Sampling Time	Depth (m)		Temperature (°C)		pH		Salinity ppt		DO Saturation (%)		Dissolved Oxygen (mg/L)		Turbidity (NTU)			
						Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*
20-Jun-18	Rainy	Calm	18:04	Surface	1	30.2 30.0	30.1	8.0 8.0	8.0	29.8 116.0	29.9	117.7 116.0	116.9	7.5 7.4	7.5	6.2	0.7 0.7	0.7	1.8
				Middle	3	29.1 29.1	29.1	7.8 7.9	7.9	30.6 30.6	30.6	75.3 73.1	74.2	4.9 4.7	4.8		1.0 1.1	1.1	
				Bottom	5	29.0 29.0	29.0	7.6 7.6	7.6	30.8 30.9	30.9	32.0 29.4	30.7	2.1 1.9	2.0		3.5 3.7	3.6	
26-Jun-18	Cloudy	Moderate	10:59	Surface	1	29.4 29.5	29.5	8.1 8.1	8.1	27.5 27.9	27.7	129.4 114.8	122.1	8.5 7.5	8.0	5.9	0.8 0.8	0.8	1.1
				Middle	3	29.0 29.1	29.1	7.7 7.8	7.8	30.9 30.5	30.7	57.8 57.7	57.8	3.8 3.7	3.8		1.0 0.9	1.0	
				Bottom	5	28.8 28.8	28.8	7.7 7.7	7.7	31.1 31.1	31.1	30.9 30.5	30.7	2.0 2.0	2.0		1.6 1.3	1.5	
16-Jul-18	Cloudy	Moderate	15:22	Surface	1	28.4 28.4	28.4	8.1 8.1	8.1	26.0 26.0	26.0	104.8 105.0	104.9	7.1 7.1	7.1	6.9	0.5 0.5	0.5	0.8
				Middle	3	28.4 28.3	28.4	8.1 8.1	8.1	26.9 26.9	26.9	98.1 97.9	98.0	6.6 6.6	6.6		0.8 0.7	0.8	
				Bottom	5	28.3 28.3	28.3	8.0 8.0	8.0	27.4 27.3	27.4	91.8 92.6	92.2	6.1 6.2	6.2		1.1 1.0	1.1	
24-Jul-18	Cloudy	Moderate	09:53	Surface	1	30.2 30.2	30.2	8.2 8.2	8.2	28.8 28.4	28.6	106.0 102.2	104.1	6.8 6.6	6.7	6.8	1.1 1.2	1.2	0.9
				Middle	3	30.0 30.0	30.0	8.2 8.2	8.2	29.2 29.2	29.2	105.6 105.1	105.4	6.8 6.8	6.8		0.8 0.8	0.8	
				Bottom	5	29.4 29.2	29.3	7.9 7.8	7.9	30.3 30.4	30.4	58.0 59.9	59.0	3.8 3.9	3.9		0.8 0.8	0.8	
16-Aug-18	Cloudy	Calm	15:59	Surface	1	29.2 29.1	29.2	8.4 8.4	8.4	24.7 24.3	24.5	144.1 137.2	140.7	9.7 9.2	9.5	7.4	1.0 1.1	1.1	1.0
				Middle	3	29.8 29.9	29.9	8.1 8.1	8.1	30.0 30.2	30.1	90.3 74.9	82.6	5.8 4.8	5.3		0.7 0.7	0.7	
				Bottom	5	29.9 29.4	29.7	7.8 7.5	7.7	30.8 31.8	31.3	39.2 33.3	36.3	2.5 2.1	2.3		1.2 1.2	1.2	
25-Aug-18	Fine	Calm	11:44	Surface	1	31.2 31.1	31.2	7.9 7.9	7.9	30.4 29.9	30.2	37.1 36.1	36.6	2.3 2.5	2.4	2.1	0.5 0.4	0.5	1.9
				Middle	3.5	28.3 28.1	28.2	7.8 7.8	7.8	31.5 31.6	31.6	29.0 26.6	27.8	1.9 1.7	1.8		1.3 1.3	1.3	
				Bottom	6	26.9 27.0	27.0	7.7 7.7	7.7	32.3 32.3	32.3	7.3 6.7	7.0	0.5 0.5	0.5		3.9 3.8	3.9	
20-Sep-18	Fine	Moderate	09:15	Surface	1	28.4 28.2	28.3	8.2 8.2	8.2	27.0 27.2	27.1	120.4 113.6	117.0	8.1 7.6	7.9	6.3	1.2 1.2	1.2	2.1
				Middle	3	27.5 27.5	27.5	8.0 8.0	8.0	29.4 29.3	29.4	69.6 69.0	69.3	4.7 4.6	4.7		1.2 1.3	1.3	
				Bottom	5	27.5 27.4	27.5	8.0 8.0	8.0	29.6 29.7	29.7	62.5 62.6	62.6	4.2 4.2	4.2		3.9 3.6	3.8	
23-Sep-18	Sunny	Calm	11:07	Surface	1	30.7 30.7	30.7	8.3 8.3	8.3	26.0 26.0	26.0	130.2 130.1	130.2	8.4 8.4	8.4	7.0	0.3 0.3	0.3	2.0
				Middle	3.5	27.8 27.8	27.8	8.0 8.1	8.1	30.2 30.1	30.2	81.0 85.5	83.3	5.4 5.7	5.6		1.7 1.8	1.8	
				Bottom	6	27.6 27.6	27.6	7.9 7.9	7.9	30.3 30.3	30.3	49.2 50.5	49.9	3.3 3.4	3.4		4.0 4.0	4.0	
13-Oct-18	Sunny	Calm	15:06	Surface	1	26.9 26.9	26.9	8.2 8.2	8.2	32.0 32.1	32.1	94.0 92.8	93.4	6.3 6.2	6.3	6.4	0.4 0.4	0.4	1.0
				Middle	3	27.2 27.2	27.2	8.3 8.3	8.3	32.5 32.5	32.5	96.6 96.4	96.5	6.4 6.4	6.4		0.5 0.4	0.5	
				Bottom	5	27.9 27.9	27.9	7.9 7.9	7.9	33.8 33.8	33.8	17.7 16.8	17.3	1.2 1.1	1.2		2.1 2.2	2.2	
22-Oct-18	Fine	Calm	10:17	Surface	1	25.9 25.8	25.9	8.3 8.3	8.3	32.6 32.4	32.5	101.2 101.5	101.4	6.9 6.9	6.9	6.9	0.6 0.7	0.7	1.8
				Middle	3	25.8 25.7	25.8	8.3 8.3	8.3	32.7 32.7	32.7	101.1 98.6	99.9	6.9 6.7	6.8		0.8 0.8	0.8	
				Bottom	5	25.9 25.9	25.9	8.1 8.1	8.1	33.0 33.0	33.0	60.7 59.3	60.0	4.1 4.0	4.1		3.9 3.9	3.9	
8-Nov-18	Sunny	Calm	12:10	Surface	1	26.0 26.0	26.0	8.0 8.0	8.0	30.0 29.9	30.0	100.0 99.6	99.8	6.9 6.8	6.9	7.0	0.6 0.6	0.6	1.8
				Middle	3.5	25.1 25.3	25.2	8.1 8.1	8.1	30.3 30.2	30.3	102.1 100.0	101.1	7.1 6.9	7.0		1.5 1.5	1.5	
				Bottom	6	24.9 25.0	25.0	8.1 8.1	8.1	30.4 30.4	30.4	80.4 87.6	84.0	5.6 6.1	5.9		3.3 3.5	3.4	
10-Nov-18	Cloudy	Rough	14:01	Surface	1	25.2 25.2	25.2	8.3 8.3	8.3	30.1 30.1	30.1	92.3 90.4	91.4	6.4 6.3	6.4	6.4	0.2 0.2	0.2	0.6
				Middle	3	25.1 25.2	25.2	8.3 8.3	8.3	30.1 30.1	30.1	92.0 91.2	91.6	6.4 6.3	6.4		0.4 0.4	0.4	
				Bottom	5	25.0 25.0	25.0	8.3 8.3	8.3	30.3 30.3	30.3	68.3 69.5	68.9	4.8 4.8	4.8		1.2 1.2	1.2	
17-Dec-18	Sunny	Moderate	07:55	Surface	1	20.3 20.3	20.3	7.9 8.0	8.0	31.0 31.0	31.0	88.8 86.2	87.5	6.7 6.5	6.6	6.7	0.9 0.9	0.9	1.9
				Middle	3	20.1 20.2	20.2	8.0 8.0	8.0	31.1 31.1	31.1	88.2 86.8	87.5	6.7 6.6	6.7		1.4 1.2	1.3	
				Bottom	5	20.3 20.2	20.3	7.9 7.9	7.9	31.1 31.1	31.1	78.4 79.8	79.1	5.9 6.0	6.0		3.8 3.1	3.5	
19-Dec-18	Cloudy	Calm	09:11	Surface	1	20.0 20.0	20.0	7.9 8.0	8.0	31.1 31.1	31.1	86.8 89.8	88.3	6.6 6.8	6.7	6.7	1.2 1.1	1.2	1.3
				Middle	3	20.0 20.0	20.0	7.9 7.9	7.9	31.1 31.1	31.1	86.9 87.7	87.3	6.6 6.6	6.6		1.2 1.2	1.2	
				Bottom	5	20.0 20.0	20.0	7.9 8.0	8.0	31.1 31.1	31.1	87.9 89.6	88.8	6.7 6.8	6.8		1.3 1.5	1.4	

Remarks: \*DA: Depth-Averaged

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

Baseline Water Quality Monitoring Results at F2

(Mid-Flood Tide)

Date	Weather Condition	Sea Condition*	Sampling Time	Depth (m)		Temperature (°C)		pH		Salinity ppt		DO Saturation (%)		Dissolved Oxygen (mg/L)		Turbidity (NTU)				
						Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*	
20-Jun-18	Cloudy	Calm	09:15	Surface	1	29.7	29.7	7.9	7.9	29.2	29.3	93.5	92.8	6.1	6.1	4.7	0.5	0.5	2.0	
				Middle	3	29.1	29.1	7.7	7.7	30.7	30.7	48.8	48.3	3.2	3.2		1.5	1.5		
				Bottom	5	28.9	29.0	7.6	7.6	30.8	30.8	27.5	26.7	1.8	1.8		3.9	4.1		4.0
26-Jun-18	Cloudy	Moderate	17:41	Surface	1	30.3	30.4	8.2	8.2	27.8	27.8	148.6	148.7	9.6	9.6	9.3	1.1	0.9	1.2	
				Middle	3	29.8	29.8	8.1	8.1	28.8	28.8	135.5	138.4	8.8	9.0		0.9	1.0		1.0
				Bottom	5	28.7	28.8	7.7	7.7	31.3	31.2	40.9	39.6	2.7	2.6		1.4	1.5		1.5
16-Jul-18	Cloudy	Rough	06:06	Surface	1	27.8	27.8	8.0	8.0	25.9	25.9	93.7	93.6	6.4	6.4	6.3	0.4	0.4	0.5	
				Middle	3	28.0	28.0	8.0	8.0	26.4	26.4	91.6	91.2	6.2	6.2		0.3	0.3		
				Bottom	5	28.4	28.4	8.0	8.0	27.2	27.2	85.0	85.5	5.7	5.8		0.9	0.9		0.9
24-Jul-18	Cloudy	Calm	17:21	Surface	1	30.6	30.6	8.3	8.3	28.0	28.1	128.2	126.9	8.2	8.2	8.1	1.2	1.1	1.6	
				Middle	3	30.4	30.4	8.3	8.3	29.0	29.0	125.5	124.0	8.0	7.9		0.9	0.9		
				Bottom	5	29.2	29.2	7.7	7.7	30.5	30.6	15.6	16.5	1.0	1.1		2.7	2.7		2.7
16-Aug-18	Cloudy	Calm	07:29	Surface	1	29.3	29.3	8.4	8.4	24.4	24.5	126.2	124.4	8.4	8.3	6.8	1.7	1.6	2.7	
				Middle	3	29.9	29.9	8.1	8.1	30.2	30.1	74.9	80.2	4.8	5.2		1.1	1.1		
				Bottom	5	29.4	29.6	7.5	7.6	31.8	31.6	11.6	13.4	0.8	0.9		5.2	5.5		5.4
25-Aug-18	Fine	Calm	19:10	Surface	1	30.7	30.0	8.0	8.0	30.9	31.0	48.4	47.8	3.1	3.1	2.4	1.3	1.3	1.8	
				Middle	3	27.5	27.6	7.8	7.8	32.0	32.0	23.5	23.3	1.6	1.6		1.6	1.6		
				Bottom	5	26.9	26.9	7.8	7.8	32.4	32.4	17.9	18.2	1.2	1.2		2.5	2.4		2.5
20-Sep-18	Fine	Moderate	17:21	Surface	1	28.3	28.3	8.3	8.3	27.6	27.7	121.7	118.9	8.1	8.0	7.4	1.0	0.9	0.9	
				Middle	3	27.7	27.7	8.2	8.2	29.3	29.3	101.6	100.9	6.8	6.8		0.5	0.5		
				Bottom	5	27.5	27.5	8.0	8.0	29.8	29.8	62.7	60.7	4.2	4.2		1.2	1.3		1.3
23-Sep-18	Cloudy	Moderate	18:04	Surface	1	31.2	31.2	8.4	8.4	25.7	26.1	124.2	126.1	8.0	8.1	8.4	0.7	0.7	2.3	
				Middle	3	28.8	29.1	8.3	8.3	29.3	29.1	131.0	130.4	8.6	8.6		1.0	1.1		
				Bottom	5	27.6	27.6	7.9	7.9	30.3	30.4	39.1	41.0	2.6	2.8		5.1	5.2		5.2
13-Oct-18	Sunny	Calm	08:44	Surface	1	26.7	26.7	8.2	8.2	32.0	32.0	85.5	84.7	5.7	5.7	5.2	0.3	0.3	0.6	
				Middle	3	27.3	27.3	8.1	8.1	32.7	32.7	69.7	70.0	4.6	4.6		0.4	0.4		
				Bottom	5	27.9	27.9	8.0	8.0	33.8	33.8	24.3	23.5	1.6	1.6		1.1	1.2		1.2
22-Oct-18	Fine	Calm	17:29	Surface	1	26.3	26.3	8.3	8.3	32.5	32.6	113.5	113.2	7.6	7.6	7.3	0.2	0.2	1.6	
				Middle	3	26.0	26.0	8.3	8.3	32.7	32.8	103.4	102.2	7.0	6.9		0.7	0.7		
				Bottom	5	26.0	26.0	8.2	8.2	33.1	33.1	74.2	74.4	5.0	5.0		3.8	3.9		3.9
8-Nov-18	Sunny	Calm	17:38	Surface	1	25.9	25.9	8.1	8.1	30.0	30.1	108.9	109.7	7.5	7.5	7.2	0.3	0.3	1.6	
				Middle	3	25.1	25.0	8.1	8.1	30.3	30.3	98.4	98.0	6.8	6.8		1.1	1.1		
				Bottom	5	24.8	24.8	8.0	8.0	30.4	30.4	74.1	74.4	5.2	5.2		3.5	3.4		3.5
10-Nov-18	Cloudy	Rough	08:19	Surface	1	25.2	25.2	8.3	8.3	30.1	30.1	90.5	88.6	6.3	6.2	6.2	0.9	0.8	1.6	
				Middle	3	25.2	25.2	8.3	8.3	30.1	30.1	89.8	88.4	6.2	6.1		0.9	0.9		
				Bottom	5	25.0	25.1	8.1	8.1	30.3	30.3	62.9	63.5	4.4	4.5		3.1	3.1		3.1
17-Dec-18	Sunny	Moderate	15:08	Surface	1	20.3	20.3	7.9	8.0	31.0	31.0	88.3	87.3	6.7	6.6	6.6	0.8	0.9	2.1	
				Middle	3	20.1	20.1	8.0	8.0	31.1	31.1	87.8	87.4	6.6	6.6		1.6	1.6		
				Bottom	5	20.3	20.3	7.9	7.9	31.1	31.1	77.7	77.9	5.9	5.9		3.9	3.5		3.7
19-Dec-18	Cloudy	Calm	15:24	Surface	1	20.3	20.3	7.9	8.0	31.1	31.1	91.4	90.6	6.9	6.9	7.0	1.3	1.1	1.5	
				Middle	3	20.2	20.3	8.0	8.0	31.1	31.1	94.8	92.3	7.2	7.0		1.5	1.2		1.4
				Bottom	5	20.2	20.1	8.0	8.0	31.1	31.1	94.4	93.3	7.1	7.1		1.8	1.8		1.8

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

Contract No. SPW 09 / 2018

Environmental Team Baseline Surveys for Sha Tin Cavern Sewage Treatment Works

Baseline Water Quality Monitoring Results at F3

(Mid-Ebb Tide)

Date	Weather Condition	Sea Condition*	Sampling Time	Depth (m)		Temperature (°C)		pH		Salinity ppt		DO Saturation (%)		Dissolved Oxygen (mg/L)		Turbidity(NTU)			
						Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*
20-Jun-18	Rainy	Calm	17:42	Surface	1	29.7 29.8	29.8	8.0 7.9	8.0	29.3 29.3	29.3	111.1 110.4	110.8	7.2 7.1	7.2	6.8	0.8 0.8	0.8	3.4
				Middle	3.5	29.0 29.0	29.0	7.9 7.9	7.9	30.4 30.4	30.4	96.2 95.6	95.9	6.3 6.2	6.3		0.8 0.8	0.8	
				Bottom	6	28.6 28.6	28.6	7.6 7.6	7.6	30.9 30.9	30.9	32.1 31.2	31.7	2.1 2.0	2.1		8.5 8.6	8.6	
26-Jun-18	Cloudy	Moderate	11:17	Surface	1	29.3 29.3	29.3	8.1 8.1	8.1	30.0 30.0	30.0	121.1 118.3	119.7	7.9 7.7	7.8	6.9	0.5 0.5	0.5	1.0
				Middle	3.5	28.8 28.8	28.8	7.9 8.0	8.0	31.0 31.0	31.0	88.7 92.1	90.4	5.8 6.0	5.9		0.9 1.0	1.0	
				Bottom	6	28.3 28.3	28.3	7.8 7.8	7.8	31.9 31.9	31.9	45.1 38.2	41.7	2.9 2.5	2.7		1.5 1.6	1.6	
16-Jul-18	Cloudy	Moderate	14:59	Surface	1	28.6 28.6	28.6	8.0 8.0	8.0	28.0 28.0	28.0	94.0 94.0	94.0	6.2 6.2	6.2	6.2	0.5 0.5	0.5	0.4
				Middle	3.5	28.3 28.3	28.3	8.0 8.0	8.0	28.0 28.0	28.0	93.2 93.5	93.4	6.2 6.2	6.2		0.3 0.3	0.3	
				Bottom	6	28.3 28.3	28.3	8.0 8.0	8.0	28.2 28.2	28.2	88.4 88.3	88.4	5.9 5.9	5.9		0.4 0.4	0.4	
24-Jul-18	Cloudy	Moderate	10:15	Surface	1	28.7 28.7	28.7	7.9 8.0	8.0	30.7 30.7	30.7	68.7 70.5	69.6	4.5 4.6	4.6	4.5	0.9 0.9	0.9	1.0
				Middle	3.5	28.7 28.7	28.7	8.0 8.0	8.0	30.9 30.9	30.9	67.3 66.7	67.0	4.4 4.4	4.4		1.0 1.1	1.1	
				Bottom	6	28.6 28.5	28.6	7.9 7.9	7.9	31.0 31.0	31.0	61.3 57.7	59.5	4.0 3.8	3.9		1.1 1.1	1.1	
16-Aug-18	Cloudy	Calm	15:38	Surface	1	29.5 29.5	29.5	8.1 8.1	8.1	29.6 29.6	29.6	104.6 104.1	104.4	6.8 6.8	6.8	6.5	0.7 0.8	0.8	1.3
				Middle	4	29.5 29.5	29.5	8.1 8.1	8.1	30.2 30.2	30.2	97.5 90.3	93.9	6.3 5.8	6.1		0.5 0.6	0.6	
				Bottom	7	29.7 29.7	29.7	7.9 7.9	7.9	30.6 30.5	30.6	50.1 57.6	53.9	3.2 3.7	3.5		2.7 2.4	2.6	
25-Aug-18	Fine	Calm	12:04	Surface	1	30.4 30.4	30.4	8.2 8.2	8.2	26.6 26.7	26.7	114.5 114.8	114.7	7.4 7.5	7.5	5.1	0.2 0.2	0.2	1.5
				Middle	3.5	28.8 28.8	28.8	7.8 7.8	7.8	31.4 31.4	31.4	44.2 38.4	41.3	2.9 2.5	2.7		2.3 2.4	2.4	
				Bottom	6	25.0 25.1	25.1	7.6 7.6	7.6	33.3 33.2	33.3	6.5 6.8	6.7	0.4 0.5	0.5		1.7 1.9	1.8	
20-Sep-18	Fine	Moderate	09:38	Surface	1	28.3 28.3	28.3	8.2 8.2	8.2	27.0 27.2	27.1	117.3 115.9	116.6	7.9 7.8	7.9	6.4	0.4 0.4	0.4	1.0
				Middle	3.5	27.5 27.4	27.5	8.0 8.0	8.0	29.8 29.8	29.8	76.6 68.8	72.7	5.1 4.6	4.9		0.6 0.7	0.7	
				Bottom	6	27.3 27.3	27.3	7.9 7.9	7.9	30.4 30.4	30.4	50.5 49.1	49.8	3.4 3.3	3.4		2.2 1.8	2.0	
23-Sep-18	Sunny	Calm	11:29	Surface	1	28.9 28.8	28.9	8.2 8.2	8.2	28.6 28.7	28.7	118.6 116.0	117.3	7.8 7.6	7.7	7.4	0.3 0.3	0.3	1.6
				Middle	3.5	27.8 27.8	27.8	8.2 8.2	8.2	30.2 30.2	30.2	110.2 104.4	107.3	7.3 6.9	7.1		0.3 0.3	0.3	
				Bottom	6	27.2 27.2	27.2	7.9 7.9	7.9	30.7 30.7	30.7	40.3 40.4	40.4	2.7 2.7	2.7		4.0 4.2	4.1	
13-Oct-18	Sunny	Calm	14:46	Surface	1	26.5 26.6	26.6	8.3 8.3	8.3	32.2 32.3	32.3	101.3 98.4	99.9	6.8 6.6	6.7	5.0	1.0 1.0	1.0	2.0
				Middle	3.5	27.3 27.3	27.3	8.1 8.1	8.1	33.4 33.5	33.5	49.1 47.5	48.3	3.2 3.1	3.2		1.4 1.4	1.4	
				Bottom	6	27.1 27.1	27.1	8.0 8.0	8.0	33.9 33.9	33.9	36.1 37.5	36.8	2.4 2.5	2.5		3.5 3.5	3.5	
22-Oct-18	Fine	Calm	10:38	Surface	1	25.8 25.8	25.8	8.3 8.3	8.3	33.3 33.3	33.3	106.1 106.1	106.1	7.2 7.2	7.2	7.2	0.3 0.3	0.3	1.5
				Middle	3.5	25.9 25.9	25.9	8.3 8.3	8.3	33.6 33.6	33.6	105.9 105.4	105.7	7.1 7.1	7.1		0.4 0.4	0.4	
				Bottom	6	26.4 26.4	26.4	8.1 8.1	8.1	33.9 33.9	33.9	72.3 70.8	71.6	4.8 4.7	4.8		3.6 3.7	3.7	
8-Nov-18	Sunny	Calm	12:33	Surface	1	25.4 25.3	25.4	8.2 8.2	8.2	30.6 30.6	30.6	108.6 106.2	107.4	7.5 7.3	7.4	7.4	0.4 0.4	0.4	2.2
				Middle	3.5	25.2 25.2	25.2	8.1 8.2	8.2	30.7 30.6	30.7	106.1 107.7	106.9	7.3 7.5	7.4		0.6 0.6	0.6	
				Bottom	6	25.0 25.0	25.0	8.0 8.0	8.0	30.9 30.9	30.9	74.0 72.8	73.4	5.1 5.1	5.1		5.3 5.6	5.5	
10-Nov-18	Cloudy	Rough	13:43	Surface	1	24.8 24.8	24.8	8.3 8.3	8.3	30.7 30.7	30.7	88.7 86.7	87.7	6.2 6.0	6.1	5.8	0.6 0.6	0.6	1.0
				Middle	3.5	24.7 24.7	24.7	8.3 8.3	8.3	30.8 30.9	30.9	78.6 76.5	77.6	5.5 5.3	5.4		0.5 0.5	0.5	
				Bottom	6	24.6 24.6	24.6	8.2 8.2	8.2	31.1 31.1	31.1	58.9 56.8	57.9	4.1 4.0	4.1		1.9 1.7	1.8	
17-Dec-18	Sunny	Moderate	08:10	Surface	1	19.7 19.7	19.7	8.1 8.0	8.1	30.9 30.9	30.9	94.8 93.6	94.2	7.2 7.1	7.2	7.4	0.4 0.4	0.4	1.0
				Middle	3.5	19.8 19.7	19.8	8.1 8.1	8.1	31.1 31.0	31.1	98.3 97.7	98.0	7.5 7.5	7.5		0.6 0.6	0.6	
				Bottom	6	19.6 19.7	19.7	8.0 8.1	8.1	31.0 31.0	31.0	93.2 98.3	95.8	7.1 7.5	7.3		2.1 2.1	2.1	
19-Dec-18	Cloudy	Calm	09:25	Surface	1	19.7 19.8	19.8	8.0 8.0	8.0	31.2 31.2	31.2	93.1 88.3	90.7	7.1 6.7	6.9	6.7	1.2 1.3	1.3	1.9
				Middle	3.5	20.4 20.4	20.4	8.0 8.0	8.0	31.6 31.6	31.6	84.3 84.8	84.6	6.3 6.4	6.4		1.8 1.9	1.9	
				Bottom	6	20.6 20.6	20.6	8.0 8.0	8.0	31.9 31.8	31.9	72.9 74.0	73.5	5.4 5.5	5.5		2.3 2.5	2.4	

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

Contract No. SPW 09 / 2018

Environmental Team Baseline Surveys for Sha Tin Cavern Sewage Treatment Works

Baseline Water Quality Monitoring Results at F3

(Mid-Flood Tide)

Date	Weather Condition	Sea Condition*	Sampling Time	Depth (m)		Temperature (°C)		pH		Salinity ppt		DO Saturation (%)		Dissolved Oxygen (mg/L)		Turbidity(NTU)			
						Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*
20-Jun-18	Cloudy	Calm	09:39	Surface	1	29.3 29.4	29.4	7.9 7.9	7.9	29.7 29.5	29.6	101.0 101.9	101.5	6.6 6.6	6.6	6.3	0.7 0.7	0.7	1.1
				Middle	3.5	29.0 29.1	29.1	7.9 7.9	7.9	30.3 30.2	30.3	90.8 92.1	91.5	5.9 6.0	6.0		0.8 0.7	0.8	
				Bottom	6	28.8 28.8	28.8	7.7 7.7	7.7	30.6 30.6	30.6	52.1 55.6	53.9	3.4 3.6	3.5		1.8 1.6	1.7	
26-Jun-18	Cloudy	Moderate	17:25	Surface	1	29.7 29.7	29.7	8.2 8.2	8.2	30.1 30.2	30.2	145.7 145.4	145.6	9.4 9.4	9.4	7.0	0.7 0.6	0.7	1.4
				Middle	3	28.6 28.7	28.7	7.9 7.9	7.9	31.5 31.3	31.4	61.1 74.6	67.9	4.0 4.9	4.5		1.4 1.4	1.4	
				Bottom	5	28.3 28.3	28.3	7.8 7.8	7.8	32.0 32.0	32.0	37.3 39.3	38.3	2.4 2.6	2.5		2.0 2.0	2.0	
16-Jul-18	Cloudy	Rough	06:31	Surface	1	28.0 28.0	28.0	8.0 8.0	8.0	28.0 28.0	28.0	90.6 90.1	90.4	6.1 6.0	6.1	6.1	0.3 0.3	0.3	0.7
				Middle	3.5	28.3 28.2	28.3	8.0 8.0	8.0	28.3 28.2	28.3	87.9 89.5	88.7	5.9 6.0	6.0		0.5 0.5	0.5	
				Bottom	6	28.4 28.4	28.4	7.9 7.9	7.9	28.4 28.4	28.4	75.0 74.7	74.9	5.0 5.0	5.0		1.1 1.2	1.2	
24-Jul-18	Cloudy	Calm	17:04	Surface	1	29.2 29.2	29.2	8.0 8.0	8.0	30.7 30.7	30.7	94.4 85.6	90.0	6.1 5.5	5.8	5.7	0.8 0.7	0.8	2.0
				Middle	3.5	28.9 29.0	29.0	8.0 8.0	8.0	30.8 30.8	30.8	83.4 87.5	85.5	5.4 5.7	5.6		1.1 1.2	1.2	
				Bottom	6	28.6 28.7	28.7	7.9 7.9	7.9	31.0 31.0	31.0	53.7 60.0	56.9	3.5 3.9	3.7		4.0 4.1	4.1	
16-Aug-18	Cloudy	Calm	07:57	Surface	1	29.4 29.4	29.4	8.1 8.1	8.1	29.9 29.9	29.9	100.1 98.3	99.2	6.5 6.4	6.5	6.5	0.9 0.8	0.9	1.6
				Middle	3.5	29.4 29.4	29.4	8.1 8.1	8.1	30.0 30.0	30.0	98.5 97.5	98.0	6.4 6.3	6.4		0.9 0.8	0.9	
				Bottom	6	29.7 29.7	29.7	8.0 8.0	8.0	30.6 30.6	30.6	56.8 63.1	60.0	3.7 4.1	3.9		3.0 2.8	2.9	
25-Aug-18	Fine	Calm	18:52	Surface	1	30.8 30.8	30.8	8.3 8.3	8.3	28.3 28.4	28.4	129.1 126.2	127.7	8.3 8.1	8.2	4.9	0.3 0.3	0.3	1.4
				Middle	3.5	26.9 27.6	27.3	7.8 7.9	7.9	32.5 32.1	32.3	22.9 23.3	23.1	1.5 1.5	1.5		1.6 1.6	1.6	
				Bottom	6	25.2 25.2	25.2	7.7 7.7	7.7	33.2 33.2	33.2	6.3 6.3	6.3	0.4 0.4	0.4		2.3 2.3	2.3	
20-Sep-18	Fine	Moderate	17:04	Surface	1	28.4 28.4	28.4	8.3 8.2	8.3	28.1 28.0	28.1	125.0 120.3	122.7	8.3 8.0	8.2	7.8	0.8 0.7	0.8	1.2
				Middle	3.5	27.8 27.8	27.8	8.2 8.2	8.2	29.3 29.3	29.3	111.6 105.0	108.3	7.5 7.0	7.3		0.7 0.7	0.7	
				Bottom	6	27.4 27.4	27.4	7.9 7.9	7.9	30.3 30.4	30.4	48.0 45.9	47.0	3.2 3.1	3.2		2.0 2.1	2.1	
23-Sep-18	Cloudy	Moderate	17:46	Surface	1	29.1 28.7	28.9	8.3 8.3	8.3	28.8 29.3	29.1	117.8 116.8	117.3	7.7 7.7	7.7	6.6	0.6 0.6	0.6	3.2
				Middle	3.5	27.5 27.5	27.5	8.1 8.1	8.1	30.6 30.6	30.6	84.2 80.8	82.5	5.6 5.4	5.5		2.5 2.5	2.5	
				Bottom	6	27.2 27.2	27.2	7.9 7.9	7.9	30.7 30.7	30.7	47.0 46.1	46.6	3.1 3.1	3.1		6.5 6.5	6.5	
13-Oct-18	Sunny	Calm	09:06	Surface	1	26.5 26.5	26.5	8.3 8.3	8.3	32.3 32.1	32.2	94.6 94.0	94.3	6.3 6.3	6.3	6.2	0.4 0.4	0.4	0.5
				Middle	3.5	26.3 26.3	26.3	8.3 8.3	8.3	32.3 32.4	32.4	89.8 88.1	89.0	6.1 5.9	6.0		0.4 0.4	0.4	
				Bottom	6	27.2 27.2	27.2	8.1 8.1	8.1	33.5 33.5	33.5	46.3 44.3	45.3	3.1 2.9	3.0		0.8 0.8	0.8	
22-Oct-18	Fine	Calm	17:12	Surface	1	26.1 26.1	26.1	8.3 8.3	8.3	32.8 32.8	32.8	112.5 111.5	112.0	7.6 7.5	7.6	7.7	0.2 0.2	0.2	0.7
				Middle	3.5	26.0 26.0	26.0	8.4 8.3	8.4	33.2 33.2	33.2	115.8 115.6	115.7	7.8 7.8	7.8		0.2 0.2	0.2	
				Bottom	6	26.3 26.3	26.3	8.2 8.2	8.2	33.8 33.8	33.8	84.6 85.9	85.3	5.7 5.7	5.7		1.8 1.8	1.8	
8-Nov-18	Sunny	Calm	17:18	Surface	1	25.4 25.4	25.4	8.1 8.2	8.2	30.6 30.6	30.6	112.8 110.1	111.5	7.8 7.6	7.7	7.7	0.3 0.3	0.3	1.4
				Middle	3.5	25.3 25.3	25.3	8.1 8.1	8.1	30.6 30.6	30.6	109.4 110.0	109.7	7.6 7.6	7.6		0.5 0.5	0.5	
				Bottom	6	25.2 25.1	25.2	8.0 8.0	8.0	30.8 30.8	30.8	89.1 85.7	87.4	6.2 5.9	6.1		3.5 3.5	3.5	
10-Nov-18	Cloudy	Rough	08:41	Surface	1	24.7 24.7	24.7	8.3 8.2	8.3	30.6 30.7	30.7	85.1 78.9	82.0	5.9 5.5	5.7	5.6	0.5 0.5	0.5	1.2
				Middle	3.5	24.7 24.7	24.7	8.3 8.3	8.3	30.8 30.8	30.8	76.5 80.0	78.3	5.3 5.6	5.5		0.2 0.2	0.2	
				Bottom	6	24.6 24.6	24.6	8.2 8.2	8.2	31.1 31.1	31.1	60.0 57.9	59.0	4.2 4.0	4.1		2.9 3.1	3.0	
17-Dec-18	Sunny	Moderate	14:50	Surface	1	19.7 19.7	19.7	8.0 8.0	8.0	30.9 30.9	30.9	94.4 92.8	93.6	7.2 7.1	7.2	7.4	0.4 0.5	0.5	1.1
				Middle	3.5	19.8 19.6	19.7	8.1 8.1	8.1	31.1 31.0	31.1	98.2 98.2	98.2	7.5 7.5	7.5		0.6 0.6	0.6	
				Bottom	6	19.6 19.7	19.7	8.0 8.1	8.1	31.0 31.0	31.0	93.4 97.4	95.4	7.1 7.4	7.3		2.3 2.3	2.3	
19-Dec-18	Cloudy	Calm	15:11	Surface	1	20.2 20.2	20.2	8.0 8.0	8.0	31.3 31.3	31.3	98.4 99.0	98.7	7.4 7.5	7.5	7.5	1.1 1.1	1.1	1.4
				Middle	3.5	20.2 20.2	20.2	8.1 8.1	8.1	31.5 31.4	31.5	99.9 99.8	99.9	7.5 7.5	7.5		1.2 1.2	1.2	
				Bottom	6	20.5 20.4	20.5	8.0 8.0	8.0	31.7 31.7	31.7	80.3 85.4	82.9	6.0 6.4	6.2		2.0 1.7	1.9	

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

Contract No. SPW 09 / 2018

Environmental Team Baseline Surveys for Sha Tin Cavern Sewage Treatment Works

Baseline Water Quality Monitoring Results at F4

(Mid-Ebb Tide)

Date	Weather Condition	Sea Condition*	Sampling Time	Depth (m)		Temperature (°C)		pH		Salinity ppt		DO Saturation (%)		Dissolved Oxygen (mg/L)		Turbidity (NTU)			
						Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*
20-Jun-18	Rainy	Calm	17:23	Surface	1	29.8 29.8	29.8	8.0 8.0	8.0	29.9 29.9	29.9	112.5 112.0	112.3	7.2 7.2	7.2	7.2	0.6 0.6	0.6	1.1
				Middle	5.5	28.8 28.8	28.8	8.0 8.0	8.0	30.9 30.9	30.9	108.4 107.9	108.2	7.1 7.0	7.1	0.5 0.6	0.6		
				Bottom	10	28.5 28.5	28.5	7.9 7.9	7.9	31.2 31.2	31.2	82.6 84.4	83.5	5.4 5.5	5.5	2.2 2.0	2.1		
26-Jun-18	Cloudy	Moderate	11:33	Surface	1	29.2 29.1	29.2	8.1 8.1	8.1	29.3 29.2	29.3	120.8 120.0	120.4	7.9 7.8	7.9	7.0	0.6 0.5	0.6	0.7
				Middle	5.5	28.6 28.7	28.7	8.0 8.0	8.0	31.5 31.4	31.5	91.5 94.8	93.2	6.0 6.2	6.1	0.3 0.3	0.3		
				Bottom	10	28.3 28.3	28.3	7.9 7.9	7.9	32.1 32.2	32.2	75.4 77.1	76.3	4.9 5.0	5.0	1.1 1.2	1.2		
16-Jul-18	Cloudy	Moderate	14:41	Surface	1	28.4 28.4	28.4	8.0 8.0	8.0	27.8 27.8	27.8	100.6 100.6	100.6	6.7 6.7	6.7	6.6	0.5 0.5	0.5	0.8
				Middle	6	28.3 28.3	28.3	8.0 8.0	8.0	28.3 28.3	28.3	96.8 96.5	96.7	6.4 6.4	6.4	0.5 0.5	0.5		
				Bottom	11	28.2 28.2	28.2	8.0 8.0	8.0	28.3 28.3	28.3	96.3 95.9	96.1	6.4 6.4	6.4	1.2 1.3	1.3		
24-Jul-18	Cloudy	Moderate	10:27	Surface	1	29.5 29.5	29.5	8.2 8.2	8.2	28.5 28.5	28.5	103.4 103.1	103.3	6.7 6.7	6.7	6.6	0.6 0.5	0.6	0.6
				Middle	5.5	28.9 29.2	29.1	8.1 8.1	8.1	30.9 30.5	30.7	96.2 99.9	98.1	6.2 6.5	6.4	0.4 0.4	0.4		
				Bottom	10	28.4 28.4	28.4	8.0 8.0	8.0	31.2 31.2	31.2	71.2 71.7	71.5	4.7 4.7	4.7	0.9 0.9	0.9		
16-Aug-18	Cloudy	Calm	15:22	Surface	1	28.9 29.0	29.0	8.3 8.3	8.3	27.7 27.7	27.7	125.3 124.6	125.0	8.3 8.2	8.3	7.2	0.7 0.8	0.8	1.7
				Middle	6	29.4 29.4	29.4	8.1 8.1	8.1	30.3 30.3	30.3	90.8 92.6	91.7	5.9 6.0	6.0	0.7 0.8	0.8		
				Bottom	11	29.4 29.4	29.4	8.1 8.0	8.1	30.5 30.5	30.5	77.4 71.9	74.7	5.0 4.6	4.8	3.3 3.6	3.5		
25-Aug-18	Fine	Calm	12:21	Surface	1	30.3 30.2	30.3	8.1 8.2	8.2	30.0 29.9	30.0	106.8 108.9	107.9	6.8 7.0	6.9	4.9	0.3 0.3	0.3	1.1
				Middle	5.5	25.8 25.8	25.8	7.8 7.8	7.8	32.7 32.7	32.7	40.4 41.7	41.1	2.7 2.8	2.8	0.5 0.5	0.5		
				Bottom	10	23.4 23.4	23.4	7.7 7.8	7.8	33.8 33.7	33.8	32.6 32.3	32.5	2.3 2.3	2.3	2.3 2.4	2.4		
20-Sep-18	Fine	Moderate	09:54	Surface	1	29.2 28.7	29.0	8.2 8.2	8.2	27.0 27.3	27.2	113.4 116.3	114.9	7.5 7.7	7.6	6.7	0.7 0.7	0.7	1.5
				Middle	5.5	27.5 27.5	27.5	8.1 8.1	8.1	30.3 30.3	30.3	86.5 83.4	85.0	5.8 5.6	5.7	0.9 0.9	0.9		
				Bottom	10	26.9 26.9	26.9	8.0 8.0	8.0	30.8 30.9	30.9	70.6 70.2	70.4	4.7 4.7	4.7	2.8 2.9	2.9		
23-Sep-18	Sunny	Calm	11:44	Surface	1	29.3 29.2	29.3	8.2 8.2	8.2	28.7 28.7	28.7	106.7 108.5	107.6	7.0 7.1	7.1	6.6	0.6 0.6	0.6	1.8
				Middle	5.5	27.5 27.5	27.5	8.1 8.1	8.1	30.7 30.7	30.7	91.8 90.4	91.1	6.1 6.0	6.1	0.4 0.4	0.4		
				Bottom	10	26.8 26.8	26.8	8.0 8.0	8.0	31.7 31.7	31.7	57.0 53.8	55.4	3.8 3.6	3.7	4.5 4.5	4.5		
13-Oct-18	Sunny	Calm	14:29	Surface	1	26.6 26.7	26.7	8.3 8.3	8.3	32.9 32.9	32.9	100.2 99.2	99.7	6.7 6.6	6.7	5.6	0.1 0.1	0.1	1.7
				Middle	6	26.9 26.9	26.9	8.1 8.1	8.1	34.2 34.2	34.2	68.8 67.1	68.0	4.5 4.4	4.5	0.9 1.1	1.0		
				Bottom	11	26.7 26.7	26.7	8.1 8.1	8.1	34.3 34.3	34.3	63.8 63.9	63.9	4.2 4.2	4.2	3.9 4.1	4.0		
22-Oct-18	Fine	Calm	10:53	Surface	1	26.0 26.0	26.0	8.3 8.3	8.3	33.4 33.4	33.4	107.2 108.1	107.7	7.2 7.3	7.3	6.7	0.2 0.2	0.2	1.4
				Middle	5.5	26.0 26.1	26.1	8.3 8.2	8.3	33.8 34.1	34.0	89.2 88.4	88.8	6.0 5.9	6.0	0.7 0.7	0.7		
				Bottom	10	26.3 26.3	26.3	8.1 8.1	8.1	34.8 34.8	34.8	57.2 57.0	57.1	3.8 3.8	3.8	3.3 3.4	3.4		
8-Nov-18	Sunny	Calm	12:53	Surface	1	25.3 25.0	25.2	8.1 8.1	8.1	30.7 30.9	30.8	103.7 101.5	102.6	7.2 7.0	7.1	6.9	0.2 0.2	0.2	0.7
				Middle	5.5	24.7 24.7	24.7	8.1 8.1	8.1	31.1 31.1	31.1	95.6 94.8	95.2	6.7 6.6	6.7	0.5 0.5	0.5		
				Bottom	10	24.4 24.4	24.4	8.1 8.1	8.1	31.4 31.4	31.4	85.0 85.7	85.4	5.9 6.0	6.0	1.5 1.3	1.4		
10-Nov-18	Cloudy	Rough	13:27	Surface	1	24.9 24.9	24.9	8.4 8.4	8.4	30.7 30.7	30.7	96.1 93.8	95.0	6.7 6.5	6.6	6.6	0.5 0.5	0.5	0.6
				Middle	5.5	24.6 24.6	24.6	8.4 8.4	8.4	30.9 30.9	30.9	94.8 94.4	94.6	6.6 6.6	6.6	0.2 0.2	0.2		
				Bottom	10	24.6 24.6	24.6	8.3 8.4	8.4	31.0 31.0	31.0	87.2 87.0	87.1	6.1 6.1	6.1	1.1 0.9	1.0		
17-Dec-18	Sunny	Moderate	08:19	Surface	1	20.5 20.5	20.5	8.0 8.0	8.0	31.4 31.4	31.4	103.6 104.2	103.9	7.8 7.8	7.8	7.8	0.8 0.9	0.9	1.1
				Middle	5.5	20.3 20.4	20.4	8.0 8.0	8.0	31.5 31.4	31.5	99.8 103.9	101.9	7.5 7.8	7.7	0.9 0.9	1.0		
				Bottom	10	20.4 20.4	20.4	8.0 8.0	8.0	31.5 31.5	31.5	96.5 97.4	97.0	7.2 7.3	7.3	1.4 1.4	1.4		
19-Dec-18	Cloudy	Calm	09:37	Surface	1	20.1 20.1	20.1	8.1 8.1	8.1	31.4 31.4	31.4	101.0 99.1	100.1	7.6 7.5	7.6	7.6	0.5 0.4	0.5	1.0
				Middle	5.5	20.2 20.2	20.2	8.1 8.1	8.1	31.4 31.4	31.4	101.2 101.0	101.1	7.6 7.6	7.6	0.4 0.4	0.5		
				Bottom	10	20.1 20.2	20.2	8.0 8.1	8.1	32.0 31.8	31.9	84.8 89.6	87.2	6.4 6.7	6.6	2.2 2.0	2.1		

Remarks: \*DA: Depth-Averaged

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



Baseline Water Quality Monitoring Results at F4

(Mid-Flood Tide)

Date	Weather Condition	Sea Condition*	Sampling Time	Depth (m)		Temperature (°C)		pH		Salinity ppt		DO Saturation (%)		Dissolved Oxygen (mg/L)		Turbidity (NTU)			
						Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*
20-Jun-18	Cloudy	Calm	10:00	Surface	1	29.1 29.1	29.1	8.0 8.0	8.0	30.1 30.1	30.1	104.1 104.1	104.1	6.8 6.8	6.8	6.5	0.6 0.6	0.6	1.1
				Middle	6	28.7 28.7	28.7	7.9 7.9	7.9	30.9 30.9	30.9	94.6 95.7	95.2	6.2 6.2	6.2		0.6 0.6	0.6	
				Bottom	11	28.5 28.5	28.5	7.9 7.9	7.9	31.2 31.2	31.2	84.4 86.6	85.5	5.5 5.7	5.6		2.0 1.9	2.0	
26-Jun-18	Cloudy	Moderate	17:10	Surface	1	31.1 31.2	31.2	8.3 8.3	8.3	27.7 27.5	27.6	144.9 144.9	144.9	9.2 9.2	9.2	7.8	0.9 0.9	0.9	2.5
				Middle	5.5	28.7 28.6	28.7	8.0 8.0	8.0	31.4 31.5	31.5	100.5 95.5	98.0	6.5 6.2	6.4		1.2 1.2	1.2	
				Bottom	10	28.3 28.3	28.3	7.9 7.9	7.9	32.0 32.1	32.1	72.9 68.0	70.5	4.8 4.4	4.6		5.3 5.2	5.3	
16-Jul-18	Cloudy	Rough	06:52	Surface	1	28.0 28.0	28.0	8.0 8.0	8.0	28.2 28.2	28.2	95.1 94.7	94.9	6.4 6.3	6.4	6.4	0.3 0.3	0.3	0.6
				Middle	6	28.0 28.0	28.0	8.0 8.0	8.0	28.3 28.3	28.3	93.6 93.4	93.5	6.3 6.3	6.3		0.5 0.5	0.5	
				Bottom	11	28.0 28.0	28.0	8.0 8.0	8.0	28.3 28.3	28.3	92.3 92.5	92.4	6.2 6.2	6.2		1.0 1.0	1.0	
24-Jul-18	Cloudy	Calm	16:51	Surface	1	30.1 30.1	30.1	8.3 8.2	8.3	28.8 28.8	28.8	114.6 113.3	114.0	7.4 7.3	7.4	6.7	0.8 0.8	0.8	1.6
				Middle	5.5	28.8 28.8	28.8	8.1 8.1	8.1	31.0 31.0	31.0	90.3 88.9	89.6	5.9 5.8	5.9		0.8 0.8	0.8	
				Bottom	10	28.4 28.4	28.4	8.0 8.0	8.0	31.2 31.2	31.2	70.3 68.5	69.4	4.6 4.5	4.6		3.1 3.1	3.1	
16-Aug-18	Cloudy	Calm	08:19	Surface	1	29.1 29.0	29.1	8.2 8.3	8.3	27.8 27.6	27.7	102.6 108.1	105.4	6.8 7.1	7.0	6.5	0.9 0.8	0.9	1.6
				Middle	6	29.5 29.5	29.5	8.1 8.1	8.1	30.3 30.3	30.3	90.9 90.9	90.9	5.9 5.9	5.9		0.8 0.8	0.8	
				Bottom	11	29.4 29.4	29.4	8.1 8.1	8.1	30.4 30.4	30.4	85.6 86.3	86.0	5.5 5.6	5.6		2.9 3.0	3.0	
25-Aug-18	Fine	Calm	18:37	Surface	1	30.2 30.2	30.2	8.3 8.3	8.3	30.1 30.1	30.1	138.3 135.4	136.9	8.8 8.7	8.8	6.4	0.4 0.4	0.4	1.5
				Middle	5.5	25.2 25.3	25.3	7.9 7.9	7.9	33.0 32.9	33.0	56.0 57.5	56.8	3.8 3.9	3.9		1.3 1.2	1.3	
				Bottom	10	23.6 23.6	23.6	7.8 7.8	7.8	33.7 33.7	33.7	28.0 28.1	28.1	2.0 2.0	2.0		2.8 2.8	2.8	
20-Sep-18	Fine	Moderate	16:46	Surface	1	29.3 29.1	29.2	8.4 8.3	8.4	27.2 27.3	27.3	143.2 142.8	143.0	9.4 9.4	9.4	7.3	0.8 0.8	0.8	1.1
				Middle	5.5	27.3 27.3	27.3	8.1 8.0	8.1	30.5 30.5	30.5	79.2 76.7	78.0	5.3 5.1	5.2		0.7 0.8	0.8	
				Bottom	10	26.8 26.8	26.8	8.0 8.0	8.0	30.9 30.9	30.9	66.0 65.7	65.9	4.4 4.4	4.4		1.8 1.7	1.8	
23-Sep-18	Cloudy	Moderate	17:31	Surface	1	30.1 30.4	30.3	8.2 8.3	8.3	27.9 27.3	27.6	107.6 112.2	109.9	7.0 7.3	7.2	6.2	0.4 0.5	0.4	1.6
				Middle	5.5	27.1 27.1	27.1	8.1 8.1	8.1	30.9 30.9	30.9	76.4 78.1	77.3	5.1 5.2	5.2		0.5 0.5	0.5	
				Bottom	10	26.9 26.9	26.9	8.0 8.0	8.0	31.4 31.4	31.4	61.0 59.7	60.4	4.1 4.0	4.1		3.8 3.8	3.8	
13-Oct-18	Sunny	Calm	09:24	Surface	1	26.3 26.3	26.3	8.3 8.3	8.3	32.8 32.8	32.8	91.7 91.0	91.4	6.2 6.1	6.2	5.7	0.3 0.3	0.3	0.6
				Middle	5.5	26.5 26.6	26.6	8.2 8.2	8.2	33.0 33.3	33.2	77.8 77.4	77.6	5.2 5.2	5.2		0.3 0.3	0.3	
				Bottom	10	26.9 26.9	26.9	8.1 8.1	8.1	34.3 34.2	34.3	62.9 62.1	62.5	4.2 4.1	4.2		1.3 1.3	1.3	
22-Oct-18	Fine	Calm	16:59	Surface	1	26.3 26.2	26.3	8.3 8.3	8.3	33.2 33.2	33.2	112.8 114.7	113.8	7.6 7.7	7.7	7.1	0.6 0.6	0.6	2.0
				Middle	5.5	26.1 26.1	26.1	8.3 8.2	8.3	34.1 34.1	34.1	96.9 94.9	95.9	6.5 6.3	6.4		0.9 1.0	1.0	
				Bottom	10	26.2 26.2	26.2	8.1 8.1	8.1	34.7 34.7	34.7	65.6 65.6	65.6	4.4 4.4	4.4		4.3 4.3	4.3	
8-Nov-18	Sunny	Calm	17:00	Surface	1	25.5 25.6	25.6	8.1 8.1	8.1	30.6 30.6	30.6	109.7 107.9	108.8	7.6 7.4	7.5	7.1	0.2 0.2	0.2	0.7
				Middle	5.5	24.6 25.1	24.9	8.1 8.1	8.1	31.2 30.9	31.1	97.5 96.0	96.8	6.8 6.6	6.7		0.6 0.6	0.6	
				Bottom	10	24.4 24.5	24.5	8.0 8.1	8.1	31.4 31.3	31.4	87.6 88.8	88.2	6.1 6.2	6.2		1.5 1.3	1.4	
10-Nov-18	Cloudy	Rough	09:00	Surface	1	24.8 24.8	24.8	8.3 8.3	8.3	30.7 30.7	30.7	94.9 94.8	94.9	6.6 6.6	6.6	6.6	0.2 0.2	0.2	0.2
				Middle	5.5	24.8 24.8	24.8	8.3 8.3	8.3	30.7 30.7	30.7	94.6 94.4	94.5	6.6 6.6	6.6		0.2 0.2	0.2	
				Bottom	10	24.8 24.8	24.8	8.3 8.3	8.3	30.7 30.7	30.7	94.3 94.3	94.3	6.6 6.6	6.6		0.3 0.3	0.3	
17-Dec-18	Sunny	Moderate	14:13	Surface	1	20.5 20.5	20.5	8.0 8.0	8.0	31.4 31.4	31.4	104.1 104.2	104.2	7.8 7.8	7.8	7.8	0.9 0.9	0.9	1.4
				Middle	5.5	20.3 20.4	20.4	8.0 8.0	8.0	31.5 31.4	31.5	99.3 103.6	101.5	7.5 7.8	7.7		1.0 1.0	1.0	
				Bottom	10	20.4 20.4	20.4	8.0 8.0	8.0	31.6 31.4	31.5	91.8 102.2	97.0	6.9 7.7	7.3		2.5 2.2	2.4	
19-Dec-18	Cloudy	Calm	14:51	Surface	1	20.3 20.3	20.3	8.1 8.1	8.1	31.4 31.4	31.4	105.6 105.4	105.5	7.9 7.9	7.9	7.9	0.6 0.6	0.6	1.3
				Middle	5.5	20.2 20.3	20.3	8.1 8.1	8.1	31.4 31.4	31.4	105.4 105.0	105.2	7.9 7.9	7.9		0.8 0.9	0.9	
				Bottom	10	20.2 20.2	20.2	8.0 8.0	8.0	31.8 31.8	31.8	89.9 89.2	89.6	6.8 6.7	6.8		2.3 2.5	2.4	

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

Contract No. SPW 09 / 2018

Environmental Team Baseline Surveys for Sha Tin Cavern Sewage Treatment Works

Baseline Water Quality Monitoring Results at G1

(Mid-Ebb Tide)

Date	Weather Condition	Sea Condition*	Sampling Time	Depth (m)		Temperature (°C)		pH		Salinity ppt		DO Saturation (%)		Dissolved Oxygen (mg/L)		Turbidity (NTU)			
						Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*
20-Jun-18	Rainy	Calm	18:23	Surface	1	29.6 29.6	29.6	8.0 7.9	8.0	30.2 30.3	30.3	109.2 108.6	108.9	7.0 7.0	7.0	5.9	0.8 0.8	0.8	2.6
				Middle	4.5	28.5 28.5	28.5	7.8 7.8	7.8	31.2 31.2	31.2	71.5 71.3	71.4	4.7 4.7	4.7		2.5 2.3	2.4	
				Bottom	8	28.4 28.4	28.4	7.8 7.8	7.8	31.2 31.2	31.2	63.8 61.3	62.6	4.2 4.0	4.1		4.1	4.9 4.3	
26-Jun-18	Cloudy	Moderate	10:44	Surface	1	29.4 29.6	29.5	8.0 8.0	8.0	29.4 28.3	28.9	122.5 120.7	121.6	8.0 7.9	8.0	5.7	0.8 0.9	0.9	1.5
				Middle	4.5	28.7 28.7	28.7	7.7 7.8	7.8	31.2 31.2	31.2	51.9 49.6	50.8	3.4 3.2	3.3		0.6 0.5	0.6	
				Bottom	8	28.0 28.0	28.0	7.8 7.8	7.8	32.9 32.9	32.9	55.8 55.2	55.5	3.6 3.6	3.6		3.6	2.7 3.1	
16-Jul-18	Cloudy	Moderate	15:44	Surface	1	28.7 28.7	28.7	8.1 8.1	8.1	26.5 26.5	26.5	101.8 101.0	101.4	6.8 6.8	6.8	6.5	0.4 0.4	0.4	0.3
				Middle	4	28.4 28.4	28.4	8.0 8.0	8.0	27.5 27.4	27.5	93.3 93.4	93.4	6.2 6.2	6.2		0.2 0.2	0.2	
				Bottom	7	28.5 28.5	28.5	8.0 8.0	8.0	27.7 27.7	27.7	87.3 88.2	87.8	5.8 5.9	5.9		5.9	0.3 0.3	
24-Jul-18	Cloudy	Moderate	09:39	Surface	1	29.5 29.5	29.5	8.2 8.2	8.2	28.5 28.5	28.5	110.0 107.2	108.6	7.2 7.0	7.1	6.7	0.9 0.9	0.9	1.0
				Middle	4.5	29.2 29.2	29.2	8.1 8.1	8.1	30.1 30.0	30.1	95.4 94.6	95.0	6.2 6.1	6.2		0.8 0.8	0.8	
				Bottom	8	28.6 28.6	28.6	7.9 7.9	7.9	30.9 30.9	30.9	57.6 58.9	58.3	3.8 3.8	3.8		3.8	1.2 1.1	
16-Aug-18	Cloudy	Calm	16:14	Surface	1	29.4 29.5	29.5	8.3 8.4	8.4	27.7 25.5	26.6	132.7 135.9	134.3	8.7 9.0	8.9	7.2	1.3 1.3	1.3	1.9
				Middle	4.5	29.6 29.6	29.6	8.1 8.1	8.1	30.2 30.2	30.2	85.6 85.0	85.3	5.5 5.5	5.5		0.7 0.7	0.7	
				Bottom	8	29.6 29.6	29.6	7.7 7.7	7.8	30.7 30.7	30.7	33.3 33.9	33.6	2.1 2.2	2.2		2.2	3.2 4.0	
25-Aug-18	Fine	Calm	11:28	Surface	1	30.2 30.2	30.2	8.1 8.1	8.1	30.1 30.1	30.1	109.3 106.8	108.1	7.0 6.8	6.9	4.0	0.8 0.8	0.8	1.0
				Middle	4.5	26.4 26.3	26.4	7.6 7.7	7.7	32.5 32.6	32.6	17.6 14.8	16.2	1.2 1.0	1.1		0.8 0.8	0.8	
				Bottom	8	24.1 24.1	24.1	7.6 7.6	7.6	33.6 33.6	33.6	10.6 9.7	10.2	0.7 0.7	0.7		0.7	1.3 1.4	
20-Sep-18	Fine	Moderate	09:01	Surface	1	28.5 28.4	28.5	8.3 8.3	8.3	26.9 27.3	27.1	134.3 124.6	129.5	9.0 8.3	8.7	6.7	0.6 0.6	0.6	1.0
				Middle	4.5	27.4 27.4	27.4	8.0 8.0	8.0	29.9 29.9	29.9	68.7 66.6	67.7	4.6 4.5	4.6		0.8 0.9	0.9	
				Bottom	8	26.9 26.9	26.9	8.0 8.0	8.0	30.8 30.8	30.8	66.4 66.2	66.3	4.5 4.5	4.5		4.5	1.6 1.6	
23-Sep-18	Sunny	Calm	10:49	Surface	1	29.3 29.3	29.3	8.3 8.3	8.3	27.3 26.6	27.0	124.9 124.1	124.5	8.2 8.2	8.2	7.8	0.9 0.9	0.9	1.8
				Middle	4.5	27.5 27.5	27.5	8.1 8.1	8.1	30.3 30.4	30.4	110.8 106.7	108.8	7.4 7.1	7.3		0.7 0.7	0.7	
				Bottom	8	26.8 26.8	26.8	7.9 7.9	7.9	30.9 30.9	30.9	40.0 39.8	39.9	2.7 2.7	2.7		2.7	3.8 3.7	
13-Oct-18	Sunny	Calm	15:21	Surface	1	27.3 27.4	27.4	8.4 8.4	8.4	31.9 31.9	31.9	113.5 113.1	113.3	7.5 7.5	7.5	6.3	0.9 0.9	0.9	1.0
				Middle	4.5	27.5 27.5	27.5	8.2 8.2	8.2	33.3 33.2	33.3	76.0 79.3	77.7	5.0 5.2	5.1		0.7 0.6	0.7	
				Bottom	8	27.4 27.4	27.4	8.0 8.0	8.0	34.1 34.1	34.1	32.6 32.1	32.4	2.1 2.1	2.1		2.1	1.2 1.4	
22-Oct-18	Fine	Calm	09:59	Surface	1	25.7 25.6	25.7	8.2 8.2	8.2	32.0 32.0	32.0	110.3 108.7	109.5	7.5 7.4	7.5	5.7	0.02 0.02	0.02	1.3
				Middle	4.5	26.2 26.2	26.2	8.1 8.1	8.1	33.5 33.5	33.5	57.1 57.9	57.5	3.8 3.9	3.9		0.2 0.2	0.2	
				Bottom	8	26.6 26.6	26.6	7.9 7.9	7.9	34.6 34.6	34.6	20.9 20.5	20.7	1.4 1.4	1.4		1.4	3.7 3.8	
8-Nov-18	Sunny	Calm	11:50	Surface	1	25.9 25.5	25.7	8.0 8.2	8.1	30.2 30.4	30.3	126.8 116.1	121.5	8.7 8.0	8.4	7.6	0.4 0.4	0.4	1.3
				Middle	4.5	25.0 25.0	25.0	8.0 8.1	8.1	30.6 30.6	30.6	94.3 100.1	97.2	6.5 7.0	6.8		0.5 0.5	0.5	
				Bottom	8	24.5 24.6	24.6	7.9 7.9	7.9	31.4 31.2	31.3	58.0 62.7	60.4	4.1 4.4	4.3		4.3	3.1 2.9	
10-Nov-18	Cloudy	Rough	14:16	Surface	1	25.0 25.0	25.0	8.5 8.5	8.5	29.7 29.7	29.7	113.9 111.1	112.5	8.0 7.8	7.9	7.8	0.4 0.4	0.4	1.0
				Middle	4.5	24.9 25.0	25.0	8.5 8.5	8.5	30.2 29.9	30.1	107.5 108.9	108.2	7.5 7.6	7.6		0.4 0.4	0.4	
				Bottom	8	24.8 24.8	24.8	8.0 7.9	8.0	31.0 31.0	31.0	21.7 23.8	22.8	1.5 1.7	1.6		1.6	2.3 2.1	
17-Dec-18	Sunny	Moderate	07:47	Surface	1	20.6 20.5	20.6	8.2 8.1	8.2	31.3 31.3	31.3	111.8 111.0	111.4	8.4 8.3	8.4	8.1	0.9 0.9	0.9	1.6
				Middle	4.5	20.3 20.3	20.3	8.0 8.0	8.1	31.4 31.5	31.5	105.6 98.9	102.3	7.9 7.4	7.7		0.7 0.7	0.7	
				Bottom	8	20.5 20.4	20.5	8.1 8.0	8.1	31.7 31.7	31.7	88.1 88.2	88.2	6.6 6.6	6.6		6.6	3.4 3.2	
19-Dec-18	Cloudy	Calm	09:01	Surface	1	19.9 19.9	19.9	7.9 8.0	8.0	31.1 31.2	31.2	106.5 104.5	105.5	8.1 7.9	8.0	8.1	1.6 1.6	1.6	1.9
				Middle	4.5	19.9 20.0	20.0	8.0 8.0	8.0	31.2 31.2	31.2	107.0 106.1	106.6	8.1 8.0	8.1		1.6 1.6	1.6	
				Bottom	8	20.2 20.2	20.2	8.0 7.9	8.0	31.4 31.3	31.4	89.3 88.8	89.1	6.7 6.7	6.7		6.7	2.3 2.5	

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

Baseline Water Quality Monitoring Results at G1

(Mid-Flood Tide)

Date	Weather Condition	Sea Condition*	Sampling Time	Depth (m)		Temperature (°C)		pH		Salinity ppt		DO Saturation (%)		Dissolved Oxygen (mg/L)		Turbidity (NTU)			
						Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*
20-Jun-18	Cloudy	Calm	08:54	Surface	1	28.7	28.7	7.9	7.9	30.2	30.3	86.8	84.9	5.7	5.6	5.1	0.9	1.0	2.9
				Middle	4.5	28.6	28.6	7.8	7.8	30.9	30.9	69.7	69.3	4.6	4.6		1.2	1.2	
				Bottom	8	28.4	28.4	7.8	7.8	31.2	31.2	66.2	66.4	4.3	4.4		6.8	6.4	
26-Jun-18	Cloudy	Moderate	17:57	Surface	1	30.6	30.6	8.3	8.3	26.1	26.2	163.4	162.2	10.6	10.6	7.1	1.1	1.1	1.0
				Middle	4	28.7	28.7	7.8	7.8	31.2	31.2	55.9	55.4	3.6	3.6		0.8	0.9	
				Bottom	7	28.1	28.1	7.9	7.9	32.6	32.6	59.0	58.0	3.9	3.8		0.9	0.9	
16-Jul-18	Cloudy	Rough	05:48	Surface	1	28.2	28.2	7.9	7.9	26.0	26.0	91.6	91.6	6.2	6.2	6.1	0.7	0.7	0.5
				Middle	4.5	28.4	28.4	7.9	7.9	27.5	27.5	90.2	90.2	6.0	6.0		0.3	0.3	
				Bottom	8	28.6	28.6	7.9	8.0	27.8	27.8	85.3	85.6	5.7	5.7		0.5	0.5	
24-Jul-18	Cloudy	Calm	17:33	Surface	1	30.3	30.3	8.3	8.3	28.4	28.4	125.5	125.8	8.1	8.1	7.4	0.7	0.7	2.0
				Middle	4.5	29.3	29.4	8.1	8.2	30.0	30.0	102.0	103.3	6.6	6.7		0.5	0.5	
				Bottom	8	28.5	28.6	7.8	7.8	30.9	30.9	36.7	37.1	2.4	2.4		4.6	4.8	
16-Aug-18	Cloudy	Calm	07:06	Surface	1	29.4	29.4	8.2	8.3	27.3	27.2	118.3	116.4	7.8	7.7	6.6	0.9	0.9	1.5
				Middle	4.5	29.7	29.7	8.1	8.1	30.2	30.2	84.2	84.2	5.4	5.4		0.9	0.9	
				Bottom	8	29.7	29.7	7.9	7.9	30.7	30.7	34.1	33.5	2.2	2.2		2.5	2.8	
25-Aug-18	Fine	Calm	19:24	Surface	1	30.8	30.8	8.3	8.3	30.3	30.4	130.4	129.3	8.2	8.2	4.5	0.8	0.9	1.1
				Middle	4.5	26.2	26.4	7.7	7.7	32.7	32.6	12.6	12.0	0.8	0.8		0.9	0.9	
				Bottom	8	24.2	24.2	7.7	7.7	33.6	33.6	9.2	7.8	0.6	0.6		1.3	1.4	
20-Sep-18	Fine	Moderate	17:36	Surface	1	29.1	29.2	8.5	8.5	26.9	26.9	170.3	166.5	11.3	11.1	8.0	0.9	0.9	1.3
				Middle	4.5	27.5	27.5	8.1	8.1	29.9	29.8	72.3	73.2	4.8	4.9		1.1	1.1	
				Bottom	8	27.0	27.0	8.0	8.0	30.8	30.8	61.0	62.9	4.1	4.3		1.9	1.8	
23-Sep-18	Cloudy	Moderate	18:20	Surface	1	30.2	30.3	8.4	8.4	26.4	26.3	132.6	133.6	8.7	8.8	8.2	0.8	0.9	1.6
				Middle	4.5	27.7	27.8	8.2	8.2	30.3	30.3	111.9	113.3	7.4	7.5		0.9	0.8	
				Bottom	8	26.9	27.0	7.9	7.9	30.8	30.8	43.9	46.4	3.0	3.2		3.2	3.2	
13-Oct-18	Sunny	Calm	08:25	Surface	1	26.3	26.3	8.2	8.3	31.2	31.3	100.6	100.5	6.8	6.8	5.8	0.6	0.6	0.5
				Middle	4.5	27.5	27.5	8.1	8.1	33.1	33.2	70.4	73.2	4.9	4.8		0.4	0.4	
				Bottom	8	27.5	27.5	8.0	8.0	33.9	33.9	38.5	38.8	2.5	2.6		0.6	0.6	
22-Oct-18	Fine	Calm	17:43	Surface	1	26.1	26.1	8.4	8.4	31.9	32.0	119.0	119.9	8.1	8.2	6.4	0.3	0.3	1.2
				Middle	4.5	26.3	26.3	8.1	8.2	33.9	33.8	68.2	68.3	4.6	4.6		0.7	0.8	
				Bottom	8	26.6	26.6	8.0	8.0	34.5	34.5	30.6	30.3	2.0	2.0		2.4	2.6	
8-Nov-18	Sunny	Calm	17:59	Surface	1	25.8	25.8	8.3	8.3	30.1	30.1	126.6	125.0	8.7	8.7	7.6	0.3	0.3	1.5
				Middle	4.5	24.9	25.0	8.1	8.1	30.8	30.8	90.0	92.2	6.3	6.4		0.5	0.5	
				Bottom	8	24.5	24.5	7.9	7.9	31.4	31.4	58.0	57.5	4.0	4.0		3.5	3.9	
10-Nov-18	Cloudy	Rough	08:00	Surface	1	25.0	25.0	8.3	8.4	29.6	29.7	110.7	108.3	7.7	7.6	7.3	0.8	0.8	1.5
				Middle	4.5	25.0	25.0	8.3	8.3	30.3	30.3	101.1	100.4	7.0	7.0		0.7	0.7	
				Bottom	8	24.7	24.7	8.0	8.0	31.0	31.0	39.6	40.2	2.8	2.8		2.7	2.9	
17-Dec-18	Sunny	Moderate	15:25	Surface	1	20.3	20.4	8.1	8.1	31.3	31.3	112.4	111.4	8.5	8.4	8.2	0.8	0.8	1.2
				Middle	4.5	20.3	20.3	8.0	8.1	31.4	31.4	104.9	104.4	7.9	7.9		0.7	0.7	
				Bottom	8	20.4	20.4	8.0	8.1	31.5	31.5	97.0	99.7	7.3	7.5		1.9	2.0	
19-Dec-18	Cloudy	Calm	15:34	Surface	1	20.1	20.1	8.1	8.1	31.2	31.2	106.9	108.3	8.1	8.2	8.3	1.2	1.2	1.5
				Middle	4.5	20.0	20.0	8.1	8.1	31.2	31.2	109.9	110.1	8.3	8.3		1.3	1.3	
				Bottom	8	20.2	20.3	8.0	8.0	31.4	31.4	91.0	86.8	6.9	6.7		1.8	1.9	

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

Contract No. SPW 09 / 2018

Environmental Team Baseline Surveys for Sha Tin Cavern Sewage Treatment Works

Baseline Water Quality Monitoring Results at W1

(Mid-Ebb Tide)

Date	Weather Condition	Sea Condition*	Sampling Time	Depth (m)		Temperature (°C)		pH		Salinity ppt		DO Saturation (%)		Dissolved Oxygen (mg/L)		Turbidity (NTU)			
						Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*
20-Jun-18	Cloudy	Calm	18:55	Surface	1	28.7	28.7	7.7	7.8	30.1	30.1	76.3	77.3	5.0	5.1	4.5	1.4	1.4	2.0
				Middle	3	28.6	28.6	7.7	7.7	30.2	30.2	58.9	58.7	3.9	3.9		1.7	1.8	
				Bottom	5	28.5	28.5	7.6	7.6	30.2	30.2	41.0	40.9	2.7	2.7		2.6	2.8	
26-Jun-18	Cloudy	Calm	10:53	Surface	1	29.4	29.4	8.0	8.1	28.2	28.0	117.4	117.3	7.7	7.7	4.9	1.8	1.9	2.4
				Middle	3.5	28.5	28.5	7.8	7.8	31.2	31.2	30.0	30.2	2.0	2.0		2.4	2.4	
				Bottom	6	28.2	28.2	7.8	7.8	32.0	32.0	37.4	37.0	2.5	2.5		3.0	3.0	
16-Jul-18	Cloudy	Moderate	16:09	Surface	1	28.6	28.6	7.9	7.9	29.1	29.1	89.9	90.1	5.9	6.0	5.5	0.5	0.6	1.1
				Middle	3	28.9	28.9	7.9	7.9	30.3	30.3	76.5	76.5	5.0	5.0		0.8	0.9	
				Bottom	5	28.8	28.8	7.8	7.8	30.7	30.7	70.8	70.4	4.6	4.6		1.6	1.7	
24-Jul-18	Cloudy	Moderate	09:45	Surface	1	29.6	29.6	7.9	7.9	29.8	29.8	91.8	91.9	5.9	5.9	5.6	0.9	0.9	1.4
				Middle	3.5	29.3	29.3	7.8	7.8	30.1	30.1	79.8	80.3	5.2	5.2		1.3	1.3	
				Bottom	6	28.8	28.9	7.7	7.7	30.8	30.8	48.2	49.6	3.1	3.2		1.9	2.0	
16-Aug-18	Cloudy	Calm	16:56	Surface	1	29.8	29.8	8.3	8.3	22.6	22.6	171.2	170.8	11.5	11.5	8.4	1.9	2.0	2.1
				Middle	3.5	29.9	29.9	7.9	7.9	29.0	29.0	79.0	79.7	5.1	5.2		1.4	1.5	
				Bottom	6	29.7	29.7	7.8	7.8	29.7	29.7	51.3	51.9	3.3	3.4		2.7	2.9	
25-Aug-18	Fine	Calm	11:33	Surface	1	30.8	30.8	8.2	8.2	27.6	27.7	130.2	129.9	8.4	8.4	4.6	1.4	1.4	3.1
				Middle	3.5	27.4	26.9	7.8	7.8	31.2	31.6	10.0	9.7	0.7	0.7		4.6	4.8	
				Bottom	6	25.5	25.6	7.8	7.8	32.2	32.2	8.4	8.2	0.6	0.6		3.2	3.3	
20-Sep-18	Fine	Calm	08:55	Surface	1	28.5	28.5	8.3	8.3	25.6	25.4	131.6	129.7	8.9	8.8	6.2	1.7	1.7	2.3
				Middle	3.5	27.4	27.4	7.9	8.0	28.9	28.9	51.5	50.2	3.5	3.4		1.7	1.7	
				Bottom	6	27.2	27.2	7.9	8.0	29.6	29.6	48.3	50.4	3.3	3.4		3.4	3.4	
23-Sep-18	Sunny	Calm	10:50	Surface	1	30.1	30.1	8.4	8.4	24.4	24.5	134.5	134.5	8.9	8.9	7.3	1.1	1.1	1.8
				Middle	3.5	27.8	27.8	8.1	8.1	29.4	29.4	83.5	84.0	5.6	5.6		1.7	1.7	
				Bottom	6	27.3	27.3	7.9	7.9	29.9	29.9	41.8	40.8	2.8	2.7		2.4	2.5	
13-Oct-18	Sunny	Calm	15:44	Surface	1	26.9	26.9	8.4	8.4	30.2	30.2	118.3	118.6	8.0	8.0	5.1	0.8	0.8	2.5
				Middle	3.5	27.8	27.8	8.0	8.0	32.9	32.9	31.1	31.3	2.0	2.1		2.6	2.4	
				Bottom	6	27.6	27.6	7.9	7.9	33.5	33.5	9.5	9.6	0.6	0.6		4.1	4.1	
22-Oct-18	Fine	Calm	10:09	Surface	1	26.0	25.9	8.1	8.1	28.8	28.5	104.4	104.1	7.2	7.2	6.5	0.2	0.2	0.4
				Middle	3.5	26.1	26.1	8.0	8.0	29.4	29.4	83.8	83.6	5.8	5.7		0.3	0.3	
				Bottom	6	26.3	26.4	7.8	7.8	29.8	29.8	47.9	47.5	3.3	3.2		0.8	0.8	
8-Nov-18	Sunny	Calm	12:05	Surface	1	25.8	25.8	8.5	8.5	27.9	27.9	135.2	135.0	9.4	9.4	8.8	0.9	0.9	1.9
				Middle	3.5	25.4	25.4	8.3	8.3	30.0	30.0	118.5	118.4	8.2	8.2		0.9	0.9	
				Bottom	6	24.9	24.9	7.9	7.9	30.4	30.4	25.0	24.7	1.7	1.7		3.9	3.9	
10-Nov-18	Cloudy	Rough	14:40	Surface	1	25.6	25.5	7.9	7.9	29.5	29.6	88.4	88.1	6.1	6.2	5.7	0.7	0.7	1.0
				Middle	3.5	25.3	25.3	7.8	7.8	30.2	30.4	74.2	73.9	5.1	5.1		0.8	0.8	
				Bottom	6	25.1	25.1	7.8	7.8	30.5	30.5	52.2	52.1	3.6	3.6		1.6	1.6	
17-Dec-18	Sunny	Moderate	07:12	Surface	1	20.0	20.0	8.0	8.0	30.6	30.6	92.6	92.8	7.0	7.1	6.7	1.3	1.3	1.8
				Middle	3.5	20.4	20.4	7.9	8.0	31.0	31.0	81.7	81.8	6.1	6.2		1.6	1.6	
				Bottom	6	20.4	20.4	8.0	8.0	31.1	31.1	78.0	78.2	5.9	5.9		2.3	2.4	
19-Dec-18	Cloudy	Moderate	09:20	Surface	1	20.3	20.3	7.9	8.0	31.2	31.2	109.2	109.4	8.2	8.3	8.0	0.8	0.8	1.4
				Middle	3.5	20.3	20.3	8.0	8.0	31.3	31.3	101.5	101.4	7.6	7.6		1.0	1.1	
				Bottom	6	20.4	20.4	8.0	8.0	31.4	31.4	84.8	83.8	6.4	6.3		2.2	2.3	

Remarks: \*DA: Depth-Averaged

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

Contract No. SPW 09 / 2018

Environmental Team Baseline Surveys for Sha Tin Cavern Sewage Treatment Works

Baseline Water Quality Monitoring Results at W1

(Mid-Flood Tide)

Date	Weather Condition	Sea Condition*	Sampling Time	Depth (m)		Temperature (°C)		pH		Salinity ppt		DO Saturation (%)		Dissolved Oxygen (mg/L)		Turbidity(NTU)			
						Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*
20-Jun-18	Cloudy	Calm	09:19	Surface	1	28.6	28.6	7.7	7.7	29.9	29.9	74.0	73.2	4.9	4.8	4.2	1.4	1.3	2.2
				Middle	3.5	28.5	28.5	7.6	7.6	30.1	30.1	53.9	53.4	3.5	3.5		1.9	2.0	
				Bottom	6	28.4	28.4	7.6	7.6	30.3	30.3	38.8	40.8	2.6	2.7		3.4	3.2	
26-Jun-18	Fine	Calm	18:52	Surface	1	29.0	29.1	8.0	8.0	30.3	30.3	88.4	87.7	5.8	5.8	4.4	2.6	2.6	2.7
				Middle	3	28.7	28.7	7.8	7.8	31.0	31.0	44.5	44.4	2.9	2.9		2.7	2.7	
				Bottom	5	28.5	28.5	7.8	7.8	31.3	31.3	32.1	32.1	2.1	2.1		2.6	2.7	
16-Jul-18	Cloudy	Rough	05:45	Surface	1	28.3	28.3	7.9	7.9	28.9	28.7	89.2	89.3	6.0	6.0	5.6	0.7	0.7	0.8
				Middle	3.5	28.9	28.9	7.9	7.9	30.2	30.2	79.6	79.2	5.2	5.2		0.6	0.6	
				Bottom	6	28.9	28.9	7.8	7.8	30.8	30.8	73.2	73.1	4.8	4.8		1.1	1.1	
24-Jul-18	Cloudy	Calm	17:42	Surface	1	29.7	29.7	8.1	8.1	29.7	29.7	126.2	126.2	8.1	8.1	8.2	1.4	1.4	1.7
				Middle	3	29.7	29.7	8.1	8.1	29.9	29.9	128.3	128.2	8.3	8.3		1.1	1.1	
				Bottom	5	29.3	29.3	7.8	7.8	30.3	30.3	77.8	78.0	5.0	5.1		2.5	2.6	
16-Aug-18	Cloudy	Calm	07:21	Surface	1	29.8	29.9	8.0	8.1	25.6	25.6	110.0	110.3	7.2	7.3	6.6	1.7	1.7	1.4
				Middle	3.5	29.8	29.8	7.9	8.0	28.8	28.9	89.1	89.0	5.8	5.8		0.9	0.9	
				Bottom	6	29.8	29.8	7.8	7.8	29.6	29.6	56.7	56.5	3.7	3.6		1.5	1.4	
25-Aug-18	Fine	Calm	19:30	Surface	1	31.5	31.5	8.2	8.2	28.0	28.1	142.8	142.9	9.0	9.1	5.2	1.5	1.5	3.2
				Middle	3	27.9	27.8	8.0	8.0	30.8	31.0	17.4	17.4	1.2	1.2		4.3	4.5	
				Bottom	5	25.6	25.6	7.9	7.9	32.2	32.2	7.7	8.3	0.5	0.6		3.7	3.5	
20-Sep-18	Fine	Calm	17:51	Surface	1	28.5	28.5	8.3	8.3	26.8	26.7	125.9	126.3	8.4	8.5	6.0	2.1	2.2	2.2
				Middle	3.5	27.4	27.4	8.0	8.0	29.4	29.3	51.4	51.3	3.5	3.4		2.2	2.2	
				Bottom	6	27.3	27.3	8.0	8.0	29.6	29.6	61.2	61.2	4.1	4.1		2.0	2.1	
23-Sep-18	Cloudy	Calm	18:39	Surface	1	29.7	29.8	8.4	8.4	25.9	26.0	138.7	138.8	9.1	9.1	7.0	1.5	1.5	1.9
				Middle	3.5	27.6	27.6	8.1	8.1	29.7	29.7	73.6	72.9	4.9	4.9		1.9	1.9	
				Bottom	6	27.2	27.2	7.9	7.9	29.9	29.9	34.2	34.2	2.3	2.3		2.3	2.4	
13-Oct-18	Sunny	Calm	08:23	Surface	1	26.2	26.6	8.2	8.2	28.8	30.0	87.7	88.9	6.0	6.0	5.8	0.5	0.5	0.3
				Middle	3.5	27.4	27.4	8.1	8.1	31.8	31.8	84.5	84.5	5.6	5.6		0.2	0.2	
				Bottom	6	27.9	27.9	8.0	8.0	32.6	32.6	50.4	50.5	3.3	3.3		0.2	0.2	
22-Oct-18	Fine	Calm	18:28	Surface	1	26.2	26.1	8.2	8.2	27.8	27.9	126.2	125.0	8.7	8.7	5.0	0.3	0.3	2.5
				Middle	3.5	26.7	26.7	7.7	7.7	30.4	30.4	18.4	18.3	1.2	1.2		2.0	2.0	
				Bottom	6	26.9	26.8	7.7	7.7	30.7	30.7	9.9	9.9	0.7	0.7		5.0	5.1	
8-Nov-18	Sunny	Calm	18:00	Surface	1	26.6	26.6	8.6	8.6	28.4	28.4	150.6	150.3	10.3	10.3	6.7	1.2	1.2	2.7
				Middle	3.5	25.0	25.0	8.1	8.1	30.4	30.4	44.1	43.6	3.1	3.1		3.1	3.1	
				Bottom	6	24.9	24.9	8.0	8.0	30.6	30.6	36.8	36.6	2.6	2.6		3.7	3.8	
10-Nov-18	Cloudy	Rough	07:30	Surface	1	25.4	25.3	7.9	8.0	29.9	29.6	92.3	91.6	6.4	6.4	5.6	0.6	0.6	0.7
				Middle	3.5	25.2	25.2	7.8	7.9	30.4	30.5	71.6	69.2	5.0	4.8		0.7	0.7	
				Bottom	6	25.1	25.1	7.8	7.8	30.6	30.6	50.6	52.1	3.5	3.6		0.8	0.8	
17-Dec-18	Sunny	Moderate	15:09	Surface	1	20.1	20.2	8.1	8.1	29.4	29.5	117.4	117.1	9.0	9.0	8.4	1.1	1.1	2.1
				Middle	3.5	20.1	20.1	8.1	8.1	31.0	31.0	101.5	101.4	7.7	7.7		2.2	2.2	
				Bottom	6	20.3	20.3	8.0	8.0	31.1	31.1	87.4	87.4	6.6	6.6		3.2	3.1	
19-Dec-18	Cloudy	Moderate	16:08	Surface	1	20.3	20.3	8.2	8.2	31.2	31.2	113.1	113.0	8.5	8.5	8.4	1.2	1.2	1.3
				Middle	3.5	20.3	20.3	8.2	8.2	31.2	31.2	109.5	109.6	8.2	8.2		1.5	1.5	
				Bottom	6	20.2	20.3	8.2	8.2	31.2	31.2	111.3	110.9	8.4	8.4		1.3	1.3	

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

Contract No. SPW 09 / 2018

Environmental Team Baseline Surveys for Sha Tin Cavern Sewage Treatment Works

Baseline Water Quality Monitoring Results at W2

(Mid-Ebb Tide)

Date	Weather Condition	Sea Condition*	Sampling Time	Depth (m)		Temperature (°C)		pH		Salinity ppt		DO Saturation (%)		Dissolved Oxygen (mg/L)		Turbidity (NTU)					
						Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*		
20-Jun-18	Cloudy	Calm	17:29	Surface	1	30.2 30.5	30.4	7.8 7.9	7.9	29.4 28.9	29.2	114.5 116.2	115.4	7.3 7.4	7.4	7.4	1.7 1.6	1.7	2.0		
				Middle	-	-	-	-	-	-	-	-	-	-	-		-	-		-	-
				Bottom	4.1	28.8 28.8	28.8	7.7 7.7	7.7	29.9 29.9	29.9	67.2 67.2	67.2	4.4 4.4	4.4		4.4	2.2 2.4		2.3	
26-Jun-18	Cloudy	Calm	12:28	Surface	1	29.7 29.7	29.7	8.1 8.1	8.1	26.5 26.7	26.6	108.7 108.7	108.7	7.1 7.1	7.1	7.1	2.3 2.2	2.3	3.2		
				Middle	-	-	-	-	-	-	-	-	-	-	-		-	-		-	
				Bottom	3.5	28.4 28.4	28.4	7.7 7.7	7.7	31.1 31.2	31.2	13.2 13.1	13.2	0.9 0.9	0.9		0.9	3.9 4.2		4.1	
16-Jul-18	Cloudy	Moderate	14:53	Surface	1	27.9 27.9	27.9	7.9 7.9	7.9	25.1 25.1	25.1	92.5 92.1	92.3	6.3 6.3	6.3	6.3	1.9 1.9	1.9	2.5		
				Middle	-	-	-	-	-	-	-	-	-	-	-		-	-			
				Bottom	4.2	28.6 28.5	28.6	7.8 7.9	7.9	29.9 29.3	29.6	65.3 65.4	65.4	4.3 4.3	4.3		4.3	3.0 2.9		3.0	
24-Jul-18	Cloudy	Moderate	11:07	Surface	1	29.8 29.8	29.8	8.1 8.1	8.1	26.7 26.1	26.4	108.4 107.0	107.7	7.1 7.0	7.1	7.1	1.0 1.0	1.0	1.3		
				Middle	-	-	-	-	-	-	-	-	-	-	-		-				
				Bottom	3.9	29.6 29.6	29.6	8.0 8.0	8.0	29.7 29.7	29.7	93.8 95.3	94.6	6.1 6.2	6.2		6.2	1.5 1.4		1.5	
16-Aug-18	Cloudy	Calm	15:27	Surface	1	29.3 29.3	29.3	8.2 8.2	8.2	21.2 21.5	21.4	124.5 124.3	124.4	8.5 8.5	8.5	8.5	2.1 2.1	2.1	2.5		
				Middle	-	-	-	-	-	-	-	-	-	-	-		-				
				Bottom	4.2	29.6 29.6	29.6	7.8 7.8	7.8	29.1 29.1	29.1	44.5 44.1	44.3	2.9 2.9	2.9		2.9	2.9 2.8		2.9	
25-Aug-18	Fine	Calm	12:49	Surface	1	29.8 29.8	29.8	8.0 8.0	8.0	29.8 29.9	29.9	78.3 78.9	78.6	5.0 5.1	5.1	5.1	2.5 2.6	2.6	2.8		
				Middle	-	-	-	-	-	-	-	-	-	-	-						
				Bottom	3.7	27.4 27.4	27.4	7.8 7.8	7.8	31.2 31.1	31.2	9.2 8.8	9.0	0.6 0.6	0.6		0.6	3.0 2.9		3.0	
20-Sep-18	Fine	Calm	10:05	Surface	1	28.1 28.1	28.1	8.3 8.3	8.3	26.7 26.7	26.7	114.8 115.3	115.1	7.7 7.8	7.8	7.8	1.6 1.8	1.7	2.1		
				Middle	-	-	-	-	-	-	-	-	-	-	-						
				Bottom	3.8	27.5 27.5	27.5	8.0 8.0	8.0	28.9 28.9	28.9	57.6 57.3	57.5	3.9 3.9	3.9		3.9	2.4 2.3		2.4	
23-Sep-18	Sunny	Calm	12:05	Surface	1	30.7 30.8	30.8	8.5 8.5	8.5	25.3 25.3	25.3	149.9 148.7	149.3	9.7 9.7	9.7	9.7	2.0 2.0	2.0	3.7		
				Middle	-	-	-	-	-	-	-	-	-	-	-						
				Bottom	3.8	27.7 27.7	27.7	8.0 8.0	8.0	29.6 29.6	29.6	58.5 58.7	58.6	3.9 3.9	3.9		3.9	5.4 5.3		5.4	
13-Oct-18	Sunny	Calm	14:31	Surface	1	27.1 27.1	27.1	8.3 8.3	8.3	30.5 30.6	30.6	117.7 118.9	118.3	7.9 8.0	8.0	8.0	1.2 1.1	1.2	1.0		
				Middle	-	-	-	-	-	-	-	-	-	-	-						
				Bottom	4.5	26.9 27.0	27.0	8.3 8.3	8.3	30.9 31.0	31.0	113.7 114.1	113.9	7.6 7.7	7.7		7.7	0.8 0.8		0.8	
22-Oct-18	Fine	Calm	11:24	Surface	1	26.3 26.3	26.3	8.2 8.1	8.2	28.8 28.7	28.8	114.9 112.3	113.6	7.9 7.7	7.8	7.8	0.6 0.6	0.6	2.3		
				Middle	-	-	-	-	-	-	-	-	-	-	-						
				Bottom	4	26.2 26.2	26.2	7.8 7.8	7.8	29.7 29.7	29.7	48.7 47.8	48.3	3.3 3.3	3.3		3.3	3.9 3.8		3.9	
8-Nov-18	Sunny	Calm	13:20	Surface	1	26.4 26.3	26.4	8.6 8.5	8.6	28.8 29.0	28.9	148.6 148.5	148.6	10.2 10.2	10.2	10.2	1.4 1.4	1.4	2.3		
				Middle	-	-	-	-	-	-	-	-	-	-	-						
				Bottom	3.8	25.1 25.1	25.1	8.2 8.3	8.3	30.1 30.1	30.1	78.2 78.5	78.4	5.4 5.5	5.5		5.5	3.2 3.1		3.2	
10-Nov-18	Cloudy	Rough	13:03	Surface	1	25.6 25.6	25.6	8.3 8.3	8.3	29.7 29.7	29.7	112.0 113.2	112.6	7.7 7.8	7.8	7.8	2.0 1.8	1.9	2.4		
				Middle	-	-	-	-	-	-	-	-	-	-	-						
				Bottom	4.6	25.5 25.5	25.5	8.3 8.3	8.3	29.8 29.8	29.8	112.7 113.3	113.0	7.8 7.8	7.8		7.8	3.0 2.8		2.9	
17-Dec-18	Sunny	Moderate	08:18	Surface	1	20.3 20.5	20.4	8.0 8.0	8.0	31.3 31.5	31.4	86.7 88.6	87.7	6.5 6.6	6.6	6.6	1.6 1.4	1.5	2.3		
				Middle	-	-	-	-	-	-	-	-	-	-	-						
				Bottom	4	20.8 20.8	20.8	8.1 8.1	8.1	31.9 31.9	31.9	83.4 83.0	83.2	6.2 6.2	6.2		6.2	3.1 3.1		3.1	
19-Dec-18	Cloudy	Moderate	10:57	Surface	1	20.6 20.6	20.6	8.2 8.2	8.2	31.1 31.1	31.1	112.1 113.8	113.0	8.4 8.5	8.5	8.5	1.7 1.7	1.7	2.5		
				Middle	-	-	-	-	-	-	-	-	-	-	-						
				Bottom	3.8	20.5 20.5	20.5	8.2 8.2	8.2	31.2 31.2	31.2	109.6 110.5	110.1	8.2 8.3	8.3		8.3	3.3 3.2		3.3	

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

**Contract No. SPW 09 / 2018**

**Environmental Team Baseline Surveys for Sha Tin Cavern Sewage Treatment Works**

**Baseline Water Quality Monitoring Results at W2**

**(Mid-Flood Tide)**

Date	Weather Condition	Sea Condition*	Sampling Time	Depth (m)		Temperature (°C)		pH		Salinity ppt		DO Saturation (%)		Dissolved Oxygen (mg/L)		Turbidity(NTU)							
						Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	DA*	Value	Average	DA*				
20-Jun-18	Cloudy	Calm	10:49	Surface	1	29.7	29.7	7.8	7.8	28.3	28.6	28.5	95.8	96.1	6.2	6.3	6.3	1.5	1.5	2.9			
				Middle	-	-	-	-	-	-	-	-	-	-	-	-		-	-		-		
				Bottom	4.5	28.6	28.6	7.6	7.6	30.1	30.1	53.2	52.9	30.1	53.1	3.5		3.5	3.5		4.0	4.5	4.3
26-Jun-18	Fine	Calm	17:18	Surface	1	30.6	30.7	8.4	8.4	25.8	26.0	25.9	175.1	174.8	11.4	11.4	11.4	2.6	2.6	2.8			
				Middle	-	-	-	-	-	-	-	-	-	-	-	-		-	-		-		
				Bottom	3.8	29.4	29.4	8.0	8.0	30.0	29.9	30.0	81.4	81.7	81.6	5.3		5.3	5.3		3.0	2.8	2.9
16-Jul-18	Cloudy	Rough	07:07	Surface	1	27.9	27.9	7.9	7.9	25.9	26.1	26.0	86.2	86.0	5.9	5.9	5.8	1.7	1.6	2.0			
				Middle	3	28.3	28.3	7.9	7.9	28.8	28.8	28.8	84.4	84.2	84.3	5.6		5.6	5.6		1.6	1.8	1.7
				Bottom	5	28.5	28.5	7.9	7.9	30.2	30.3	30.3	76.3	76.2	76.3	5.0		5.0	5.0		2.5	2.7	2.6
24-Jul-18	Cloudy	Calm	16:23	Surface	1	30.4	30.4	8.2	8.2	27.8	27.8	27.8	144.3	143.9	9.3	9.3	9.3	1.9	1.9	3.4			
				Middle	-	-	-	-	-	-	-	-	-	-	-	-		-	-		-		
				Bottom	4	29.6	29.6	8.0	8.0	29.5	29.5	29.5	94.9	94.0	94.5	6.1		6.1	6.1		4.6	4.9	4.8
16-Aug-18	Cloudy	Calm	08:42	Surface	1	29.0	29.0	8.3	8.3	18.8	18.7	18.8	113.8	114.0	7.9	7.9	7.9	2.3	2.3	2.0			
				Middle	-	-	-	-	-	-	-	-	-	-	-	-		-	-		-		
				Bottom	4.6	29.6	29.6	7.9	7.9	29.4	29.4	29.4	60.1	60.7	60.4	3.9		3.9	3.9		1.7	1.7	1.7
25-Aug-18	Fine	Calm	18:07	Surface	1	29.8	29.9	8.0	8.0	30.0	30.0	30.0	99.7	99.8	6.4	6.4	6.4	2.2	2.3	2.5			
				Middle	-	-	-	-	-	-	-	-	-	-	-	-		-	-		-		
				Bottom	3.8	27.7	27.2	7.9	7.9	30.9	31.3	31.1	13.5	12.5	13.0	0.9		0.9	0.9		2.6	2.6	2.6
20-Sep-18	Fine	Calm	16:37	Surface	1	30.6	30.5	8.5	8.5	22.3	22.6	22.5	180.8	177.2	12.0	11.8	11.8	1.6	1.6	2.4			
				Middle	-	-	-	-	-	-	-	-	-	-	-	-		-	-		-		
				Bottom	3.6	27.6	27.6	8.0	8.0	29.0	29.0	29.0	54.1	53.3	53.7	3.6		3.6	3.6		3.0	3.1	3.1
23-Sep-18	Cloudy	Calm	17:29	Surface	1	31.0	31.1	8.4	8.4	24.5	24.2	24.4	141.8	142.2	9.2	9.3	9.3	1.3	1.3	1.9			
				Middle	-	-	-	-	-	-	-	-	-	-	-	-		-	-		-		
				Bottom	3.9	27.9	28.0	8.1	8.1	29.3	29.3	29.3	86.0	85.7	85.9	5.7		5.7	5.7		2.3	2.4	2.4
13-Oct-18	Sunny	Calm	09:39	Surface	1	26.8	26.8	8.3	8.3	31.1	31.2	31.2	101.2	100.8	6.8	6.8	6.8	0.3	0.3	0.6			
				Middle	-	-	-	-	-	-	-	-	-	-	-	-		-	-		-		
				Bottom	4	27.0	27.0	8.3	8.3	31.4	31.4	31.4	88.2	90.5	89.4	5.9		6.0	6.0		0.8	0.8	0.8
22-Oct-18	Fine	Calm	17:03	Surface	1	26.6	26.6	8.2	8.2	28.3	28.4	28.4	125.8	126.0	8.6	8.6	8.6	0.7	0.7	1.0			
				Middle	-	-	-	-	-	-	-	-	-	-	-	-		-	-		-		
				Bottom	4.2	26.6	26.6	7.7	7.7	30.5	30.5	30.5	26.4	26.0	26.2	1.8		1.8	1.8		1.2	1.2	1.2
8-Nov-18	Sunny	Calm	16:45	Surface	1	26.5	26.5	8.6	8.6	28.9	28.9	28.9	154.2	153.2	10.6	10.6	10.6	0.9	0.9	1.5			
				Middle	-	-	-	-	-	-	-	-	-	-	-	-		-	-		-		
				Bottom	4	25.1	25.1	8.2	8.2	30.1	30.2	30.2	72.1	72.1	72.1	5.0		5.0	5.0		2.1	2.1	2.1
10-Nov-18	Cloudy	Rough	09:02	Surface	1	25.5	25.5	8.3	8.3	29.8	29.8	29.8	112.2	112.2	7.8	7.8	7.8	1.2	1.3	1.4			
				Middle	-	-	-	-	-	-	-	-	-	-	-	-		-	-		-		
				Bottom	4.3	25.5	25.5	8.2	8.2	29.8	29.8	29.8	108.1	111.1	109.6	7.5		7.6	7.6		1.5	1.5	1.5
17-Dec-18	Sunny	Moderate	13:52	Surface	1	20.8	20.8	8.0	8.0	31.4	31.4	31.4	97.4	97.3	7.3	7.3	7.3	1.9	1.9	3.7			
				Middle	-	-	-	-	-	-	-	-	-	-	-	-		-	-		-		
				Bottom	4.1	21.0	21.0	8.0	8.0	31.8	31.8	31.8	85.4	85.2	85.3	6.3		6.3	6.3		5.5	5.3	5.4
19-Dec-18	Cloudy	Moderate	15:02	Surface	1	20.8	20.8	8.2	8.2	31.1	31.1	31.1	118.3	118.5	8.8	8.8	8.8	1.7	1.7	2.6			
				Middle	-	-	-	-	-	-	-	-	-	-	-	-		-	-		-		
				Bottom	4.1	20.5	20.5	8.2	8.2	31.2	31.2	31.2	108.8	110.0	109.4	8.2		8.2	8.2		3.3	3.4	3.4

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

**Contract No. SPW 09 / 2018**  
**Environmental Team Baseline Surveys for Sha Tin Cavern Sewage Treatment Works**  
**Baseline Water Quality Monitoring Results at CR1**

**(Mid-Ebb Tide)**

Date	Weather Condition	Sea Condition	Sampling Time	Depth (m)	Suspended Solids (mg/L)		5-day Biochemical Oxygen Demand (mg O <sub>2</sub> /L)		Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)		Nitrite-nitrogen (mg NO <sub>2</sub> -N/L)		Nitrate-nitrogen (mg NO <sub>3</sub> -N/L)		E. coli (cfu/100mL)		Chlorophyll-a (mg/m <sup>3</sup> )		Total Inorganic Nitrogen (mg NL)		Un-ionized Ammonia (mg/L)				
					Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	
20-Jun-18	Cloudy	Calm	17:38	Surface	1	4		<2		0.07		<0.01		0.07		16		9.7		0.10		0.003			
				Middle	-	-		-		-		-		-		-		-		-		-		-	
				Bottom	4.8	3		<2		0.05		<0.01		0.05		2		7.6		8.7		0.10		0.002	
26-Jun-18	Cloudy	Calm	12:18	Surface	1	5		<2		<0.05		<0.01		<0.05		800		19.0		<0.1		0.007			
				Middle	-	-		-		-		-		-		-		-		-		-		-	
				Bottom	4.6	5		<2		0.05		<0.01		<0.05		680		15.0		17.0		<0.1		0.002	
16-Jul-18	Cloudy	Moderate	15:00	Surface	1	8		<2		<0.05		<0.01		<0.05		1900		24.0		<0.1		0.003			
				Middle	3	4		<2		<0.05	<0.05	<0.01	<0.01	<0.05		81		15.0		<0.1		<0.001			
				Bottom	5	7		<2		<0.05		<0.01		<0.05		190		16.0		<0.1		0.002			
24-Jul-18	Cloudy	Moderate	11:14	Surface	1	7		<2		<0.05		<0.01		<0.05		60		26.0		<0.1		<0.001			
				Middle	-	-		-		-		-		-		-		-		-		-		-	
				Bottom	4.6	<2.5		<2		<0.05		<0.01		<0.05		6		9.7		<0.1		<0.001			
16-Aug-18	Cloudy	Calm	15:35	Surface	1	6		<2		0.06		<0.01		0.07		500		38.0		0.10		0.009			
				Middle	3	4		<2		0.07		<0.01		<0.05		200		24.0		0.10		0.004			
				Bottom	5	4		<2		<0.05		<0.01		<0.05		27		18.0		<0.1		<0.001			
25-Aug-18	Fine	Calm	12:57	Surface	1	8		<2		0.07		<0.01		<0.05		110		18.0		<0.1		0.004			
				Middle	-	-		-		-		-		-		-		-		-		-		-	
				Bottom	4.7	11		<2		<0.05		<0.01		<0.05		18		22.5		<0.1		<0.001			
20-Sep-18	Fine	Calm	10:12	Surface	1	9		<2		0.56		<0.01		0.17		820		19.0		0.70		0.059			
				Middle	-	-		-		-		-		-		-		-		-		-		-	
				Bottom	4.8	9		<2		0.09		<0.01		<0.05		17		14.0		0.10		0.005			
23-Sep-18	Sunny	Calm	12:12	Surface	1	5		<2		0.11		<0.01		<0.05		13		12.0		0.10		0.020			
				Middle	-	-		-		-		-		-		-		-		-		-		-	
				Bottom	4.7	7		<2		<0.05		<0.01		<0.05		19		12.0		<0.1		0.002			
13-Oct-18	Sunny	Calm	14:36	Surface	1	3		<2		<0.05		<0.01		<0.05		6		13.0		<0.1		0.005			
				Middle	3	3		<2		<0.05		<0.01		<0.05		16		13.0		<0.1		<0.001			
				Bottom	5	3		<2		0.08		<0.01		<0.05		11		13.0		0.10		0.008			
22-Oct-18	Fine	Calm	11:33	Surface	1	7		<2		0.24		<0.01		0.11		<1		9.5		0.30		0.018			
				Middle	-	-		-		-		-		-		-		-		-		-		-	
				Bottom	4.8	9		<2		<0.05		<0.01		<0.05		<1		9.8		<0.1		<0.001			
8-Nov-18	Sunny	Calm	13:27	Surface	1	5		<2		<0.05		<0.01		<0.05		1		18.0		<0.1		<0.001			
				Middle	-	-		-		-		-		-		-		-		-		-		-	
				Bottom	4.5	8		<2		<0.05		<0.01		<0.05		4		22.0		<0.1		<0.001			
10-Nov-18	Cloudy	Rough	13:09	Surface	1	5		<2		<0.05		<0.01		<0.05		<1		9.3		<0.1		0.001			
				Middle	3	6		<2		<0.05		<0.01		<0.05		39		9.1		<0.1		0.002			
				Bottom	5	12		<2		<0.05		<0.01		<0.05		<1		8.8		<0.1		<0.001			
17-Dec-18	Sunny	Moderate	08:25	Surface	1	7		<2		0.31		<0.01		<0.05		35		4.6		<0.1		0.010			
				Middle	-	-		-		-		-		-		-		-		-		-		-	
				Bottom	4.8	8		<2		0.17		<0.01		0.16		42		4.6		0.17		0.007			
19-Dec-18	Cloudy	Moderate	11:02	Surface	1	11		<2		<0.05		<0.01		<0.05		34		11.0		<0.1		0.002			
				Middle	-	-		-		-		-		-		-		-		-		-		-	
				Bottom	4.7	8		<2		<0.05		<0.01		<0.05		48		10.0		<0.1		0.002			

Note: 1) Averages for E. coli are geometric means. All other averaged values are arithmetic means  
2) Values are expressed as arithmetic mean / geometric means, unless all samples were below LOR. For samples that are below LOR, the value is substituted with LOR to allow for calculation.

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



**Contract No. SPW 09 / 2018**  
**Environmental Team Baseline Surveys for Sha Tin Cavern Sewage Treatment Works**  
**Baseline Water Quality Monitoring Results at CR1**

**(Mid-Flood Tide)**

Date	Weather Condition	Sea Condition	Sampling Time	Depth (m)	Suspended Solids (mg/L)		5-day Biochemical Oxygen Demand (mg O <sub>2</sub> /L)		Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)		Nitrite-nitrogen (mg NO <sub>2</sub> -N/L)		Nitrate-nitrogen (mg NO <sub>3</sub> -N/L)		E. coli (cfu/100mL)		Chlorophyll-a (mg/m <sup>3</sup> )		Total Inorganic Nitrogen (mg NL)		Unionized Ammonia (mg/L)		
					Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value
20-Jun-18	Cloudy	Calm	10:38	Surface	1	3	3	<2	<2	0.07	0.10	<0.01	<0.01	0.09	0.07	680	201	7.2	7.3	0.20	0.17	0.003	0.003
				Middle	3	3		<2		0.06		<0.01		0.07		180		8.4		0.10		0.002	
				Bottom	5	3		<2		0.17		<0.01		0.06		66		6.4		0.20		0.004	
26-Jun-18	Fine	Calm	17:26	Surface	1	7	6	<2	<2	<0.05	0.05	<0.01	<0.01	<0.05	<0.05	4	3	19.0	17.5	<0.1	<0.1	0.001	0.002
				Middle	-	-		-		-		-		-		-		-		-		-	
				Bottom	4.6	5		<2		0.05		<0.01		<0.05		2		16.0		<0.1		0.002	
16-Jul-18	Cloudy	Rough	07:14	Surface	1	8	6	<2	<2	0.06	0.06	0.01	0.01	<0.05	<0.05	2000	468	13.0	8.1	<0.1	<0.1	0.003	0.002
				Middle	3.5	5		<2		<0.05		<0.01		<0.05		320		5.0		<0.1		<0.001	
				Bottom	6	4		<2		0.08		<0.01		<0.05		160		6.2		<0.1		0.003	
24-Jul-18	Cloudy	Calm	16:30	Surface	1	8	6	<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	1	1	19.0	16.5	<0.1	<0.1	<0.001	0.001
				Middle	-	-		-		-		-		-		-		-		-		-	
				Bottom	4.5	4		<2		<0.05		<0.01		<0.05		1		14.0		<0.1		0.001	
16-Aug-18	Cloudy	Calm	08:53	Surface	1	3	3	<2	<2	<0.05	<0.05	<0.01	<0.01	0.10	0.07	200	88	30.0	18.8	0.10	0.10	0.007	0.003
				Middle	3.5	<2.5		<2		<0.05		<0.01		0.05		120		21.0		0.10		0.002	
				Bottom	6	<2.5		<2		<0.05		<0.01		<0.05		28		5.3		<0.1		0.001	
25-Aug-18	Fine	Calm	18:15	Surface	1	5	8	<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	6	15	22.0	22.5	<0.1	<0.1	0.002	0.002
				Middle	-	-		-		-		-		-		-		-		-		-	
				Bottom	4.6	11		<2		<0.05		<0.01		<0.05		36		23.0		<0.1		<0.001	
20-Sep-18	Fine	Calm	16:43	Surface	1	12	10	<2	<2	0.17	0.16	<0.01	<0.01	0.13	0.09	780	101	27.0	22.0	0.30	0.20	0.030	0.019
				Middle	-	-		-		-		-		-		-		-		-		-	
				Bottom	4.7	7		<2		0.14		<0.01		<0.05		13		17.0		0.10		0.007	
23-Sep-18	Cloudy	Calm	17:35	Surface	1	12	10	<2	<2	0.34	0.21	<0.01	<0.01	0.07	0.06	800	160	26.0	18.5	0.40	0.25	0.052	0.029
				Middle	-	-		-		-		-		-		-		-		-		-	
				Bottom	4.8	7		<2		0.07		<0.01		<0.05		32		11.0		<0.1		0.005	
13-Oct-18	Sunny	Calm	09:45	Surface	1	7	7	<2	<2	0.06	0.06	<0.01	<0.01	<0.05	<0.05	380	338	11.0	11.0	<0.1	<0.1	0.006	0.004
				Middle	-	-		-		-		-		-		-		-		-		-	
				Bottom	4.8	6		<2		<0.05		<0.01		<0.05		300		11.0		<0.1		<0.001	
22-Oct-18	Fine	Calm	17:11	Surface	1	11	9	<2	<2	0.17	0.10	<0.01	<0.01	0.07	0.06	66	13	11.0	10.2	0.20	0.13	0.013	0.006
				Middle	3	9		<2		0.09		<0.01		<0.05		8		12.0		0.10		0.004	
				Bottom	5	7		<2		<0.05		<0.01		0.07		4		7.5		0.10		0.001	
8-Nov-18	Sunny	Calm	16:52	Surface	1	7	6	<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	<1	1	20.0	20.0	<0.1	<0.1	<0.001	<0.001
				Middle	-	-		-		-		-		-		-		-		-		-	
				Bottom	4.8	5		<2		<0.05		<0.01		<0.05		1		20.0		<0.1		<0.001	
10-Nov-18	Cloudy	Rough	09:11	Surface	1	9	10	<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	23	25	9.0	9.1	<0.1	<0.1	0.002	0.002
				Middle	-	-		-		-		-		-		-		-		-		-	
				Bottom	4.7	11		<2		<0.05		<0.01		<0.05		27		9.2		<0.1		<0.001	
17-Dec-18	Sunny	Moderate	13:59	Surface	1	3	5	<2	<2	0.06	0.06	<0.01	<0.01	<0.05	<0.05	<1	<1	7.2	7.3	<0.1	<0.1	0.003	0.003
				Middle	-	-		-		-		-		-		-		-		-		-	
				Bottom	5	7		<2		0.06		<0.01		<0.05		<1		7.3		<0.1		0.002	
19-Dec-18	Cloudy	Moderate	15:08	Surface	1	3	5	<2	<2	0.07	0.07	<0.01	<0.01	<0.05	<0.05	5	10	10.0	10.0	<0.1	<0.1	0.004	0.004
				Middle	-	-		-		-		-		-		-		-		-		-	
				Bottom	4.9	7		<2		0.07		<0.01		<0.05		22		10.0		<0.1		0.003	

Note: 1) Averages for E. coli are geometric means. All other averaged values are arithmetic means  
2) Values are expressed as arithmetic mean / geometric means, unless all samples were below LOR. For samples that are below LOR, the value is substituted with LOR to allow for calculation.

**Contract No. SPW 09 / 2018**  
**Environmental Team Baseline Surveys for Sha Tin Cavern Sewage Treatment Works**  
**Baseline Water Quality Monitoring Results at CR15**

**(Mid-Ebb Tide)**

Date	Weather Condition	Sea Condition	Sampling Time	Depth (m)	Suspended Solids (mg/L)		5-day Biochemical Oxygen Demand (mg O <sub>2</sub> /L)		Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)		Nitrite-nitrogen (mg NO <sub>2</sub> -N/L)		Nitrate-nitrogen (mg NO <sub>3</sub> -N/L)		E. coli (cfu/100mL)		Chlorophyll-a (mg/m <sup>3</sup> )		Total Inorganic Nitrogen (mg NL)		Un-ionized Ammonia (mg/L)		
					Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value
20-Jun-18	Cloudy	Calm	18:01	Surface	1	14	7	<2	<2	0.08	0.08	<0.01	0.01	0.07	0.06	80	29	5.7	6.0	0.10	0.13	0.003	0.003
				Middle	3.5	4		<2		<0.05		0.02		<0.05		18		5.8		<0.1		<0.001	
				Bottom	6	3		<2		0.12		<0.01		0.06		17		6.4		0.20		0.004	
26-Jun-18	Cloudy	Calm	11:54	Surface	1	5	5	<2	<2	<0.05	0.09	<0.01	<0.01	0.06	0.05	49	6	17.0	19.7	<0.1	0.10	0.003	0.004
				Middle	3	4		<2		0.11		<0.01		<0.05		2		20.0		0.10		0.005	
				Bottom	5	5		<2		0.10		<0.01		<0.05		2		22.0		0.10		0.003	
16-Jul-18	Cloudy	Moderate	15:21	Surface	1	3	4	<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	51	5	4.6	5.7	<0.1	<0.1	0.002	0.001
				Middle	3.5	7		<2		<0.05		<0.01		<0.05		1		6.1		<0.1		<0.001	
				Bottom	6	3		<2		<0.05		<0.01		<0.05		2		6.3		<0.1		<0.001	
24-Jul-18	Cloudy	Moderate	10:41	Surface	1	4	4	<2	<2	<0.05	<0.05	<0.01	<0.01	0.09	0.06	220	20	11.0	10.3	<0.1	<0.1	<0.001	<0.001
				Middle	3.5	4		<2		<0.05		<0.01		<0.05		5		9.8		<0.1		<0.001	
				Bottom	6	3		<2		<0.05		<0.01		<0.05		7		10.0		<0.1		<0.001	
16-Aug-18	Cloudy	Calm	15:59	Surface	1	3	3	<2	<2	<0.05	0.07	<0.01	<0.01	<0.05	<0.05	50	23	28.0	18.0	<0.1	0.10	0.005	0.003
				Middle	3.5	<2.5		<2		0.06		<0.01		<0.05		82		18.0		<0.1		0.002	
				Bottom	6	3		<2		0.11		<0.01		<0.05		3		8.1		0.10		0.003	
25-Aug-18	Fine	Calm	12:25	Surface	1	8	6	<2	<2	<0.05	0.06	<0.01	<0.01	<0.05	<0.05	130	16	5.6	6.2	<0.1	0.10	<0.001	0.002
				Middle	3	5		<2		<0.05		<0.01		<0.05		6		7.6		<0.1		<0.001	
				Bottom	5	6		<2		0.09		<0.01		<0.05		5		5.3		0.10		0.003	
20-Sep-18	Fine	Calm	09:43	Surface	1	13	8	<2	<2	<0.05	0.08	<0.01	<0.01	0.14	0.08	820	160	18.0	14.2	0.20	0.17	0.004	0.004
				Middle	3.5	5		<2		<0.05		<0.01		<0.05		200		15.0		0.10		0.002	
				Bottom	6	6		<2		0.14		<0.01		<0.05		25		9.6		0.20		0.007	
23-Sep-18	Sunny	Calm	11:41	Surface	1	5	8	<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	61	24	8.5	8.2	<0.1	<0.1	0.004	0.003
				Middle	3	14		<2		<0.05		<0.01		<0.05		1		8.3		<0.1		0.002	
				Bottom	5	5		<2		<0.05		<0.01		<0.05		220		7.9		<0.1		0.002	
13-Oct-18	Sunny	Calm	14:56	Surface	1	4	5	<2	<2	0.08	0.08	<0.01	<0.01	0.19	0.19	160	201	7.4	8.1	0.30	0.30	0.008	0.006
				Middle	3.5	3		<2		0.09		<0.01		0.09		170		9.6		0.20		0.006	
				Bottom	6	7		<2		0.08		<0.01		0.30		300		7.4		0.40		0.003	
22-Oct-18	Fine	Calm	11:02	Surface	1	7	9	<2	<2	0.05	0.07	<0.01	<0.01	<0.05	0.06	19	3	6.5	10.5	<0.1	0.13	0.003	0.002
				Middle	3.5	12		<2		<0.05		<0.01		0.09		<1		12.0		0.10		<0.001	
				Bottom	6	8		<2		0.11		<0.01		<0.05		1		13.0		0.20		0.003	
8-Nov-18	Sunny	Calm	12:58	Surface	1	6	5	<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	8	2	19.0	15.3	<0.1	<0.1	<0.001	<0.001
				Middle	3.5	4		<2		<0.05		<0.01		<0.05		1		16.0		<0.1		<0.001	
				Bottom	6	5		<2		<0.05		<0.01		<0.05		<1		11.0		<0.1		<0.001	
10-Nov-18	Cloudy	Rough	13:33	Surface	1	5	5	<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	6	5	10.0	9.6	<0.1	<0.1	<0.001	<0.001
				Middle	3.5	7		<2		<0.05		<0.01		<0.05		5		10.0		<0.1		<0.001	
				Bottom	6	4		<2		<0.05		<0.01		<0.05		4		8.7		<0.1		<0.001	
17-Dec-18	Sunny	Moderate	07:56	Surface	1	12	11	<2	<2	<0.05	0.14	<0.01	<0.01	<0.05	<0.05	48	45	4.8	7.8	<0.1	<0.1	0.002	0.005
				Middle	3.5	8		<2		0.19		<0.01		<0.05		29		9.3		<0.1		0.007	
				Bottom	6	12		<2		0.18		<0.01		<0.05		67		9.3		<0.1		0.007	
19-Dec-18	Cloudy	Moderate	10:30	Surface	1	18	8	<2	<2	<0.05	0.05	<0.01	<0.01	<0.05	<0.05	33	39	9.8	9.3	<0.1	<0.1	0.001	0.002
				Middle	3.5	4		<2		0.06		<0.01		<0.05		45		9.0		<0.1		0.003	
				Bottom	6	<2.5		<2		<0.05		<0.01		<0.05		40		9.2		<0.1		0.001	

Note: 1) Averages for E. coli are geometric means. All other averaged values are arithmetic means  
2) Values are expressed as arithmetic mean / geometric means, unless all samples were below LOR. For samples that are below LOR, the value is substituted with LOR to allow for calculation.

**Contract No. SPW 09 / 2018**  
**Environmental Team Baseline Surveys for Sha Tin Cavern Sewage Treatment Works**  
**Baseline Water Quality Monitoring Results at CR15**

**(Mid-Flood Tide)**

Date	Weather Condition	Sea Condition	Sampling Time	Depth (m)	Suspended Solids (mg/L)		5-day Biochemical Oxygen Demand (mg O <sub>2</sub> /L)		Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)		Nitrite-nitrogen (mg NO <sub>2</sub> -N/L)		Nitrate-nitrogen (mg NO <sub>3</sub> -N/L)		E. coli (cfu/100mL)		Chlorophyll-a (mg/m <sup>3</sup> )		Total Inorganic Nitrogen (mg NL)		Un-ionized Ammonia (mg/L)		
					Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value
20-Jun-18	Cloudy	Calm	10:12	Surface	1	5	4	<2	<2	0.08	0.08	<0.01	<0.01	0.07	0.06	320	144	6.4	6.1	0.10	0.13	0.003	0.002
				Middle	3.5	4		<2		<0.05		<0.01		<0.05		140		7.1		<0.1		0.001	
				Bottom	6	<2.5		<2		0.10		<0.01		0.07		66		4.9		0.20		0.003	
26-Jun-18	Fine	Calm	17:50	Surface	1	6	6	<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	45	8	13.0	12.7	<0.1	<0.1	0.002	0.002
				Middle	3	5		<2		<0.05		<0.01		<0.05		4		14.0		<0.1		0.003	
				Bottom	5	6		<2		<0.05		<0.01		<0.05		3		11.0		<0.1		<0.001	
16-Jul-18	Cloudy	Rough	06:45	Surface	1	9	5	<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	340	127	3.5	3.7	<0.1	<0.1	0.002	0.001
				Middle	4	3		<2		<0.05		<0.01		<0.05		92		3.6		<0.1		0.001	
				Bottom	7	3		<2		<0.05		<0.01		<0.05		65		4.0		<0.1		0.001	
24-Jul-18	Cloudy	Calm	16:49	Surface	1	6	8	<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	1	1	15.0	15.0	<0.1	<0.1	<0.001	<0.001
				Middle	3	9		<2		<0.05		<0.01		<0.05		1		16.0		<0.1		<0.001	
				Bottom	5	8		<2		<0.05		<0.01		<0.05		1		14.0		<0.1		<0.001	
16-Aug-18	Cloudy	Calm	08:18	Surface	1	3	3	<2	<2	0.05	0.07	<0.01	<0.01	0.11	0.07	180	27	26.0	16.1	0.20	0.13	0.006	0.004
				Middle	3.5	<2.5		<2		0.06		<0.01		<0.05		14		15.0		<0.1		0.002	
				Bottom	6	<2.5		<2		0.11		<0.01		<0.05		8		7.2		0.10		0.003	
25-Aug-18	Fine	Calm	18:36	Surface	1	6	6	<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	2	3	5.8	9.5	<0.1	<0.1	<0.001	0.001
				Middle	3	7		<2		<0.05		<0.01		<0.05		9		9.6		<0.1		<0.001	
				Bottom	5	6		<2		<0.05		<0.01		<0.05		1		13.0		<0.1		0.002	
20-Sep-18	Fine	Calm	17:03	Surface	1	8	8	<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	8	4	14.0	19.3	<0.1	<0.1	<0.001	0.002
				Middle	3	8		<2		<0.05		<0.01		<0.05		<1		25.0		<0.1		0.003	
				Bottom	5	7		<2		<0.05		<0.01		<0.05		8		19.0		<0.1		0.002	
23-Sep-18	Cloudy	Calm	17:54	Surface	1	8	6	<2	<2	0.05	0.05	<0.01	<0.01	<0.05	<0.05	5	2	9.3	7.7	<0.1	<0.1	0.009	0.004
				Middle	3.5	5		<2		<0.05		<0.01		<0.05		1		6.7		<0.1		0.002	
				Bottom	6	6		<2		<0.05		<0.01		<0.05		<1		7.1		<0.1		0.002	
13-Oct-18	Sunny	Calm	09:16	Surface	1	5	4	<2	<2	<0.05	0.05	<0.01	<0.01	<0.05	<0.05	280	214	10.0	9.6	<0.1	<0.1	0.002	0.002
				Middle	3.5	<2.5		<2		<0.05		<0.01		<0.05		160		9.4		<0.1		<0.001	
				Bottom	6	5		<2		0.06		<0.01		<0.05		220		9.3		<0.1		0.002	
22-Oct-18	Fine	Calm	17:33	Surface	1	7	8	<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	1	1	8.6	11.0	<0.1	<0.1	<0.001	0.001
				Middle	3.5	9		<2		<0.05		<0.01		<0.05		1		16.0		<0.1		0.002	
				Bottom	6	8		<2		<0.05		<0.01		<0.05		2		8.5		<0.1		0.001	
8-Nov-18	Sunny	Calm	17:12	Surface	1	4	5	<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	<1	<1	15.0	12.2	<0.1	<0.1	<0.001	<0.001
				Middle	3.5	4		<2		<0.05		<0.01		<0.05		<1		8.5		<0.1		<0.001	
				Bottom	6	6		<2		<0.05		<0.01		<0.05		<1		13.0		<0.1		<0.001	
10-Nov-18	Cloudy	Rough	08:41	Surface	1	4	6	<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	340	72	14.0	14.0	<0.1	<0.1	0.003	0.002
				Middle	3.5	9		<2		<0.05		<0.01		<0.05		20		14.0		<0.1		0.001	
				Bottom	6	5		<2		<0.05		<0.01		<0.05		55		14.0		<0.1		<0.001	
17-Dec-18	Sunny	Moderate	14:19	Surface	1	5	9	<2	<2	0.06	0.06	<0.01	<0.01	<0.05	<0.05	4	29	8.5	8.8	<0.1	<0.1	0.002	0.002
				Middle	3.5	12		<2		0.06		<0.01		<0.05		59		8.6		<0.1		0.002	
				Bottom	6	10		<2		0.05		<0.01		<0.05		99		9.3		<0.1		0.002	
19-Dec-18	Cloudy	Moderate	15:27	Surface	1	11	9	<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	3	4	10.0	8.6	<0.1	<0.1	0.002	0.002
				Middle	3.5	12		<2		<0.05		<0.01		<0.05		2		7.8		<0.1		0.002	
				Bottom	6	3		<2		<0.05		<0.01		<0.05		11		7.9		<0.1		<0.001	

Note: 1) Averages for E. coli are geometric means. All other averaged values are arithmetic means  
2) Values are expressed as arithmetic mean / geometric means, unless all samples were below LOR. For samples that are below LOR, the value is substituted with LOR to allow for calculation.

**Contract No. SPW 09 / 2018**  
**Environmental Team Baseline Surveys for Sha Tin Cavern Sewage Treatment Works**  
**Baseline Water Quality Monitoring Results at CR16**

**(Mid-Ebb Tide)**

Date	Weather Condition	Sea Condition	Sampling Time	Depth (m)	Suspended Solids (mg/L)		5-day Biochemical Oxygen Demand (mg O <sub>2</sub> /L)		Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)		Nitrite-nitrogen (mg NO <sub>2</sub> -N/L)		Nitrate-nitrogen (mg NO <sub>3</sub> -N/L)		E. coli (cfu/100mL)		Chlorophyll-a (mg/m <sup>3</sup> )		Total Inorganic Nitrogen (mg NL)		Un-ionized Ammonia (mg/L)		
					Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value
20-Jun-18	Cloudy	Calm	18:28	Surface	1	3	4	<2	<2	0.15	0.17	<0.01	<0.01	0.06	0.06	2	1	5.4	5.1	0.20	0.20	0.006	0.005
				Middle	4	4		<2		0.18		<0.01		0.05		<1		4.5		0.004			
				Bottom	7	5		<2		0.18		<0.01		0.06		1		5.3		0.004			
26-Jun-18	Cloudy	Calm	11:21	Surface	1	9	10	<2	<2	<0.05	0.09	<0.01	0.01	<0.05	<0.05	8	5	15.0	15.7	<0.1	0.13	<0.001	0.003
				Middle	4	16		<2		0.16		0.01		<0.05		8		16.0		0.006			
				Bottom	7	6		<2		<0.05		<0.01		<0.05		2		16.0		0.002			
16-Jul-18	Cloudy	Moderate	15:44	Surface	1	10	14	<2	<2	<0.05	0.06	<0.01	<0.01	<0.05	<0.05	65	19	4.4	3.5	<0.1	<0.1	<0.001	0.002
				Middle	3.5	16		<2		0.08		<0.01		<0.05		16		3.2		0.004			
				Bottom	6	17		<2		<0.05		<0.01		<0.05		7		2.9		0.001			
24-Jul-18	Cloudy	Moderate	10:14	Surface	1	4	4	<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	260	327	8.0	8.8	<0.1	<0.1	<0.001	<0.001
				Middle	4	3		<2		<0.05		<0.01		<0.05		<0.05		420		8.9		0.001	
				Bottom	7	5		<2		<0.05		<0.01		<0.05		320		9.4		0.001			
16-Aug-18	Cloudy	Calm	16:29	Surface	1	3	3	<2	<2	<0.05	0.06	<0.01	<0.01	<0.05	<0.05	16	9	30.0	27.0	<0.1	<0.1	0.007	0.004
				Middle	3	<2.5		<2		0.07		<0.01		<0.05		<0.05		10		27.0		0.004	
				Bottom	5	<2.5		<2		<0.05		<0.01		<0.05		4		24.0		0.002			
25-Aug-18	Fine	Calm	11:58	Surface	1	3	8	<2	<2	<0.05	0.06	<0.01	<0.01	<0.05	<0.05	2	2	7.4	6.3	<0.1	<0.1	<0.001	0.001
				Middle	4	9		<2		<0.05		<0.01		<0.05		<0.05		<1		6.4		0.001	
				Bottom	7	12		<2		0.09		<0.01		<0.05		2		5.2		0.002			
20-Sep-18	Fine	Calm	09:17	Surface	1	8	7	<2	<2	<0.05	0.06	<0.01	<0.01	0.05	0.13	40	76	21.0	18.3	<0.1	0.17	0.003	0.002
				Middle	4	9		<2		<0.05		<0.01		0.08		69		18.0		0.001			
				Bottom	7	4		<2		0.07		<0.01		0.26		160		16.0		0.003			
23-Sep-18	Sunny	Calm	11:15	Surface	1	7	11	<2	<2	<0.05	0.05	<0.01	<0.01	<0.05	<0.05	3	5	7.6	11.5	<0.1	<0.1	0.004	0.003
				Middle	3.5	12		<2		0.06		<0.01		<0.05		<0.05		5		13.0		0.005	
				Bottom	6	14		<2		<0.05		<0.01		<0.05		11		14.0		0.001			
13-Oct-18	Sunny	Calm	15:21	Surface	1	<2.5	4	<2	<2	<0.05	0.05	<0.01	<0.01	<0.05	<0.05	6	2	14.0	14.0	<0.1	<0.1	0.004	0.003
				Middle	3.5	6		<2		0.05		<0.01		<0.05		<0.05		1		14.0		0.003	
				Bottom	6	3		<2		0.05		<0.01		<0.05		<1		14.0		0.002			
22-Oct-18	Fine	Calm	10:36	Surface	1	9	6	<2	<2	<0.05	<0.05	<0.01	<0.01	0.09	0.06	9	2	10.0	15.2	0.10	0.10	0.003	0.002
				Middle	4	4		<2		<0.05		<0.01		<0.05		<0.05		1		6.7		0.001	
				Bottom	7	6		<2		<0.05		<0.01		<0.05		<1		29.0		0.001			
8-Nov-18	Sunny	Calm	12:32	Surface	1	5	5	<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	1	1	14.0	14.0	<0.1	<0.1	<0.001	<0.001
				Middle	4	6		<2		<0.05		<0.01		<0.05		<0.05		<1		15.0		0.001	
				Bottom	7	5		<2		<0.05		<0.01		<0.05		<1		13.0		0.001			
10-Nov-18	Cloudy	Rough	14:01	Surface	1	3	5	<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	1	3	10.0	10.5	<0.1	<0.1	<0.001	<0.001
				Middle	3.5	4		<2		<0.05		<0.01		<0.05		<0.05		9		9.5		0.001	
				Bottom	6	7		<2		<0.05		<0.01		<0.05		3		12.0		0.001			
17-Dec-18	Sunny	Moderate	07:35	Surface	1	10	11	<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	6	3	9.7	9.8	<0.1	<0.1	<0.001	<0.001
				Middle	3.5	18		<2		<0.05		<0.01		<0.05		<0.05		4		9.8		0.001	
				Bottom	6	6		<2		<0.05		<0.01		<0.05		1		10.0		0.001			
19-Dec-18	Cloudy	Moderate	09:49	Surface	1	5	12	<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	6	6	9.2	9.3	<0.1	<0.1	0.001	0.002
				Middle	3.5	19		<2		<0.05		<0.01		<0.05		<0.05		10		9.6		0.002	
				Bottom	6	12		<2		<0.05		<0.01		<0.05		3		9.2		0.002			

Note: 1) Averages for E. coli are geometric means. All other averaged values are arithmetic means  
2) Values are expressed as arithmetic mean / geometric means, unless all samples were below LOR. For samples that are below LOR, the value is substituted with LOR to allow for calculation.

**Contract No. SPW 09 / 2018**  
**Environmental Team Baseline Surveys for Sha Tin Cavern Sewage Treatment Works**  
**Baseline Water Quality Monitoring Results at CR16**

**(Mid-Flood Tide)**

Date	Weather Condition	Sea Condition	Sampling Time	Depth (m)	Suspended Solids (mg/L)		5-day Biochemical Oxygen Demand (mg O <sub>2</sub> /L)		Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)		Nitrite-nitrogen (mg NO <sub>2</sub> -N/L)		Nitrate-nitrogen (mg NO <sub>3</sub> -N/L)		E. coli (cfu/100mL)		Chlorophyll-a (mg/m <sup>3</sup> )		Total Inorganic Nitrogen (mg NL)		Un-ionized Ammonia (mg/L)			
					Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average
20-Jun-18	Cloudy	Calm	09:37	Surface	1	3	4	<2	<2	0.08	0.09	<0.01	<0.01	<0.05	0.05	76	19	6.8	6.5	0.10	0.10	0.003	0.003	
				Middle	4	3		<2		0.09		<0.01		<0.05		11		5.9		0.10				
				Bottom	7	6		<2		0.09		<0.01		0.05		8		6.7		0.10				
26-Jun-18	Fine	Calm	18:26	Surface	1	10	8	<2	<2	<0.05	0.07	<0.01	0.01	<0.05	<0.05	5	3	20.0	17.3	<0.1	0.10	0.002	0.002	
				Middle	3.5	4		<2		0.10		0.02		<0.05		<1		16.0		0.10		0.003		
				Bottom	6	10		<2		<0.05		<0.01		<0.05		6		16.0		<0.1		<0.001		
16-Jul-18	Cloudy	Rough	06:20	Surface	1	4	3	<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	16	20	2.4	2.4	<0.1	<0.1	0.001	0.001	
				Middle	4	3		<2		<0.05		<0.01		<0.05		94		3.0		<0.1		<0.001		
				Bottom	7	<2.5		<2		<0.05		<0.01		<0.05		5		1.9		<0.1		<0.001		
24-Jul-18	Cloudy	Calm	17:17	Surface	1	6	6	<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	14	12	12.0	11.7	<0.1	<0.1	<0.001	<0.001	
				Middle	3.5	5		<2		<0.05		<0.01		<0.05		<0.05		19		11.0		<0.1		<0.001
				Bottom	6	7		<2		<0.05		<0.01		<0.05		6		12.0		<0.1		<0.001		
16-Aug-18	Cloudy	Calm	07:48	Surface	1	<2.5	<2.5	<2	<2	<0.05	0.07	<0.01	<0.01	0.07	8	92	8	15.0	11.2	0.10	0.10	0.003	0.003	
				Middle	4	<2.5		<2		0.07		<0.01		<0.05		0.06		3		8.5		<0.1		0.003
				Bottom	7	<2.5		<2		0.09		<0.01		<0.05		2		10.0		<0.1		0.004		
25-Aug-18	Fine	Calm	19:03	Surface	1	23	11	<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	1	1	6.7	8.3	<0.1	<0.1	<0.001	<0.001	
				Middle	3.5	6		<2		<0.05		<0.01		<0.05		<0.05		2		9.6		<0.1		<0.001
				Bottom	6	4		<2		<0.05		<0.01		<0.05		<1		8.7		<0.1		<0.001		
20-Sep-18	Fine	Calm	17:28	Surface	1	12	10	<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	10	31	15.0	13.3	<0.1	<0.1	0.004	0.002	
				Middle	3.5	8		<2		<0.05		<0.01		<0.05		<0.05		160		20.0		<0.1		0.001
				Bottom	6	11		<2		<0.05		<0.01		<0.05		19		5.0		<0.1		<0.001		
23-Sep-18	Cloudy	Calm	18:15	Surface	1	10	6	<2	<2	0.07	0.06	<0.01	<0.01	<0.05	<0.05	<1	<1	6.7	7.7	<0.1	<0.1	0.013	0.006	
				Middle	3.5	4		<2		<0.05		<0.01		<0.05		<0.05		<1		7.9		<0.1		0.003
				Bottom	6	4		<2		<0.05		<0.01		<0.05		<1		8.4		<0.1		0.002		
13-Oct-18	Sunny	Calm	08:48	Surface	1	4	3	<2	<2	0.08	0.07	<0.01	<0.01	0.10	0.08	300	276	10.0	10.7	0.20	0.13	0.007	0.004	
				Middle	3.5	3		<2		0.07		<0.01		0.07		0.08		320		11.0		0.10		0.004
				Bottom	6	3		<2		0.05		<0.01		0.06		220		11.0		0.10		0.002		
22-Oct-18	Fine	Calm	18:00	Surface	1	10	13	<2	<2	<0.05	<0.05	<0.01	<0.01	0.05	0.05	<1	1	8.4	10.1	<0.1	<0.1	0.001	0.001	
				Middle	4	7		<2		<0.05		<0.01		<0.05		0.05		1		12.0		<0.1		0.002
				Bottom	7	21		<2		<0.05		<0.01		<0.05		<1		10.0		<0.1		<0.001		
8-Nov-18	Sunny	Calm	17:37	Surface	1	7	6	<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	<1	1	9.7	9.3	<0.1	<0.1	<0.001	<0.001	
				Middle	4	7		<2		<0.05		<0.01		<0.05		<0.05		1		8.8		<0.1		<0.001
				Bottom	7	4		<2		<0.05		<0.01		<0.05		<1		9.4		<0.1		<0.001		
10-Nov-18	Cloudy	Rough	08:00	Surface	1	12	7	<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	2	2	11.0	10.8	<0.1	<0.1	<0.001	<0.001	
				Middle	3.5	5		<2		<0.05		<0.01		<0.05		<0.05		2		9.4		<0.1		<0.001
				Bottom	6	5		<2		<0.05		<0.01		<0.05		1		12.0		<0.1		<0.001		
17-Dec-18	Sunny	Moderate	14:45	Surface	1	14	14	<2	<2	0.07	0.08	<0.01	<0.01	<0.05	<0.05	4	7	10.0	9.6	<0.1	<0.1	0.003	0.003	
				Middle	3.5	15		<2		0.08		<0.01		<0.05		<0.05		9		9.3		<0.1		0.003
				Bottom	6	13		<2		0.10		<0.01		<0.05		8		9.6		<0.1		0.003		
19-Dec-18	Cloudy	Moderate	15:49	Surface	1	10	14	<2	<2	0.06	0.05	<0.01	<0.01	<0.05	<0.05	8	9	8.7	8.7	<0.1	<0.1	0.003	0.003	
				Middle	3.5	16		<2		0.05		<0.01		<0.05		<0.05		8		8.7		<0.1		0.002
				Bottom	6	17		<2		0.05		<0.01		<0.05		13		8.8		<0.1		0.003		

Note: 1) Averages for E. coli are geometric means. All other averaged values are arithmetic means  
2) Values are expressed as arithmetic mean / geometric means, unless all samples were below LOR. For samples that are below LOR, the value is substituted with LOR to allow for calculation.

**Contract No. SPW 09 / 2018**  
**Environmental Team Baseline Surveys for Sha Tin Cavern Sewage Treatment Works**  
**Baseline Water Quality Monitoring Results at CR17**

**(Mid-Ebb Tide)**

Date	Weather Condition	Sea Condition	Sampling Time	Depth (m)	Suspended Solids (mg/L)		5-day Biochemical Oxygen Demand (mg O <sub>2</sub> /L)		Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)		Nitrite-nitrogen (mg NO <sub>2</sub> -N/L)		Nitrate-nitrogen (mg NO <sub>3</sub> -N/L)		E. coli (cfu/100mL)		Chlorophyll-a (mg/m <sup>3</sup> )		Total Inorganic Nitrogen (mg NL)		Un-ionized Ammonia (mg/L)		
					Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value
20-Jun-18	Cloudy	Calm	18:47	Surface	1	3	4	<2	<2	0.14	0.19	<0.01	<0.01	0.07	0.07	5	3	4.8	4.5	0.20	0.25	0.004	0.006
				Middle	-	-		-		-		-		-		-		-		-		-	
				Bottom	4.7	4		<2		0.24		<0.01		0.06		2		4.2		0.30		0.007	
26-Jun-18	Cloudy	Calm	11:04	Surface	1	5	4	<2	<2	<0.05	0.07	<0.01	0.01	0.05	0.05	4	5	16.0	17.3	<0.1	0.10	0.001	0.002
				Middle	3.5	4		<2		<0.05		<0.01		<0.05		6		14.0		<0.1		<0.001	
				Bottom	6	4		<2		0.10		0.02		<0.05		5		22.0		0.10		0.003	
16-Jul-18	Cloudy	Moderate	15:58	Surface	1	10	9	<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	62	28	3.7	3.1	<0.1	<0.1	<0.001	0.002
				Middle	-	-		-		-		-		-		-		-		-		-	
				Bottom	4.8	7		<2		<0.05		<0.01		<0.05		13		2.4		<0.1		0.002	
24-Jul-18	Cloudy	Moderate	10:00	Surface	1	4	5	<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	55	17	7.5	10.2	<0.1	<0.1	<0.001	<0.001
				Middle	3	8		<2		<0.05		<0.01		<0.05		9		11.0		<0.1		<0.001	
				Bottom	5	4		<2		<0.05		<0.01		<0.05		10		12.0		<0.1		<0.001	
16-Aug-18	Cloudy	Calm	16:44	Surface	1	4	3	<2	<2	<0.05	<0.05	<0.01	<0.01	0.06	0.06	91	42	26.0	25.5	<0.1	<0.1	0.001	0.002
				Middle	-	-		-		-		-		-		-		-		-		-	
				Bottom	4.6	<2.5		<2		<0.05		<0.01		<0.05		19		25.0		<0.1		0.002	
25-Aug-18	Fine	Calm	11:45	Surface	1	3	7	<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	7	4	13.0	18.3	<0.1	<0.1	<0.001	<0.001
				Middle	3	5		<2		<0.05		<0.01		<0.05		4		28.0		<0.1		<0.001	
				Bottom	5	14		<2		<0.05		<0.01		<0.05		3		14.0		<0.1		<0.001	
20-Sep-18	Fine	Calm	09:06	Surface	1	5	4	<2	<2	0.10	0.07	<0.01	<0.01	0.26	0.12	820	187	21.0	18.3	0.40	0.20	0.013	0.006
				Middle	3	3		<2		<0.05		<0.01		<0.05		360		17.0		<0.1		0.002	
				Bottom	5	4		<2		<0.05		<0.01		<0.05		22		17.0		<0.1		0.002	
23-Sep-18	Sunny	Calm	11:00	Surface	1	15	14	<2	<2	0.05	0.06	<0.01	<0.01	<0.05	<0.05	5	6	11.0	10.7	<0.1	<0.1	0.010	0.005
				Middle	3	22		<2		<0.05		<0.01		<0.05		17		11.0		<0.1		0.002	
				Bottom	5	4		<2		0.07		<0.01		<0.05		2		10.0		<0.1		0.003	
13-Oct-18	Sunny	Calm	15:34	Surface	1	<2.5	4	<2	<2	0.10	0.07	<0.01	<0.01	0.30	0.17	3	8	16.0	16.0	0.40	0.23	0.011	0.005
				Middle	3	4		<2		<0.05		<0.01		<0.05		11		16.0		0.10		0.001	
				Bottom	5	5		<2		0.06		<0.01		<0.05		14		16.0		0.20		0.003	
22-Oct-18	Fine	Calm	10:22	Surface	1	4	7	<2	<2	0.06	0.06	<0.01	<0.01	<0.05	<0.05	4	2	7.8	8.9	0.10	0.10	0.003	0.002
				Middle	3	9		<2		<0.05		<0.01		<0.05		3		8.8		<0.1		0.002	
				Bottom	5	7		<2		0.07		<0.01		<0.05		1		10.0		<0.1		0.002	
8-Nov-18	Sunny	Calm	12:17	Surface	1	3	7	<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	1	1	10.0	12.7	<0.1	<0.1	<0.001	<0.001
				Middle	3	13		<2		<0.05		<0.01		<0.05		1		13.0		<0.1		<0.001	
				Bottom	5	6		<2		<0.05		<0.01		<0.05		<1		15.0		<0.1		<0.001	
10-Nov-18	Cloudy	Rough	14:28	Surface	1	4	6	<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	2	1	15.0	14.7	<0.1	<0.1	<0.001	<0.001
				Middle	3.5	5		<2		<0.05		<0.01		<0.05		1		14.0		<0.1		<0.001	
				Bottom	6	10		<2		<0.05		<0.01		<0.05		1		15.0		<0.1		<0.001	
17-Dec-18	Sunny	Moderate	07:22	Surface	1	5	8	<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	<1	2	9.8	9.8	<0.1	0.10	<0.001	<0.001
				Middle	3	8		<2		<0.05		<0.01		<0.05		4		9.6		<0.1		<0.001	
				Bottom	5	10		<2		<0.05		<0.01		<0.05		3		10.0		0.11		<0.001	
19-Dec-18	Cloudy	Moderate	09:35	Surface	1	11	8	<2	<2	<0.05	0.05	<0.01	<0.01	<0.05	<0.05	4	3	8.8	8.3	<0.1	<0.1	0.002	0.002
				Middle	3	6		<2		<0.05		<0.01		<0.05		<1		8.2		<0.1		0.001	
				Bottom	5	8		<2		0.05		<0.01		<0.05		7		8.0		<0.1		0.002	

Note: 1) Averages for E. coli are geometric means. All other averaged values are arithmetic means  
2) Values are expressed as arithmetic mean / geometric means, unless all samples were below LOR. For samples that are below LOR, the value is substituted with LOR to allow for calculation.

**Contract No. SPW 09 / 2018**  
**Environmental Team Baseline Surveys for Sha Tin Cavern Sewage Treatment Works**  
**Baseline Water Quality Monitoring Results at CR17**

**(Mid-Flood Tide)**

Date	Weather Condition	Sea Condition	Sampling Time	Depth (m)	Suspended Solids (mg/L)		5-day Biochemical Oxygen Demand (mg O <sub>2</sub> /L)		Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)		Nitrite-nitrogen (mg NO <sub>2</sub> -N/L)		Nitrate-nitrogen (mg NO <sub>3</sub> -N/L)		E. coli (cfu/100mL)		Chlorophyll-a (mg/m <sup>3</sup> )		Total Inorganic Nitrogen (mg NL)		Un-ionized Ammonia (mg/L)		
					Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value
20-Jun-18	Cloudy	Calm	08:59	Surface	1	4	5	<2	<2	<0.05	0.14	<0.01	<0.01	0.06	0.07	16	6	3.6	3.6	0.20	0.23	0.005	0.005
				Middle	3	8		<2		0.17		<0.01		0.07		2		3.9		0.20		0.004	
				Bottom	5	<2.5		<2		0.20		<0.01		0.07		8		3.2		0.30		0.005	
26-Jun-18	Fine	Calm	18:43	Surface	1	9	12	<2	<2	<0.05	<0.05	0.02	0.02	0.06	0.06	34	6	16.0	17.0	0.10	0.10	0.002	0.002
				Middle	-	-		-		-		-		-		-		-		-		-	
				Bottom	4.9	14		<2		<0.05		<0.01		<0.05		1		18.0		<0.1		0.001	
16-Jul-18	Cloudy	Rough	05:57	Surface	1	3	5	<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	280	123	1.8	1.8	<0.1	<0.1	<0.001	0.001
				Middle	3	7		<2		<0.05		<0.01		<0.05		340		1.8		<0.1		0.001	
				Bottom	5	4		<2		<0.05		<0.01		<0.05		21		1.9		<0.1		0.001	
24-Jul-18	Cloudy	Calm	17:32	Surface	1	12	8	<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	10	9	12.0	11.5	<0.1	<0.1	0.002	0.002
				Middle	-	-		-		-		-		-		-		-		-		-	
				Bottom	4.2	4		<2		<0.05		<0.01		<0.05		9		11.0		<0.1		<0.001	
16-Aug-18	Cloudy	Calm	07:35	Surface	1	3	3	<2	<2	<0.05	<0.05	<0.01	<0.01	0.11	0.08	180	86	20.0	17.0	0.20	0.15	0.003	0.002
				Middle	-	-		-		-		-		-		-		-		-		-	
				Bottom	4.8	<2.5		<2		<0.05		<0.01		<0.05		46		14.0		<0.1		<0.001	
25-Aug-18	Fine	Calm	19:20	Surface	1	7	8	<2	<2	0.06	0.06	<0.01	<0.01	<0.05	<0.05	11	10	9.5	10.8	<0.1	<0.1	0.007	0.005
				Middle	-	-		-		-		-		-		-		-		-		-	
				Bottom	4.9	8		<2		0.06		<0.01		<0.05		9		12.0		<0.1		0.003	
20-Sep-18	Fine	Calm	17:42	Surface	1	7	8	<2	<2	<0.05	0.08	<0.01	<0.01	<0.05	<0.05	6	11	18.0	11.4	<0.1	0.10	0.002	0.004
				Middle	3	10		<2		0.06		<0.01		<0.05		12		7.5		<0.1		0.004	
				Bottom	5	6		<2		0.13		<0.01		<0.05		19		8.8		0.10		0.006	
23-Sep-18	Cloudy	Calm	18:29	Surface	1	10	9	<2	<2	<0.05	0.06	<0.01	<0.01	0.07	0.06	5	3	8.9	10.2	0.10	0.10	0.008	0.004
				Middle	3	7		<2		<0.05		<0.01		<0.05		2		9.6		<0.1		0.001	
				Bottom	5	9		<2		0.07		<0.01		<0.05		4		12.0		<0.1		0.004	
13-Oct-18	Sunny	Calm	08:36	Surface	1	<2.5	4	<2	<2	0.07	0.06	<0.01	<0.01	0.07	0.06	150	126	11.0	10.0	0.10	0.10	0.007	0.005
				Middle	3	8		<2		0.07		<0.01		0.06		120		9.9		0.10		0.005	
				Bottom	5	<2.5		<2		<0.05		<0.01		<0.05		110		9.0		<0.1		0.003	
22-Oct-18	Fine	Calm	18:16	Surface	1	7	5	<2	<2	<0.05	0.06	<0.01	<0.01	0.05	0.05	6	4	13.0	10.7	<0.1	0.10	0.003	0.002
				Middle	3	5		<2		<0.05		<0.01		<0.05		8		11.0		<0.1		0.001	
				Bottom	5	4		<2		0.09		<0.01		<0.05		<1		8.0		0.10		0.002	
8-Nov-18	Sunny	Calm	17:50	Surface	1	4	3	<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	<1	1	13.0	11.7	<0.1	<0.1	<0.001	<0.001
				Middle	3.5	3		<2		<0.05		<0.01		<0.05		2		9.2		<0.1		<0.001	
				Bottom	6	3		<2		<0.05		<0.01		<0.05		<1		13.0		<0.1		<0.001	
10-Nov-18	Cloudy	Rough	07:46	Surface	1	5	4	<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	16	3	14.0	12.7	<0.1	<0.1	<0.001	0.001
				Middle	3	<2.5		<2		<0.05		<0.01		<0.05		1		12.0		<0.1		<0.001	
				Bottom	5	4		<2		<0.05		<0.01		<0.05		<1		12.0		<0.1		0.001	
17-Dec-18	Sunny	Moderate	14:57	Surface	1	5	8	<2	<2	<0.05	0.06	<0.01	<0.01	<0.05	<0.05	2	11	9.0	8.9	<0.1	<0.1	0.002	0.002
				Middle	3	8		<2		<0.05		<0.01		<0.05		1		8.9		<0.1		0.002	
				Bottom	5	10		<2		0.08		<0.01		<0.05		580		8.8		<0.1		0.003	
19-Dec-18	Cloudy	Moderate	16:00	Surface	1	6	6	<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	<1	2	8.8	8.9	<0.1	<0.1	0.002	0.002
				Middle	3	5		<2		<0.05		<0.01		<0.05		2		8.7		<0.1		0.002	
				Bottom	5	8		<2		<0.05		<0.01		<0.05		2		9.3		<0.1		0.002	

Note: 1) Averages for E. coli are geometric means. All other averaged values are arithmetic means  
2) Values are expressed as arithmetic mean / geometric means, unless all samples were below LOR. For samples that are below LOR, the value is substituted with LOR to allow for calculation.

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

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**Environmental Team Baseline Surveys for Sha Tin Cavern Sewage Treatment Works**  
**Baseline Water Quality Monitoring Results at G1**

**(Mid-Ebb Tide)**

Date	Weather Condition	Sea Condition	Sampling Time	Depth (m)	Suspended Solids (mg/L)		5-day Biochemical Oxygen Demand (mg O <sub>2</sub> /L)		Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)		Nitrite-nitrogen (mg NO <sub>2</sub> -N/L)		Nitrate-nitrogen (mg NO <sub>3</sub> -N/L)		E. coli (cfu/100mL)		Chlorophyll-a (mg/m <sup>3</sup> )		Total Inorganic Nitrogen (mg NL)		Un-ionized Ammonia (mg/L)		
					Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value
20-Jun-18	Rainy	Calm	18:23	Surface	1	4	3	<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	4	5	5.9	6.0	<0.1	<0.1	0.002	0.002
				Middle	4.5	3		<2		<0.05		<0.01		<0.05		6		6.4		<0.1		0.001	
				Bottom	8	3		<2		<0.05		<0.01		<0.05		6		5.6		<0.1		0.002	
26-Jun-18	Cloudy	Moderate	10:44	Surface	1	3	4	<2	<2	<0.05	0.07	<0.01	<0.01	<0.05	<0.05	1	1	11.0	11.3	<0.1	0.10	<0.001	0.002
				Middle	4.5	4		<2		<0.05		<0.01		<0.05		2		11.0		<0.1		<0.001	
				Bottom	8	5		<2		0.10		<0.01		<0.05		<1		12.0		0.10		0.003	
16-Jul-18	Cloudy	Moderate	15:44	Surface	1	5	4	<2	<2	<0.05	0.07	<0.01	<0.01	<0.05	<0.05	<1	<1	5.2	5.1	<0.1	0.10	<0.001	0.003
				Middle	4	5		<2		0.12		<0.01		<0.05		<1		4.9		0.1		0.007	
				Bottom	7	3		<2		<0.05		<0.01		<0.05		<1		5.2		<0.1		<0.001	
24-Jul-18	Cloudy	Moderate	09:39	Surface	1	5	5	<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	<1	1	8.7	9.9	<0.1	<0.1	<0.001	<0.001
				Middle	4.5	3		<2		<0.05		<0.01		<0.05		1		9.9		<0.1		<0.001	
				Bottom	8	6		<2		<0.05		<0.01		<0.05		<1		11.0		<0.1		<0.001	
16-Aug-18	Cloudy	Calm	16:14	Surface	1	3	3	<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	<1	<1	18.0	9.5	<0.1	<0.1	0.005	0.003
				Middle	4.5	<2.5		<2		<0.05		<0.01		<0.05		<1		7.7		<0.1		0.002	
				Bottom	8	<2.5		<2		<0.05		<0.01		<0.05		<1		2.7		<0.1		<0.001	
25-Aug-18	Fine	Calm	11:28	Surface	1	3	3	<2	<2	<0.05	0.05	<0.01	<0.01	<0.05	0.08	<1	1	12.0	8.9	<0.1	0.13	<0.001	0.001
				Middle	4.5	3		<2		0.06		<0.01		<0.05		2		12.0		<0.1		0.002	
				Bottom	8	<2.5		<2		<0.05		<0.01		0.14		<1		2.6		0.20		<0.001	
20-Sep-18	Fine	Moderate	09:01	Surface	1	8	7	<2	<2	<0.05	0.08	<0.01	<0.01	0.09	0.15	380	107	20.0	15.2	0.10	0.20	0.004	0.004
				Middle	4.5	9		<2		0.11		<0.01		0.30		1600		17.0		0.40		0.005	
				Bottom	8	5		<2		0.07		<0.01		<0.05		2		8.5		<0.1		0.004	
23-Sep-18	Sunny	Calm	10:49	Surface	1	6	5	<2	<2	<0.05	0.07	<0.01	<0.01	<0.05	<0.05	1	1	8.0	7.2	<0.1	0.10	0.004	0.004
				Middle	4.5	4		<2		0.09		<0.01		<0.05		1		5.1		0.10		0.006	
				Bottom	8	6		<2		0.06		<0.01		<0.05		<1		8.6		<0.1		0.003	
13-Oct-18	Sunny	Calm	15:21	Surface	1	28	13	<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	1	2	7.3	8.9	<0.1	<0.1	0.005	0.003
				Middle	4.5	7		<2		<0.05		<0.01		<0.05		4		10.0		<0.1		0.002	
				Bottom	8	3		<2		<0.05		<0.01		<0.05		<1		9.3		<0.1		0.002	
22-Oct-18	Fine	Calm	09:59	Surface	1	9	7	<2	<2	0.08	0.07	<0.01	<0.01	0.06	0.05	35	1	14.0	11.1	0.10	0.10	0.006	0.004
				Middle	4.5	3		<2		0.07		<0.01		<0.05		1		14.0		0.10		0.004	
				Bottom	8	10		<2		<0.05		<0.01		0.05		<1		5.3		<0.1		0.001	
8-Nov-18	Sunny	Calm	11:50	Surface	1	4	6	<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	1	1	13.0	11.6	<0.1	<0.1	<0.001	<0.001
				Middle	4.5	7		<2		<0.05		<0.01		<0.05		<1		9.7		<0.1		<0.001	
				Bottom	8	7		<2		<0.05		<0.01		<0.05		<1		12.0		<0.1		<0.001	
10-Nov-18	Cloudy	Rough	14:16	Surface	1	12	14	<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	2	2	18.0	16.3	<0.1	<0.1	<0.001	0.001
				Middle	4.5	15		<2		<0.05		<0.01		<0.05		2		15.0		<0.1		0.002	
				Bottom	8	14		<2		<0.05		<0.01		<0.05		2		16.0		<0.1		<0.001	
17-Dec-18	Sunny	Moderate	07:47	Surface	1	11	7	<2	<2	0.05	0.06	<0.01	<0.01	<0.05	<0.05	<1	<1	7.2	7.2	<0.1	<0.1	0.003	0.002
				Middle	4.5	5		<2		0.07		<0.01		<0.05		<1		7.2		<0.1		0.003	
				Bottom	8	5		<2		<0.05		<0.01		<0.05		<1		7.3		<0.1		0.001	
19-Dec-18	Cloudy	Calm	09:01	Surface	1	3	7	<2	<2	0.06	0.05	<0.01	<0.01	<0.05	<0.05	7	3	8.5	8.4	<0.1	<0.1	0.002	0.001
				Middle	4.5	8		<2		<0.05		<0.01		<0.05		2		6.7		<0.1		<0.001	
				Bottom	8	9		<2		<0.05		<0.01		<0.05		2		10.0		<0.1		<0.001	

Note: 1) Averages for E. coli are geometric means. All other averaged values are arithmetic means  
2) Values are expressed as arithmetic mean / geometric means, unless all samples were below LOR. For samples that are below LOR, the value is substituted with LOR to allow for calculation.

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



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Date	Weather Condition	Sea Condition	Sampling Time	Depth (m)	Suspended Solids (mg/L)		5-day Biochemical Oxygen Demand (mg O <sub>2</sub> /L)		Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)		Nitrite-nitrogen (mg NO <sub>2</sub> -N/L)		Nitrate-nitrogen (mg NO <sub>3</sub> -N/L)		E. coli (cfu/100mL)		Chlorophyll-a (mg/m <sup>3</sup> )		Total Inorganic Nitrogen (mg NL)		Unionized Ammonia (mg/L)		
					Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value
20-Jun-18	Cloudy	Calm	08:54	Surface	1	3	4	<2	<2	0.09	0.12	<0.01	<0.01	<0.05	<0.05	110	43	5.4	4.3	0.10	0.17	0.004	0.004
				Middle	4.5	5		<2	<2	0.13		<0.01	<0.01	<0.05	<0.05	30		5.0		0.20		0.005	
				Bottom	8	3		<2	<2	0.13		<0.01	<0.01	<0.05	<0.05	24		2.5		0.20		0.004	
26-Jun-18	Cloudy	Moderate	17:57	Surface	1	4	8	<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	<1	3	13.0	15.7	<0.1	<0.1	0.001	0.001
				Middle	4	6		<2	<2	<0.05		<0.01	<0.01	<0.05	<0.05	4		11.0		<0.1		<0.001	
				Bottom	7	13		<2	<2	<0.05		0.02	<0.01	<0.05	<0.05	4		23.0		<0.1		0.001	
16-Jul-18	Cloudy	Rough	05:48	Surface	1	4	3	<2	<2	<0.05	0.06	0.01	0.01	<0.05	<0.05	7	4	2.9	2.3	<0.1	<0.1	0.002	0.002
				Middle	4.5	3		<2	<2	0.07		<0.01	<0.01	<0.05	<0.05	<1		2.4		<0.1		0.003	
				Bottom	8	3		<2	<2	<0.05		<0.01	<0.01	<0.05	<0.05	8		1.6		<0.1		<0.001	
24-Jul-18	Cloudy	Calm	17:33	Surface	1	<2.5	3	<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	1	1	7.8	8.8	<0.1	<0.1	<0.001	<0.001
				Middle	4.5	4		<2	<2	<0.05		<0.01	<0.01	<0.05	<0.05	<1		9.9		<0.1		<0.001	
				Bottom	8	<2.5		<2	<2	<0.05		<0.01	<0.01	<0.05	<0.05	<1		8.7		<0.1		<0.001	
16-Aug-18	Cloudy	Calm	07:06	Surface	1	3	3	<2	<2	0.09	0.07	<0.01	<0.01	<0.05	<0.05	<1	<1	17.0	8.3	0.10	0.10	0.010	0.005
				Middle	4.5	<2.5		<2	<2	<0.05		<0.01	<0.01	<0.05	<0.05	<1		6.2		<0.1		0.001	
				Bottom	8	<2.5		<2	<2	0.07		<0.01	<0.01	<0.05	<0.05	<1		1.7		<0.1		0.003	
25-Aug-18	Fine	Calm	19:24	Surface	1	4	9	<2	<2	<0.05	0.05	<0.01	<0.01	<0.05	<0.05	<1	1	6.7	15.6	<0.1	<0.1	0.003	0.002
				Middle	4.5	21		<2	<2	0.06		<0.01	<0.01	<0.05	<0.05	<1		21.0		<0.1		0.001	
				Bottom	8	3		<2	<2	<0.05		<0.01	<0.01	<0.05	<0.05	2		19.0		<0.1		<0.001	
20-Sep-18	Fine	Moderate	17:36	Surface	1	8	5	<2	<2	<0.05	0.06	<0.01	<0.01	<0.05	<0.05	<1	<1	12.0	11.2	<0.1	0.10	0.003	0.003
				Middle	4.5	4		<2	<2	<0.05		<0.01	<0.01	<0.05	<0.05	<1		9.7		<0.1		<0.001	
				Bottom	8	3		<2	<2	0.07		<0.01	<0.01	<0.05	<0.05	<1		12.0		0.10		0.004	
23-Sep-18	Cloudy	Moderate	18:20	Surface	1	7	5	<2	<2	<0.05	0.05	<0.01	<0.01	<0.05	<0.05	<1	<1	6.2	5.3	<0.1	<0.1	0.003	0.003
				Middle	4.5	6		<2	<2	0.06		<0.01	<0.01	<0.05	<0.05	<1		4.3		<0.1		0.004	
				Bottom	8	3		<2	<2	<0.05		<0.01	<0.01	<0.05	<0.05	<1		5.3		<0.1		<0.001	
13-Oct-18	Sunny	Calm	08:25	Surface	1	6	4	<2	<2	0.20	0.10	<0.01	<0.01	<0.05	<0.05	110	13	6.8	9.1	0.20	0.13	0.018	0.008
				Middle	4.5	<2.5		<2	<2	0.05		<0.01	<0.01	<0.05	<0.05	22		12.0		0.10		0.003	
				Bottom	8	<2.5		<2	<2	<0.05		<0.01	<0.01	<0.05	<0.05	1		8.6		<0.1		0.002	
22-Oct-18	Fine	Calm	17:43	Surface	1	9	7	<2	<2	<0.05	0.05	<0.01	<0.01	<0.05	<0.05	<1	<1	13.0	14.2	<0.1	0.10	0.003	0.003
				Middle	4.5	9		<2	<2	0.05		<0.01	<0.01	<0.05	<0.05	<1		24.0		<0.1		0.004	
				Bottom	8	<2.5		<2	<2	<0.05		<0.01	<0.01	<0.05	<0.05	<1		5.5		0.10		<0.001	
8-Nov-18	Sunny	Calm	17:59	Surface	1	12	8	<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	<1	<1	6.5	6.8	<0.1	<0.1	<0.001	<0.001
				Middle	4.5	6		<2	<2	<0.05		<0.01	<0.01	<0.05	<0.05	<1		6.8		<0.1		<0.001	
				Bottom	8	5		<2	<2	<0.05		<0.01	<0.01	<0.05	<0.05	<1		7.2		<0.1		<0.001	
10-Nov-18	Cloudy	Rough	08:00	Surface	1	6	6	<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	<1	2	8.0	8.0	<0.1	<0.1	<0.001	0.001
				Middle	4.5	5		<2	<2	<0.05		<0.01	<0.01	<0.05	<0.05	3		6.3		<0.1		0.001	
				Bottom	8	7		<2	<2	<0.05		<0.01	<0.01	<0.05	<0.05	5		7.6		<0.1		<0.001	
17-Dec-18	Sunny	Moderate	15:25	Surface	1	14	8	<2	<2	0.06	0.06	<0.01	<0.01	<0.05	<0.05	<1	<1	8.8	8.8	<0.1	<0.1	0.002	0.002
				Middle	4.5	5		<2	<2	<0.05		<0.01	<0.01	<0.05	<0.05	<1		8.9		<0.1		0.001	
				Bottom	8	4		<2	<2	0.08		<0.01	<0.01	<0.05	<0.05	<1		8.8		<0.1		0.003	
19-Dec-18	Cloudy	Calm	15:34	Surface	1	6	7	<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	4	2	9.9	10.0	<0.1	<0.1	<0.001	<0.001
				Middle	4.5	7		<2	<2	<0.05		<0.01	<0.01	<0.05	<0.05	2		10.0		<0.1		<0.001	
				Bottom	8	9		<2	<2	<0.05		<0.01	<0.01	<0.05	<0.05	1		10.1		<0.1		<0.001	

Note: 1) Averages for E. coli are geometric means. All other averaged values are arithmetic means  
2) Values are expressed as arithmetic mean / geometric means, unless all samples were below LOR. For samples that are below LOR, the value is substituted with LOR to allow for calculation.

**Contract No. SPW 09 / 2018**  
**Environmental Team Baseline Surveys for Sha Tin Cavern Sewage Treatment Works**  
**Baseline Water Quality Monitoring Results at CR9**

**(Mid-Ebb Tide)**

Date	Weather Condition	Sea Condition	Sampling Time	Depth (m)	Suspended Solids (mg/L)		5-day Biochemical Oxygen Demand (mg O <sub>2</sub> /L)		Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)		Nitrite-nitrogen (mg NO <sub>2</sub> -N/L)		Nitrate-nitrogen (mg NO <sub>3</sub> -N/L)		E. coli (cfu/100mL)		Chlorophyll-a (mg/m <sup>3</sup> )		Total Inorganic Nitrogen (mg NL)		Un-ionized Ammonia (mg/L)		
					Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value
20-Jun-18	Rainy	Calm	17:02	Surface	1	4	3	<2	<2	<0.05	0.06	<0.01	<0.01	<0.05	<0.05	<1	<1	3.7	3.8	<0.1	0.10	0.002	0.003
				Middle	13	3		<2		0.08		<0.01		<0.05		<1		3.9		<0.1		0.004	
				Bottom	25	3		<2		0.06		<0.01		<0.05		<1		3.7		<0.1		0.002	
26-Jun-18	Cloudy	Moderate	11:52	Surface	1	<2.5	3	<2	<2	<0.05	<0.05	<0.01	0.02	<0.05	<0.05	<1	<1	4.8	4.5	<0.1	<0.1	<0.001	0.001
				Middle	13	<2.5		<2		<0.05		0.02		<0.05		<1		4.8		<0.1		<0.001	
				Bottom	25	4		<2		<0.05		0.02		<0.05		<1		4.0		<0.1		0.001	
16-Jul-18	Cloudy	Moderate	14:18	Surface	1	<2.5	5	<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	<1	<1	3.0	3.0	<0.1	<0.1	0.002	0.001
				Middle	12.5	4		<2		<0.05		<0.01		<0.05		<1		3.2		<0.1		<0.001	
				Bottom	24	7		<2		<0.05		<0.01		<0.05		<1		2.8		<0.1		<0.001	
24-Jul-18	Cloudy	Moderate	10:47	Surface	1	6	4	<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	<1	<1	3.4	3.1	<0.1	<0.1	<0.001	<0.001
				Middle	13	4		<2		<0.05		<0.01		<0.05		<1		3.2		<0.1		<0.001	
				Bottom	25	3		<2		<0.05		<0.01		<0.05		<1		2.7		<0.1		<0.001	
16-Aug-18	Cloudy	Calm	15:05	Surface	1	<2.5	<2.5	<2	<2	0.17	0.12	<0.01	<0.01	<0.05	<0.05	<1	<1	1.3	1.3	0.20	0.13	0.013	0.007
				Middle	13	<2.5		<2		0.10		<0.01		<0.05		<1		0.9		<0.1		0.006	
				Bottom	25	<2.5		<2		0.08		<0.01		<0.05		<1		1.6		<0.1		<0.001	
25-Aug-18	Fine	Calm	12:41	Surface	1	4	6	<2	<2	<0.05	0.05	<0.01	<0.01	<0.05	0.08	<1	<1	4.1	4.4	<0.1	0.10	<0.001	0.001
				Middle	12	7		<2		0.06		<0.01		<0.05		<1		5.7		<0.1		0.001	
				Bottom	23	6		<2		<0.05		<0.01		<0.05		<1		3.3		<0.1		<0.001	
20-Sep-18	Fine	Moderate	10:16	Surface	1	8	5	<2	<2	<0.05	0.06	<0.01	<0.01	<0.05	<0.05	<1	<1	5.0	3.1	<0.1	<0.1	0.001	0.002
				Middle	12	<2.5		<2		<0.05		<0.01		<0.05		<1		<0.001					
				Bottom	23	5		<2		0.07		<0.01		<0.05		<1		1.1		<0.1		0.003	
23-Sep-18	Sunny	Calm	12:04	Surface	1	4	5	<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	<1	<1	1.9	3.7	<0.1	<0.1	<0.001	0.001
				Middle	12	<2.5		<2		<0.05		<0.01		<0.05		<1		4.1		<0.1		<0.001	
				Bottom	23	7		<2		<0.05		<0.01		<0.05		<1		5.1		<0.1		0.002	
13-Oct-18	Sunny	Calm	14:05	Surface	1	5	6	<2	<2	0.05	0.06	<0.01	<0.01	<0.05	<0.05	<1	<1	3.2	4.2	<0.1	<0.1	0.004	0.003
				Middle	12.5	5		<2		<0.05		<0.01		<0.05		<1		7.1		<0.1		0.002	
				Bottom	24	9		<2		0.07		<0.01		<0.05		<1		2.3		<0.1		0.004	
22-Oct-18	Fine	Calm	11:10	Surface	1	9	9	<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	0.06	<1	<1	6.9	5.5	<0.1	<0.1	<0.001	0.001
				Middle	12.5	14		<2		<0.05		<0.01		<0.05		<1		5.0		<0.1		0.001	
				Bottom	24	4		<2		<0.05		<0.01		<0.05		<1		4.5		<0.1		0.002	
8-Nov-18	Sunny	Calm	13:13	Surface	1	5	8	<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	<1	<1	3.2	3.2	<0.1	<0.1	<0.001	<0.001
				Middle	12.5	11		<2		<0.05		<0.01		<0.05		<1		3.3		<0.1		<0.001	
				Bottom	24	8		<2		<0.05		<0.01		<0.05		<1		3.1		<0.1		<0.001	
10-Nov-18	Cloudy	Rough	13:09	Surface	1	12	14	<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	<1	<1	2.6	2.5	<0.1	<0.1	0.002	0.001
				Middle	12	10		<2		<0.05		<0.01		<0.05		<1		2.5		<0.1		<0.001	
				Bottom	23	21		<2		<0.05		<0.01		<0.05		<1		2.4		<0.1		0.001	
17-Dec-18	Sunny	Moderate	08:31	Surface	1	4	4	<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	<1	<1	3.4	3.4	<0.1	<0.1	<0.001	<0.001
				Middle	12.5	4		<2		<0.05		<0.01		<0.05		<1		3.3		<0.1		<0.001	
				Bottom	24	4		<2		<0.05		<0.01		<0.05		<1		3.4		<0.1		<0.001	
19-Dec-18	Cloudy	Calm	09:49	Surface	1	4	7	<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	<1	<1	3.6	3.7	<0.1	<0.1	<0.001	<0.001
				Middle	12	9		<2		<0.05		<0.01		<0.05		<1		3.7		<0.1		<0.001	
				Bottom	23	7		<2		<0.05		<0.01		<0.05		<1		3.7		<0.1		<0.001	

Note: 1) Averages for E. coli are geometric means. All other averaged values are arithmetic means  
2) Values are expressed as arithmetic mean / geometric means, unless all samples were below LOR. For samples that are below LOR, the value is substituted with LOR to allow for calculation.

**Contract No. SPW 09 / 2018**  
**Environmental Team Baseline Surveys for Sha Tin Cavern Sewage Treatment Works**  
**Baseline Water Quality Monitoring Results at CR9**

**(Mid-Flood Tide)**

Date	Weather Condition	Sea Condition	Sampling Time	Depth (m)	Suspended Solids (mg/L)		5-day Biochemical Oxygen Demand (mg O <sub>2</sub> /L)		Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)		Nitrite-nitrogen (mg NO <sub>2</sub> -N/L)		Nitrate-nitrogen (mg NO <sub>3</sub> -N/L)		E. coli (cfu/100mL)		Chlorophyll-a (mg/m <sup>3</sup> )		Total Inorganic Nitrogen (mg NL)		Un-ionized Ammonia (mg/L)		
					Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value
20-Jun-18	Cloudy	Calm	10:21	Surface	1	3	4	<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	<1	1	4.1	3.7	<0.1	<0.1	0.002	0.002
				Middle	13	3		<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	<1	1	4.4	<0.1	<0.1	0.002	0.002	
				Bottom	25	5		<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	<1	<1	2.6	<0.1	<0.1	0.001	0.001	
26-Jun-18	Cloudy	Moderate	16:54	Surface	1	6	8	<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	<1	<1	5.9	5.8	<0.1	<0.1	<0.001	<0.001
				Middle	13	10		<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	<1	<1	6.6	<0.1	<0.1	<0.001	<0.001	
				Bottom	25	7		<2	<2	<0.05	<0.05	0.02	0.01	0.07	0.06	<1	<1	5.0	0.10	0.10	<0.001	<0.001	
16-Jul-18	Cloudy	Rough	07:18	Surface	1	4	3	<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	6	2	2.3	2.5	<0.1	<0.1	0.002	0.001
				Middle	13	3		<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	<1	<1	2.5	<0.1	<0.1	<0.001	<0.001	
				Bottom	25	<2.5		<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	<1	<1	2.6	<0.1	<0.1	<0.001	<0.001	
24-Jul-18	Cloudy	Calm	16:23	Surface	1	4	4	<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	<1	<1	1.4	1.6	<0.1	<0.1	<0.001	<0.001
				Middle	13	4		<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	<1	<1	1.7	<0.1	<0.1	<0.001	<0.001	
				Bottom	25	3		<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	<1	<1	1.7	<0.1	<0.1	<0.001	<0.001	
16-Aug-18	Cloudy	Calm	08:35	Surface	1	4	4	<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	<1	<1	0.77	0.6	<0.1	<0.1	0.002	0.004
				Middle	13	4		<2	<2	0.10	0.07	<0.01	<0.01	<0.05	<0.05	<1	<1	0.55	0.10	0.10	0.007	0.007	
				Bottom	25	5		<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	<1	<1	0.60	<0.1	<0.1	0.002	0.002	
25-Aug-18	Fine	Calm	18:20	Surface	1	8	11	<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	<1	<1	3.9	4.4	<0.1	<0.1	0.003	0.002
				Middle	13	11		<2	<2	<0.05	0.05	<0.01	<0.01	0.08	0.08	1	1	6.4	<0.1	<0.1	<0.001	<0.001	
				Bottom	25	13		<2	<2	0.06	<0.05	<0.01	<0.01	0.10	<0.05	1	1	2.8	0.20	0.20	0.002	0.002	
20-Sep-18	Fine	Moderate	16:28	Surface	1	11	11	<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	<1	<1	4.6	5.0	<0.1	<0.1	0.004	0.002
				Middle	12	17		<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	<1	<1	5.9	<0.1	<0.1	<0.001	<0.001	
				Bottom	23	6		<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	<1	<1	4.4	<0.1	<0.1	0.001	0.001	
23-Sep-18	Cloudy	Moderate	17:14	Surface	1	4	5	<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	<1	<1	1.5	1.8	<0.1	<0.1	0.001	0.004
				Middle	12	7		<2	<2	0.10	0.08	<0.01	<0.01	<0.05	<0.05	<1	<1	1.6	0.10	0.10	0.006	0.006	
				Bottom	23	5		<2	<2	0.08	<0.05	<0.01	<0.01	<0.05	<0.05	<1	<1	2.2	0.10	0.10	0.005	0.005	
13-Oct-18	Sunny	Calm	09:42	Surface	1	<2.5	7	<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	<1	<1	6.0	3.7	<0.1	<0.1	<0.001	0.005
				Middle	12.5	3		<2	<2	0.19	0.10	<0.01	<0.01	<0.05	<0.05	<1	<1	1.7	0.20	0.20	0.014	0.014	
				Bottom	24	14		<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	<1	<1	3.5	<0.1	<0.1	0.001	0.001	
22-Oct-18	Fine	Calm	16:38	Surface	1	7	6	<2	<2	0.06	<0.05	<0.01	<0.01	<0.05	<0.05	<1	<1	6.7	4.9	<0.1	<0.1	0.004	0.003
				Middle	12.5	3		<2	<2	<0.05	0.05	<0.01	<0.01	<0.05	0.06	<1	<1	3.0	<0.1	<0.1	0.003	0.003	
				Bottom	24	8		<2	<2	<0.05	<0.05	<0.01	<0.01	0.07	<0.05	<1	<1	5.1	<0.1	<0.1	<0.001	<0.001	
8-Nov-18	Sunny	Calm	16:43	Surface	1	4	3	<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	<1	<1	2.1	2.3	<0.1	<0.1	<0.001	<0.001
				Middle	12.5	<2.5		<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	<1	<1	2.4	<0.1	<0.1	<0.001	<0.001	
				Bottom	24	3		<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	<1	<1	2.5	<0.1	<0.1	<0.001	<0.001	
10-Nov-18	Cloudy	Rough	09:20	Surface	1	6	7	<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	<1	<1	0.8	2.0	<0.1	<0.1	<0.001	0.001
				Middle	12	7		<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	<1	<1	2.4	<0.1	<0.1	0.001	0.001	
				Bottom	23	9		<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	<1	<1	2.7	<0.1	<0.1	0.002	0.002	
17-Dec-18	Sunny	Moderate	14:04	Surface	1	14	17	<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	<1	<1	4.5	4.6	<0.1	<0.1	<0.001	<0.001
				Middle	12.5	27		<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	<1	<1	4.5	<0.1	<0.1	<0.001	<0.001	
				Bottom	24	11		<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	<1	<1	4.7	<0.1	<0.1	<0.001	<0.001	
19-Dec-18	Cloudy	Calm	14:38	Surface	1	7	9	<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	<1	<1	3.7	3.6	<0.1	<0.1	<0.001	<0.001
				Middle	12	10		<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	<1	<1	3.6	<0.1	<0.1	<0.001	<0.001	
				Bottom	23	11		<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	<1	<1	3.4	<0.1	<0.1	<0.001	<0.001	

Note: 1) Averages for E. coli are geometric means. All other averaged values are arithmetic means  
2) Values are expressed as arithmetic mean / geometric means, unless all samples were below LOR. For samples that are below LOR, the value is substituted with LOR to allow for calculation.

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

**Contract No. SPW 09 / 2018**  
**Environmental Team Baseline Surveys for Sha Tin Cavern Sewage Treatment Works**  
**Baseline Water Quality Monitoring Results at C1**

**(Mid-Ebb Tide)**

Date	Weather Condition	Sea Condition	Sampling Time	Depth (m)	Suspended Solids (mg/L)		5-day Biochemical Oxygen Demand (mg O <sub>2</sub> /L)		Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)		Nitrite-nitrogen (mg NO <sub>2</sub> -N/L)		Nitrate-nitrogen (mg NO <sub>3</sub> -N/L)		E. coli (cfu/100mL)		Chlorophyll-a (mg/m <sup>3</sup> )		Total Inorganic Nitrogen (mg N/L)		Un-ionized Ammonia (mg/L)		
					Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value
20-Jun-18	Cloudy	Calm	18:18	Surface	1	3	4	<2	<2	0.14	0.14	<0.01	<0.01	0.08	0.07	2	2	5.2	5.1	0.20	0.20	0.004	0.004
				Middle	3.5	7		<2	<2	0.13	0.14	<0.01	<0.01	0.06	0.07	2	2	5.5	5.1	0.20	0.20	0.004	0.004
				Bottom	6	3		<2	<2	0.15	0.14	<0.01	<0.01	0.06	0.07	1	2	4.7	5.1	0.20	0.20	0.003	0.004
26-Jun-18	Cloudy	Calm	11:32	Surface	1	5	6	<2	<2	<0.05	0.06	<0.01	0.02	0.08	0.06	8	2	13.0	18.0	0.10	0.10	0.003	0.002
				Middle	3.5	6		<2	<2	<0.05	0.06	0.02	0.02	<0.05	0.06	1	2	17.0	18.0	<0.1	0.10	0.002	0.002
				Bottom	6	8		<2	<2	0.07	0.06	0.02	0.02	<0.05	0.06	1	2	24.0	18.0	0.10	0.10	0.002	0.002
16-Jul-18	Cloudy	Moderate	15:35	Surface	1	<2.5	4	<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	1	3	5.1	5.6	<0.1	<0.1	0.001	0.001
				Middle	3.5	3		<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	5	3	5.3	5.6	<0.1	<0.1	0.002	0.001
				Bottom	6	6		<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	8	3	6.3	5.6	<0.1	<0.1	0.001	0.001
24-Jul-18	Cloudy	Moderate	10:24	Surface	1	<2.5	5	<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	98	100	8.9	8.9	<0.1	<0.1	<0.001	<0.001
				Middle	4	5		<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	94	100	8.9	8.9	<0.1	<0.1	<0.001	<0.001
				Bottom	7	7		<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	110	100	8.8	8.9	<0.1	<0.1	<0.001	<0.001
16-Aug-18	Cloudy	Calm	16:18	Surface	1	5	4	<2	<2	0.07	0.06	<0.01	<0.01	0.22	0.11	17	9	22.0	20.7	0.30	0.17	0.008	0.004
				Middle	3.5	4		<2	<2	<0.05	0.06	<0.01	<0.01	<0.05	0.11	8	9	23.0	20.7	<0.1	0.17	<0.001	0.004
				Bottom	6	3		<2	<2	0.06	0.06	<0.01	<0.01	<0.05	0.11	5	9	17.0	20.7	<0.1	0.17	0.003	0.004
25-Aug-18	Fine	Calm	12:08	Surface	1	5	7	<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	7	3	6.0	12.3	<0.1	<0.1	<0.001	<0.001
				Middle	3.5	9		<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	2	3	19.0	12.3	<0.1	<0.1	<0.001	<0.001
				Bottom	6	7		<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	3	3	12.0	12.3	<0.1	<0.1	<0.001	<0.001
20-Sep-18	Fine	Calm	09:26	Surface	1	5	4	<2	<2	0.06	0.06	<0.01	<0.01	0.19	0.18	220	145	18.0	18.7	0.20	0.20	0.006	0.004
				Middle	3.5	4		<2	<2	<0.05	0.06	<0.01	<0.01	0.18	0.18	140	145	20.0	18.7	0.20	0.20	0.002	0.004
				Bottom	6	4		<2	<2	0.08	0.06	<0.01	<0.01	0.16	0.18	99	145	18.0	18.7	0.20	0.20	0.004	0.004
23-Sep-18	Sunny	Calm	11:25	Surface	1	4	7	<2	<2	<0.05	0.06	<0.01	<0.01	<0.05	<0.05	5	4	8.4	8.9	<0.1	<0.1	<0.001	0.003
				Middle	3.5	7		<2	<2	0.09	0.06	<0.01	<0.01	<0.05	<0.05	4	4	10.0	8.9	<0.1	<0.1	0.007	0.003
				Bottom	6	10		<2	<2	0.05	0.06	<0.01	<0.01	<0.05	<0.05	3	4	8.2	8.9	<0.1	<0.1	0.002	0.003
13-Oct-18	Sunny	Calm	15:12	Surface	1	5	5	<2	<2	<0.05	0.15	<0.01	<0.01	<0.05	<0.05	13	3	12.0	13.3	<0.1	0.20	0.002	0.006
				Middle	3.5	6		<2	<2	<0.05	0.15	<0.01	<0.01	<0.05	<0.05	1	3	14.0	13.3	<0.1	0.20	0.002	0.006
				Bottom	6	3		<2	<2	0.36	0.15	<0.01	<0.01	<0.05	<0.05	2	3	14.0	13.3	0.40	0.20	0.015	0.006
22-Oct-18	Fine	Calm	10:46	Surface	1	6	6	<2	<2	0.06	0.05	<0.01	<0.01	0.09	0.06	2	1	6.5	8.7	0.20	0.13	0.005	0.002
				Middle	4	3		<2	<2	<0.05	0.05	<0.01	<0.01	<0.05	0.06	<1	1	9.6	8.7	<0.1	0.13	<0.001	0.002
				Bottom	7	10		<2	<2	<0.05	0.05	<0.01	<0.01	<0.05	0.06	1	1	9.9	8.7	<0.1	0.13	<0.001	0.002
8-Nov-18	Sunny	Calm	12:41	Surface	1	9	7	<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	7	2	15.0	14.0	<0.1	<0.1	<0.001	<0.001
				Middle	3.5	4		<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	<1	2	14.0	14.0	<0.1	<0.1	<0.001	<0.001
				Bottom	6	7		<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	<1	2	13.0	14.0	<0.1	<0.1	<0.001	<0.001
10-Nov-18	Cloudy	Rough	13:48	Surface	1	5	7	<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	14	4	11.0	9.8	<0.1	<0.1	0.002	0.001
				Middle	3.5	10		<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	1	4	8.8	9.8	<0.1	<0.1	<0.001	0.001
				Bottom	6	7		<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	6	4	9.5	9.8	<0.1	<0.1	<0.001	0.001
17-Dec-18	Sunny	Moderate	07:42	Surface	1	8	8	<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	7	5	8.5	9.1	<0.1	<0.1	<0.001	<0.001
				Middle	3.5	6		<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	7	5	9.4	9.1	<0.1	<0.1	<0.001	<0.001
				Bottom	6	9		<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	2	5	9.3	9.1	<0.1	<0.1	<0.001	<0.001
19-Dec-18	Cloudy	Moderate	10:12	Surface	1	6	7	<2	<2	<0.05	0.05	<0.01	<0.01	<0.05	<0.05	16	23	8.8	8.3	<0.1	<0.1	0.001	0.002
				Middle	3.5	5		<2	<2	0.05	0.05	<0.01	<0.01	<0.05	<0.05	19	23	8.1	8.3	<0.1	<0.1	0.002	0.002
				Bottom	6	9		<2	<2	0.06	0.05	<0.01	<0.01	<0.05	<0.05	39	23	8.0	8.3	<0.1	<0.1	0.002	0.002

Note: 1) Averages for E. coli are geometric means. All other averaged values are arithmetic means  
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**Environmental Team Baseline Surveys for Sha Tin Cavern Sewage Treatment Works**  
**Baseline Water Quality Monitoring Results at C1**

**(Mid-Flood Tide)**

Date	Weather Condition	Sea Condition	Sampling Time	Depth (m)	Suspended Solids (mg/L)		5-day Biochemical Oxygen Demand (mg O <sub>2</sub> /L)		Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)		Nitrite-nitrogen (mg NO <sub>2</sub> -N/L)		Nitrate-nitrogen (mg NO <sub>3</sub> -N/L)		E. coli (cfu/100mL)		Chlorophyll-a (mg/m <sup>3</sup> )		Total Inorganic Nitrogen (mg NL)		Un-ionized Ammonia (mg/L)		
					Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value
20-Jun-18	Cloudy	Calm	09:51	Surface	1	4	4	<2	<2	0.16	0.13	<0.01	<0.01	0.05	0.05	40	30	7.1	7.0	0.20	0.20	0.006	0.004
				Middle	4	3		<2		0.12		<0.01		<0.05		35		7.1		0.003			
				Bottom	7	4		<2		0.12		<0.01		<0.05		20		6.9		0.003			
26-Jun-18	Fine	Calm	18:18	Surface	1	5	4	<2	<2	<0.05	0.08	<0.01	0.01	<0.05	<0.05	<1	1	14.0	17.0	<0.1	0.10	0.002	0.003
				Middle	3.5	4		<2		0.09		<0.01		<0.05		<1		17.0		0.004			
				Bottom	6	4		<2		0.09		0.02		<0.05		1		20.0		0.003			
16-Jul-18	Cloudy	Rough	06:28	Surface	1	3	4	<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	180	160	2.8	3.0	<0.1	<0.1	<0.001	0.001
				Middle	4	3		<2		<0.05		<0.01		<0.05		260		2.7		0.002			
				Bottom	7	6		<2		<0.05		<0.01		<0.05		87		3.4		<0.001			
24-Jul-18	Cloudy	Calm	17:07	Surface	1	5	6	<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	4	3	11.0	11.3	<0.1	<0.1	<0.001	<0.001
				Middle	3.5	7		<2		<0.05		<0.01		<0.05		4		12.0		<0.001			
				Bottom	6	7		<2		<0.05		<0.01		<0.05		1		11.0		<0.001			
18-Aug-18	Cloudy	Calm	07:59	Surface	1	<2.5	<2.5	<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	36	8	21.0	15.7	<0.1	<0.1	0.003	0.002
				Middle	4	<2.5		<2		<0.05		<0.01		<0.05		2		16.0		0.001			
				Bottom	7	<2.5		<2		<0.05		<0.01		<0.05		7		10.0		0.002			
25-Aug-18	Fine	Calm	18:53	Surface	1	6	10	<2	<2	0.06	0.05	<0.01	<0.01	<0.05	<0.05	1	1	5.7	10.6	<0.1	<0.1	0.006	0.003
				Middle	3.5	13		<2		<0.05		<0.01		<0.05		<1		12.0		<0.001			
				Bottom	6	12		<2		<0.05		<0.01		<0.05		<1		14.0		<0.001			
20-Sep-18	Fine	Calm	17:17	Surface	1	4	9	<2	<2	<0.05	<0.05	<0.01	<0.01	0.06	0.15	5	5	10.0	11.3	<0.1	0.20	0.003	0.002
				Middle	3.5	9		<2		<0.05		<0.01		<0.05		6		14.0		0.003			
				Bottom	6	14		<2		<0.05		<0.01		<0.05		4		10.0		<0.001			
23-Sep-18	Cloudy	Calm	18:07	Surface	1	9	7	<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	<1	<1	7.3	7.3	<0.1	<0.1	0.004	0.002
				Middle	3.5	8		<2		<0.05		<0.01		<0.05		<1		7.2		0.001			
				Bottom	6	<2.5		<2		<0.05		<0.01		<0.05		<1		7.5		0.001			
13-Oct-18	Sunny	Calm	09:00	Surface	1	<2.5	4	<2	<2	0.11	0.08	<0.01	<0.01	0.08	0.09	360	111	8.3	9.8	0.20	0.17	0.010	0.006
				Middle	3.5	3		<2		0.07		<0.01		<0.13		210		10.0		0.004			
				Bottom	6	5		<2		0.06		<0.01		<0.05		18		11.0		0.003			
22-Oct-18	Fine	Calm	17:49	Surface	1	6	8	<2	<2	<0.05	<0.05	<0.01	<0.01	0.10	0.07	8	2	6.6	15.5	0.10	0.10	0.002	0.001
				Middle	4	8		<2		<0.05		<0.01		<0.05		<1		30.0		<0.001			
				Bottom	7	9		<2		<0.05		<0.01		<0.05		<1		10.0		<0.001			
8-Nov-18	Sunny	Calm	17:27	Surface	1	5	8	<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	<1	<1	9.2	9.3	<0.1	<0.1	<0.001	<0.001
				Middle	4	5		<2		<0.05		<0.01		<0.05		<1		8.7		<0.001			
				Bottom	7	13		<2		<0.05		<0.01		<0.05		<1		9.9		<0.001			
10-Nov-18	Cloudy	Rough	08:27	Surface	1	9	7	<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	1	2	12.0	10.6	<0.1	<0.1	0.001	0.001
				Middle	3.5	3		<2		<0.05		<0.01		<0.05		3		11.0		0.002			
				Bottom	6	8		<2		<0.05		<0.01		<0.05		2		8.8		<0.001			
17-Dec-18	Sunny	Moderate	14:37	Surface	1	7	8	<2	<2	<0.05	0.06	<0.01	<0.01	<0.05	<0.05	8	15	10.0	9.7	<0.1	<0.1	0.001	0.002
				Middle	3.5	6		<2		0.06		<0.01		<0.05		14		10.0		0.002			
				Bottom	6	11		<2		0.06		<0.01		<0.05		29		9.2		0.002			
19-Dec-18	Cloudy	Moderate	15:41	Surface	1	8	9	<2	<2	0.07	0.06	<0.01	<0.01	<0.05	<0.05	6	4	8.0	8.2	<0.1	<0.1	0.003	0.002
				Middle	3.5	7		<2		<0.05		<0.01		<0.05		2		7.8		0.002			
				Bottom	6	13		<2		<0.05		<0.01		<0.05		5		6.7		<0.001			

Note: 1) Averages for E. coli are geometric means. All other averaged values are arithmetic means  
2) Values are expressed as arithmetic mean / geometric means, unless all samples were below LOR. For samples that are below LOR, the value is substituted with LOR to allow for calculation.

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**Environmental Team Baseline Surveys for Sha Tin Cavern Sewage Treatment Works**  
**Baseline Water Quality Monitoring Results at F1**

**(Mid-Ebb Tide)**

Date	Weather Condition	Sea Condition	Sampling Time	Depth (m)	Suspended Solids (mg/L)		5-day Biochemical Oxygen Demand (mg O <sub>2</sub> /L)		Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)		Nitrite-nitrogen (mg NO <sub>2</sub> -N/L)		Nitrate-nitrogen (mg NO <sub>3</sub> -N/L)		E. coli (cfu/100mL)		Chlorophyll-a (mg/m <sup>3</sup> )		Total Inorganic Nitrogen (mg NL)		Unionized Ammonia (mg/L)			
					Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average
20-Jun-18	Cloudy	Calm	17:10	Surface	1	3	3	<2	<2	0.07	0.07	<0.01	<0.01	0.08	0.08	14	5	6.8	6.8	0.10	0.10	0.003	0.003	
				Middle	3	4		<2	<2	0.07	0.07	<0.01	<0.01	0.09	0.09	1	5	7.2	6.8	0.20	0.13	0.003	0.002	
				Bottom	5	3		<2	<2	0.06	0.06	<0.01	<0.01	0.07	0.07	8	5	6.5	6.8	0.10	0.13	0.001	0.002	
26-Jun-18	Cloudy	Calm	12:50	Surface	1	5	7	<2	<2	0.06	0.06	<0.01	<0.01	<0.05	<0.05	3	10	12.0	13.0	<0.1	<0.1	0.007	0.004	
				Middle	-	-		-	<2	<2	-	0.06	-	<0.01	<0.01	-	10	-	13.0	-	<0.1	<0.1	-	0.004
				Bottom	4.6	9		<2	<2	<0.05	0.06	<0.01	<0.01	<0.05	<0.05	34	10	14.0	13.0	<0.1	<0.1	<0.001	0.004	
16-Jul-18	Cloudy	Moderate	14:11	Surface	1	<2.5	3	<2	<2	0.07	0.10	<0.01	<0.01	0.11	0.09	31	19	4.4	5.1	0.18	0.17	0.003	0.004	
				Middle	3.5	3		<2	<2	0.13	0.10	<0.01	<0.01	<0.05	<0.05	16	19	5.6	5.1	0.15	0.17	0.006	0.004	
				Bottom	6	<2.5		<2	<2	0.09	0.10	<0.01	<0.01	0.10	0.09	13	19	5.3	5.1	0.19	0.17	0.003	0.004	
24-Jul-18	Cloudy	Moderate	11:30	Surface	1	5	4	<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	2	4	9.4	10.2	<0.1	<0.1	<0.001	<0.001	
				Middle	-	-		-	<2	<2	-	<0.05	-	<0.01	<0.01	-	4	-	10.2	<0.1	<0.1	-	<0.001	
				Bottom	4.4	3		<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	7	4	11.0	10.2	<0.1	<0.1	<0.001	<0.001	
16-Aug-18	Cloudy	Calm	15:04	Surface	1	3	3	<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	13	10	26.0	19.3	<0.1	<0.1	0.004	0.003	
				Middle	3	4		<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	9	10	17.0	19.3	<0.1	<0.1	0.002	0.003	
				Bottom	5	<2.5		<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	9	10	15.0	19.3	<0.1	<0.1	0.002	0.003	
25-Aug-18	Fine	Calm	13:14	Surface	1	11	9	<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	3	4	15.0	18.0	<0.1	<0.1	<0.001	<0.001	
				Middle	-	-		-	<2	<2	-	<0.05	-	<0.01	<0.01	-	4	-	18.0	<0.1	<0.1	-	<0.001	
				Bottom	4.1	7		<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	6	4	21.0	18.0	<0.1	<0.1	<0.001	<0.001	
20-Sep-18	Fine	Calm	10:27	Surface	1	3	4	<2	<2	0.35	0.24	<0.01	<0.01	0.28	0.17	860	150	6.8	9.4	0.60	0.35	0.036	0.021	
				Middle	-	-		-	<2	<2	-	0.24	-	<0.01	<0.01	-	150	-	9.4	-	0.35	-	-	0.021
				Bottom	4.4	5		<2	<2	0.12	0.24	<0.01	<0.01	<0.05	<0.05	26	150	12.0	9.4	0.10	0.35	0.006	0.021	
23-Sep-18	Sunny	Calm	12:29	Surface	1	3	4	<2	<2	0.12	0.09	<0.01	<0.01	<0.05	<0.05	1	2	6.6	5.4	0.10	0.10	0.018	0.010	
				Middle	-	-		-	<2	<2	-	0.09	-	<0.01	<0.01	-	2	-	5.4	-	0.10	-	-	0.010
				Bottom	4.5	5		<2	<2	<0.05	0.09	<0.01	<0.01	<0.05	<0.05	6	2	4.2	5.4	<0.1	0.10	0.002	0.010	
13-Oct-18	Sunny	Calm	14:12	Surface	1	<2.5	<2.5	<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	6	7	7.7	12.9	<0.1	<0.1	0.003	0.003	
				Middle	3	<2.5		<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	5	7	21.0	12.9	<0.1	<0.1	0.004	0.003	
				Bottom	5	<2.5		<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	13	7	10.0	12.9	<0.1	<0.1	0.003	0.003	
22-Oct-18	Fine	Calm	11:50	Surface	1	5	7	<2	<2	<0.05	0.06	<0.01	<0.01	<0.05	0.08	2	34	9.7	12.9	<0.1	0.15	0.001	0.001	
				Middle	-	-		-	<2	<2	-	0.06	-	<0.01	<0.01	-	34	-	12.9	-	0.15	-	-	0.001
				Bottom	4.4	9		<2	<2	0.06	0.06	<0.01	<0.01	0.10	0.08	580	34	16.0	12.9	0.20	0.15	0.002	0.001	
8-Nov-18	Sunny	Calm	13:46	Surface	1	4	4	<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	7	4	12.0	11.5	<0.1	<0.1	<0.001	<0.001	
				Middle	-	-		-	<2	<2	-	<0.05	-	<0.01	<0.01	-	4	-	11.5	-	<0.1	<0.1	-	<0.001
				Bottom	4.7	4		<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	2	4	11.0	11.5	<0.1	<0.1	<0.001	<0.001	
10-Nov-18	Cloudy	Rough	13:19	Surface	1	3	4	<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	4	5	8.3	8.2	<0.1	<0.1	0.001	0.001	
				Middle	3	5		<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	6	5	8.5	8.2	<0.1	<0.1	<0.001	0.001	
				Bottom	5	5		<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	5	5	7.7	8.2	<0.1	<0.1	<0.001	0.001	
17-Dec-18	Sunny	Moderate	08:41	Surface	1	7	8	<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	5	6	6.0	6.4	<0.1	0.14	<0.001	<0.001	
				Middle	-	-		-	<2	<2	-	<0.05	-	<0.01	<0.01	-	6	-	6.4	-	0.14	-	-	<0.001
				Bottom	4.8	8		<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	7	6	6.7	6.4	0.18	0.14	<0.001	<0.001	
19-Dec-18	Cloudy	Moderate	11:17	Surface	1	5	7	<2	<2	<0.05	<0.05	<0.01	<0.01	0.08	0.06	3	2	7.0	7.1	0.11	0.11	0.002	0.002	
				Middle	-	-		-	<2	<2	-	<0.05	-	<0.01	<0.01	-	2	-	7.1	-	0.11	-	-	0.002
				Bottom	4.9	9		<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	1	2	7.1	7.1	<0.1	0.11	<0.001	0.002	

Note: 1) Averages for E. coli are geometric means. All other averaged values are arithmetic means  
2) Values are expressed as arithmetic mean / geometric means, unless all samples were below LOR. For samples that are below LOR, the value is substituted with LOR to allow for calculation.

**Contract No. SPW 09 / 2018**  
**Environmental Team Baseline Surveys for Sha Tin Cavern Sewage Treatment Works**  
**Baseline Water Quality Monitoring Results at F1**

**(Mid-Flood Tide)**

Date	Weather Condition	Sea Condition	Sampling Time	Depth (m)	Suspended Solids (mg/L)		5-day Biochemical Oxygen Demand (mg O <sub>2</sub> /L)		Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)		Nitrite-nitrogen (mg NO <sub>2</sub> -N/L)		Nitrate-nitrogen (mg NO <sub>3</sub> -N/L)		E. coli (cfu/100mL)		Chlorophyll-a (mg/m <sup>3</sup> )		Total Inorganic Nitrogen (mg NL)		Unionized Ammonia (mg/L)		
					Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value
20-Jun-18	Cloudy	Calm	11:15	Surface	1	<2.5	3	<2	<2	0.09	0.09	<0.01	<0.01	0.05	0.05	22	9	4.7	5.6	0.10	0.13	0.004	0.003
				Middle	3.5	3		<2		0.08		<0.01		<0.05		14		6.7		0.003			
				Bottom	6	3		<2		0.10		<0.01		0.05		2		5.4		0.002			
26-Jun-18	Fine	Calm	16:57	Surface	1	3	4	<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	1	1	14.0	13.5	<0.1	<0.1	0.003	0.002
				Middle	-	-		-		-		-		-		-		-		-		-	
				Bottom	4.2	5		<2		<0.05		<0.01		<0.05		2		13.0		<0.1		<0.001	
16-Jul-18	Cloudy	Rough	07:37	Surface	1	4	4	<2	<2	0.09	0.06	<0.01	<0.01	<0.05	<0.05	23	23	3.0	2.8	0.11	0.10	0.004	0.002
				Middle	3	4		<2		<0.05		<0.01		<0.05		23		2.9		<0.1		0.001	
				Bottom	5	<2.5		<2		<0.05		<0.01		<0.05		23		2.4		<0.1		0.002	
24-Jul-18	Cloudy	Calm	16:05	Surface	1	5	7	<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	<1	1	10.0	9.8	<0.1	<0.1	<0.001	0.001
				Middle	-	-		-		-		-		-		-		-		-		-	
				Bottom	4.6	8		<2		<0.05		<0.01		<0.05		1		9.5		<0.1		0.001	
16-Aug-18	Cloudy	Calm	09:15	Surface	1	3	3	<2	<2	<0.05	0.11	<0.01	<0.01	0.06	0.05	17	18	23.0	18.3	<0.1	0.13	0.003	0.005
				Middle	3.5	3		<2		0.06		<0.01		<0.05		5		18.0		<0.1		0.003	
				Bottom	6	3		<2		0.21		<0.01		<0.05		64		14.0		0.20		0.010	
25-Aug-18	Fine	Calm	17:50	Surface	1	13	13	<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	2	3	13.0	15.5	<0.1	<0.1	<0.001	<0.001
				Middle	-	-		-		-		-		-		-		-		-		-	
				Bottom	4.7	13		<2		<0.05		<0.01		<0.05		4		18.0		<0.1		<0.001	
20-Sep-18	Fine	Calm	16:19	Surface	1	<2.5	4	<2	<2	0.05	0.05	<0.01	<0.01	0.10	0.08	4	10	14.0	12.5	0.10	0.10	0.006	0.004
				Middle	-	-		-		-		-		-		-		-		-		-	
				Bottom	4.4	6		<2		<0.05		<0.01		<0.05		23		11.0		<0.1		<0.001	
23-Sep-18	Cloudy	Calm	17:12	Surface	1	6	6	<2	<2	0.07	0.07	<0.01	<0.01	<0.05	<0.05	45	31	12.0	12.0	<0.1	<0.1	0.008	0.006
				Middle	-	-		-		-		-		-		-		-		-		-	
				Bottom	4.9	6		<2		0.07		<0.01		<0.05		22		12.0		<0.1		0.003	
13-Oct-18	Sunny	Calm	10:01	Surface	1	3	3	<2	<2	0.08	0.07	<0.01	<0.01	<0.05	<0.05	78	63	8.5	8.3	<0.1	<0.1	0.007	0.005
				Middle	-	-		-		-		-		-		-		-		-		-	
				Bottom	4.4	<2.5		<2		<0.05		<0.01		<0.05		53		8.0		<0.1		0.002	
22-Oct-18	Fine	Calm	16:44	Surface	1	5	6	<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	<1	2	9.2	9.5	<0.1	<0.1	0.002	0.001
				Middle	-	-		-		-		-		-		-		-		-		-	
				Bottom	4.6	6		<2		<0.05		<0.01		<0.05		4		9.7		<0.1		<0.001	
8-Nov-18	Sunny	Calm	16:29	Surface	1	6	6	<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	15	5	22.0	18.5	<0.1	<0.1	<0.001	<0.001
				Middle	-	-		-		-		-		-		-		-		-		-	
				Bottom	4.5	5		<2		<0.05		<0.01		<0.05		2		15.0		<0.1		<0.001	
10-Nov-18	Cloudy	Rough	09:24	Surface	1	8	6	<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	<1	1	11.0	9.8	<0.1	<0.1	<0.001	<0.001
				Middle	3	3		<2		<0.05		<0.01		<0.05		1		8.5		<0.1		<0.001	
				Bottom	5	7		<2		<0.05		<0.01		<0.05		2		10.0		<0.1		<0.001	
17-Dec-18	Sunny	Moderate	13:32	Surface	1	8	8	<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	2	1	6.9	6.9	0.11	0.11	0.002	0.002
				Middle	-	-		-		-		-		-		-		-		-		-	
				Bottom	4.8	7		<2		<0.05		<0.01		<0.05		<1		6.8		<0.1		<0.001	
19-Dec-18	Cloudy	Moderate	14:46	Surface	1	10	10	<2	<2	0.05	0.05	<0.01	<0.01	<0.05	<0.05	13	26	6.4	8.2	<0.1	<0.1	0.002	0.002
				Middle	-	-		-		-		-		-		-		-		-		-	
				Bottom	4.9	9		<2		<0.05		<0.01		<0.05		52		10.0		<0.1		0.001	

Note: 1) Averages for E. coli are geometric means. All other averaged values are arithmetic means  
2) Values are expressed as arithmetic mean / geometric means, unless all samples were below LOR. For samples that are below LOR, the value is substituted with LOR to allow for calculation.

Contract No. SPW 09 / 2018

Environmental Team Baseline Surveys for Sha Tin Cavern Sewage Treatment Works

Baseline Water Quality Monitoring Results at F2

(Mid-Ebb Tide)

Date	Weather Condition	Sea Condition	Sampling Time	Depth (m)	Suspended Solids (mg/L)		5-day Biochemical Oxygen Demand (mg O <sub>2</sub> /L)		Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)		Nitrite-nitrogen (mg NO <sub>2</sub> -N/L)		Nitrate-nitrogen (mg NO <sub>3</sub> -N/L)		E. coli (cfu/100mL)		Chlorophyll-a (mg/m <sup>3</sup> )		Total Inorganic Nitrogen (mg NL)		Un-ionized Ammonia (mg/L)		
					Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value
20-Jun-18	Rainy	Calm	18:04	Surface	1	3	3	<2	<2	0.06	0.08	<0.01	<0.01	<0.05	<0.05	1	1	4.3	5.0	<0.1	0.10	0.004	0.003
				Middle	3	3		<2		0.08		<0.01		<0.05		1		5.5		0.004			
				Bottom	5	4		<2		0.10		<0.01		<0.05		2		5.2		0.002			
26-Jun-18	Cloudy	Moderate	10:59	Surface	1	10	8	<2	<2	0.07	0.07	<0.01	<0.01	<0.05	<0.05	7	3	10.0	9.8	<0.1	0.10	0.006	0.003
				Middle	3	6		<2		<0.05		<0.01		<0.05		3		7.3		<0.001			
				Bottom	5	7		<2		0.09		<0.01		<0.05		<1		12.0		0.002			
16-Jul-18	Cloudy	Moderate	15:22	Surface	1	3	4	<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	1	1	4.6	5.5	<0.1	<0.1	<0.001	<0.001
				Middle	3	3		<2		<0.05		<0.01		<0.05		3		6.0		<0.001			
				Bottom	5	5		<2		<0.05		<0.01		<0.05		<1		5.8		<0.001			
24-Jul-18	Cloudy	Moderate	09:53	Surface	1	10	8	<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	<1	<1	14.0	14.3	<0.1	<0.1	<0.001	0.002
				Middle	3	6		<2		<0.05		<0.01		<0.05		<1		18.0		<0.001			
				Bottom	5	7		<2		<0.05		<0.01		<0.05		<1		11.0		<0.001			
16-Aug-18	Cloudy	Calm	15:59	Surface	1	4	4	<2	<2	0.08	0.06	<0.01	<0.01	<0.05	<0.05	9	9	14.0	10.9	<0.1	<0.1	0.011	0.005
				Middle	3	4		<2		<0.05		<0.01		<0.05		11		13.0		<0.003			
				Bottom	5	<2.5		<2		<0.05		<0.01		<0.05		7		5.8		<0.001			
25-Aug-18	Fine	Calm	11:44	Surface	1	12	11	<2	<2	0.06	0.05	<0.01	<0.01	<0.05	<0.05	6	3	3.7	12.2	<0.1	<0.1	0.003	0.002
				Middle	3.5	14		<2		<0.05		<0.01		<0.05		1		19.0		<0.001			
				Bottom	6	6		<2		<0.05		<0.01		<0.05		7		14.0		<0.001			
20-Sep-18	Fine	Moderate	09:15	Surface	1	6	6	<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	3	4	8.0	12.0	<0.1	<0.1	0.003	0.002
				Middle	3	8		<2		<0.05		<0.01		<0.05		4		13.0		<0.002			
				Bottom	5	5		<2		<0.05		<0.01		<0.05		7		15.0		0.001			
23-Sep-18	Sunny	Calm	11:07	Surface	1	4	7	<2	<2	0.06	0.06	<0.01	<0.01	<0.05	<0.05	6	3	8.3	8.5	<0.1	<0.1	0.007	0.004
				Middle	3.5	6		<2		0.06		<0.01		<0.05		4		8.5		0.004			
				Bottom	6	12		<2		<0.05		<0.01		<0.05		1		8.8		0.001			
13-Oct-18	Sunny	Calm	15:06	Surface	1	<2.5	3	<2	<2	0.09	0.06	<0.01	<0.01	<0.05	<0.05	4	2	11.0	10.2	<0.1	<0.1	0.007	0.004
				Middle	3	4		<2		0.05		<0.01		<0.05		<1		12.0		<0.005			
				Bottom	5	3		<2		<0.05		<0.01		<0.05		<1		7.5		0.001			
22-Oct-18	Fine	Calm	10:17	Surface	1	8	9	<2	<2	0.10	0.07	<0.01	<0.01	<0.05	<0.05	1	1	5.6	5.3	0.10	0.10	0.009	0.004
				Middle	3	15		<2		<0.05		<0.01		<0.05		3		5.6		<0.001			
				Bottom	5	5		<2		<0.05		<0.01		<0.05		<1		4.8		0.002			
8-Nov-18	Sunny	Calm	12:10	Surface	1	5	7	<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	<1	2	5.5	5.8	<0.1	<0.1	<0.001	<0.001
				Middle	3.5	11		<2		<0.05		<0.01		<0.05		1		5.9		<0.001			
				Bottom	6	5		<2		<0.05		<0.01		<0.05		5		5.9		<0.001			
10-Nov-18	Cloudy	Rough	14:01	Surface	1	9	8	<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	6	6	6.1	5.9	<0.1	<0.1	<0.001	<0.001
				Middle	3	8		<2		<0.05		<0.01		<0.05		11		6.1		<0.001			
				Bottom	5	7		<2		<0.05		<0.01		<0.05		3		5.5		<0.001			
17-Dec-18	Sunny	Moderate	07:55	Surface	1	12	14	<2	<2	0.05	0.10	<0.01	<0.01	<0.05	<0.05	3	3	2.5	2.4	<0.1	<0.1	0.002	0.003
				Middle	3	23		<2		0.07		<0.01		<0.05		8		2.3		0.002			
				Bottom	5	8		<2		0.17		<0.01		<0.05		<1		2.4		0.004			
19-Dec-18	Cloudy	Calm	09:11	Surface	1	9	13	<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	1	1	3.3	3.3	<0.1	<0.1	<0.001	<0.001
				Middle	3	19		<2		<0.05		<0.01		<0.05		<1		3.2		<0.001			
				Bottom	5	11		<2		<0.05		<0.01		<0.05		<1		3.4		<0.001			

Note: 1) Averages for E. coli are geometric means. All other averaged values are arithmetic means  
 2) Values are expressed as arithmetic mean / geometric means, unless all samples were below LOR. For samples that are below LOR, the value is substituted with LOR to allow for calculation.



**Contract No. SPW 09 / 2018**  
**Environmental Team Baseline Surveys for Sha Tin Cavern Sewage Treatment Works**  
**Baseline Water Quality Monitoring Results at F2**

**(Mid-Flood Tide)**

Date	Weather Condition	Sea Condition	Sampling Time	Depth (m)	Suspended Solids (mg/L)		5-day Biochemical Oxygen Demand (mg O <sub>2</sub> /L)		Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)		Nitrite-nitrogen (mg NO <sub>2</sub> -N/L)		Nitrate-nitrogen (mg NO <sub>3</sub> -N/L)		E. coli (cfu/100mL)		Chlorophyll-a (mg/m <sup>3</sup> )		Total Inorganic Nitrogen (mg NL)		Un-ionized Ammonia (mg/L)		
					Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value
20-Jun-18	Cloudy	Calm	09:15	Surface	1	6	6	<2	<2	0.10	0.11	<0.01	<0.01	<0.05	<0.05	2	6	3.6	4.5	0.10	0.13	0.005	0.003
				Middle	3	8		<2		0.12		<0.01		<0.05		4		5.4		0.20		0.003	
				Bottom	5	4		<2		0.10		<0.01		<0.05		26		4.4		0.10		0.002	
26-Jun-18	Cloudy	Moderate	17:41	Surface	1	6	6	<2	<2	<0.05	<0.05	<0.01	0.01	<0.05	<0.05	<1	1	9.2	8.5	<0.1	<0.1	<0.001	0.002
				Middle	3	6		<2		<0.05		0.02		<0.05		2		8.4		<0.1		0.003	
				Bottom	5	7		<2		<0.05		<0.01		<0.05		<1		7.8		<0.1		<0.001	
16-Jul-18	Cloudy	Rough	06:06	Surface	1	4	3	<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	2	2	4.1	4.3	0.10	0.10	0.003	0.002
				Middle	3	<2.5		<2		<0.05		<0.01		<0.05		3		4.2		<0.1		<0.001	
				Bottom	5	3		<2		<0.05		<0.01		<0.05		<1		4.7		<0.1		<0.001	
24-Jul-18	Cloudy	Calm	17:21	Surface	1	3	4	<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	1	2	7.1	6.6	<0.1	<0.1	<0.001	<0.001
				Middle	3	5		<2		<0.05		<0.01		<0.05		1		6.2		<0.1		<0.001	
				Bottom	5	5		<2		<0.05		<0.01		<0.05		5		6.6		<0.1		<0.001	
16-Aug-18	Cloudy	Calm	07:29	Surface	1	5	4	<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	12	2	21.0	11.8	<0.1	<0.1	0.005	0.002
				Middle	3	3		<2		<0.05		<0.01		<0.05		1		8.2		<0.1		<0.001	
				Bottom	5	3		<2		<0.05		<0.01		<0.05		1		6.2		<0.1		<0.001	
25-Aug-18	Fine	Calm	19:10	Surface	1	<2.5	7	<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	16	5	4.8	10.8	<0.1	<0.1	<0.001	<0.001
				Middle	3	8		<2		<0.05		<0.01		<0.05		1		7.7		<0.1		<0.001	
				Bottom	5	11		<2		<0.05		<0.01		<0.05		7		20.0		<0.1		<0.001	
20-Sep-18	Fine	Moderate	17:21	Surface	1	4	6	<2	<2	<0.05	<0.05	<0.01	<0.01	0.06	12	12	12	6.3	17.8	<0.1	<0.1	0.002	0.001
				Middle	3	8		<2		<0.05		<0.01		<0.05		14		18.0		<0.1		0.001	
				Bottom	5	7		<2		<0.05		<0.01		<0.05		10		27.0		<0.1		<0.001	
23-Sep-18	Cloudy	Moderate	18:04	Surface	1	5	4	<2	<2	<0.05	0.06	<0.01	<0.01	<0.05	<0.05	<1	2	4.0	4.2	<0.1	<0.1	0.006	0.005
				Middle	3	3		<2		0.08		<0.01		<0.05		1		3.7		<0.1		0.008	
				Bottom	5	5		<2		<0.05		<0.01		<0.05		8		4.9		<0.1		<0.001	
13-Oct-18	Sunny	Calm	08:44	Surface	1	<2.5	3	<2	<2	<0.05	0.06	<0.01	<0.01	<0.05	<0.05	8	3	7.2	6.2	<0.1	<0.1	0.003	0.003
				Middle	3	3		<2		<0.05		<0.01		<0.05		2		4.6		<0.1		0.002	
				Bottom	5	3		<2		0.07		<0.01		<0.05		1		6.8		<0.1		0.004	
22-Oct-18	Fine	Calm	17:29	Surface	1	5	7	<2	<2	0.18	0.09	<0.01	<0.01	<0.05	<0.05	16	7	4.9	5.2	0.20	0.13	0.016	0.006
				Middle	3	4		<2		<0.05		<0.01		<0.05		3		5.9		<0.1		<0.001	
				Bottom	5	13		<2		<0.05		<0.01		<0.05		7		4.9		<0.1		0.002	
8-Nov-18	Sunny	Calm	17:38	Surface	1	12	7	<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	200	208	5.0	4.9	<0.1	<0.1	<0.001	<0.001
				Middle	3	4		<2		<0.05		<0.01		<0.05		300		5.0		<0.1		<0.001	
				Bottom	5	5		<2		<0.05		<0.01		<0.05		150		4.6		<0.1		<0.001	
10-Nov-18	Cloudy	Rough	08:19	Surface	1	6	6	<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	<1	2	4.6	4.7	<0.1	<0.1	<0.001	<0.001
				Middle	3	5		<2		<0.05		<0.01		<0.05		3		4.8		<0.1		<0.001	
				Bottom	5	6		<2		<0.05		<0.01		<0.05		4		4.7		<0.1		<0.001	
17-Dec-18	Sunny	Moderate	15:08	Surface	1	6	11	<2	<2	0.07	0.08	<0.01	<0.01	<0.05	<0.05	7	5	2.6	2.6	<0.1	<0.1	0.002	0.002
				Middle	3	12		<2		0.07		<0.01		<0.05		4		2.5		<0.1		0.002	
				Bottom	5	14		<2		0.10		<0.01		<0.05		4		2.7		<0.1		0.003	
19-Dec-18	Cloudy	Calm	15:24	Surface	1	23	15	<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	1	1	3.3	3.3	<0.1	<0.1	<0.001	<0.001
				Middle	3	13		<2		<0.05		<0.01		<0.05		<1		3.2		<0.1		<0.001	
				Bottom	5	8		<2		<0.05		<0.01		<0.05		<1		3.3		<0.1		<0.001	

Note: 1) Averages for E. coli are geometric means. All other averaged values are arithmetic means  
2) Values are expressed as arithmetic mean / geometric means, unless all samples were below LOR. For samples that are below LOR, the value is substituted with LOR to allow for calculation.

**Contract No. SPW 09 / 2018**  
**Environmental Team Baseline Surveys for Sha Tin Cavern Sewage Treatment Works**  
**Baseline Water Quality Monitoring Results at F3**

**(Mid-Ebb Tide)**

Date	Weather Condition	Sea Condition	Sampling Time	Depth (m)	Suspended Solids (mg/L)		5-day Biochemical Oxygen Demand (mg O <sub>2</sub> /L)		Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)		Nitrite-nitrogen (mg NO <sub>2</sub> -N/L)		Nitrate-nitrogen (mg NO <sub>3</sub> -N/L)		E. coli (cfu/100mL)		Chlorophyll-a (mg/m <sup>3</sup> )		Total Inorganic Nitrogen (mg NL)		Un-ionized Ammonia (mg/L)			
					Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average
20-Jun-18	Rainy	Calm	17:42	Surface	1	4	4	<2	<2	0.11	0.09	<0.01	<0.01	<0.05	0.05	<1	<1	4.3	4.9	0.10	0.10	0.006	0.004	
				Middle	3.5	6		<2		0.08		<0.01		<0.05		<1		5.2		0.10		0.004		
				Bottom	6	3		<2		0.08		<0.01		0.05		<1		5.2		0.10		0.002		
26-Jun-18	Cloudy	Moderate	11:17	Surface	1	5	6	<2	<2	<0.05	0.05	<0.01	0.01	<0.05	<0.05	<1	3	6.2	8.3	<0.1	<0.1	<0.001	0.002	
				Middle	3.5	7		<2		<0.05		0.01		<0.05		5		6.8		<0.1		0.002		
				Bottom	6	6		<2		0.05		<0.01		<0.05		8		12.0		<0.1		0.002		
16-Jul-18	Cloudy	Moderate	14:59	Surface	1	<2.5	<2.5	<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	<1	1	1.8	2.0	<0.1	<0.1	<0.001	<0.001	
				Middle	3.5	<2.5		<2		<0.05		<0.01		<0.05		2		2.2		<0.1		<0.001		
				Bottom	6	<2.5		<2		<0.05		<0.01		<0.05		1		1.9		<0.1		<0.001		
24-Jul-18	Cloudy	Moderate	10:15	Surface	1	3	3	<2	<2	<0.05	0.08	<0.01	<0.01	<0.05	<0.05	2	1	7.9	8.8	<0.1	0.13	0.002	0.004	
				Middle	3.5	3		<2		0.14		<0.01		<0.05		<0.05		1		7.6		0.20		0.008
				Bottom	6	3		<2		<0.05		<0.01		<0.05		<1		11.0		<0.1		<0.001		
16-Aug-18	Cloudy	Calm	15:38	Surface	1	3	4	<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	2	2	8.6	6.3	<0.1	<0.1	<0.001	0.001	
				Middle	4	4		<2		<0.05		<0.01		<0.05		<0.05		2		5.9		<0.1		0.001
				Bottom	7	5		<2		<0.05		<0.01		<0.05		<1		4.5		<0.1		0.001		
25-Aug-18	Fine	Calm	12:04	Surface	1	4	5	<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	0.05	2	2	4.6	6.6	<0.1	<0.1	0.003	0.002	
				Middle	3.5	7		<2		<0.05		<0.01		<0.05		4		9.1		<0.1		<0.001		
				Bottom	6	4		<2		<0.05		<0.01		0.05		1		6.0		<0.1		<0.001		
20-Sep-18	Fine	Moderate	09:38	Surface	1	4	5	<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	9	5	7.5	7.5	<0.1	<0.1	0.002	0.002	
				Middle	3.5	4		<2		<0.05		<0.01		<0.05		2		7.3		<0.1		0.002		
				Bottom	6	6		<2		<0.05		<0.01		<0.05		6		7.6		<0.1		0.002		
23-Sep-18	Sunny	Calm	11:29	Surface	1	<2.5	6	<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	3	4	3.3	3.2	<0.1	<0.1	0.001	0.001	
				Middle	3.5	7		<2		<0.05		<0.01		<0.05		<0.05		8		2.9		<0.1		<0.001
				Bottom	6	7		<2		<0.05		<0.01		<0.05		3		3.3		<0.1		<0.001		
13-Oct-18	Sunny	Calm	14:46	Surface	1	6	5	<2	<2	<0.05	0.07	<0.01	<0.01	<0.05	<0.05	<1	4	3.0	5.6	<0.1	0.10	<0.001	0.003	
				Middle	3.5	<2.5		<2		0.06		<0.01		<0.05		<0.05		8		6.3		<0.1		0.004
				Bottom	6	5		<2		0.11		<0.01		<0.05		10		7.5		0.10		0.005		
22-Oct-18	Fine	Calm	10:38	Surface	1	8	10	<2	<2	<0.05	<0.05	<0.01	<0.01	0.05	0.05	<1	<1	4.6	6.5	<0.1	<0.1	<0.001	<0.001	
				Middle	3.5	12		<2		<0.05		<0.01		<0.05		<0.05		<1		8.3		<0.1		<0.001
				Bottom	6	11		<2		<0.05		<0.01		0.05		<1		6.5		<0.1		<0.001		
8-Nov-18	Sunny	Calm	12:33	Surface	1	15	9	<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	<1	<1	4.8	4.1	<0.1	<0.1	<0.001	<0.001	
				Middle	3.5	6		<2		<0.05		<0.01		<0.05		<0.05		<1		4.1		<0.1		<0.001
				Bottom	6	5		<2		<0.05		<0.01		<0.05		<1		3.5		<0.1		<0.001		
10-Nov-18	Cloudy	Rough	13:43	Surface	1	8	8	<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	1	2	7.3	7.1	<0.1	<0.1	0.001	0.001	
				Middle	3.5	5		<2		<0.05		<0.01		<0.05		<0.05		2		7.1		<0.1		0.001
				Bottom	6	11		<2		<0.05		<0.01		<0.05		3		7.0		<0.1		<0.001		
17-Dec-18	Sunny	Moderate	08:10	Surface	1	4	6	<2	<2	0.06	0.06	<0.01	<0.01	<0.05	<0.05	3	2	2.8	2.7	<0.1	<0.1	0.002	0.002	
				Middle	3.5	6		<2		0.05		<0.01		<0.05		<0.05		1		2.5		<0.1		0.002
				Bottom	6	8		<2		0.06		<0.01		<0.05		3		2.8		<0.1		0.002		
19-Dec-18	Cloudy	Calm	09:25	Surface	1	4	5	<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	<1	<1	3.3	3.0	<0.1	<0.1	<0.001	<0.001	
				Middle	3.5	7		<2		<0.05		<0.01		<0.05		<0.05		<1		2.8		<0.1		<0.001
				Bottom	6	5		<2		<0.05		<0.01		<0.05		<1		3.0		<0.1		<0.001		

Note: 1) Averages for E. coli are geometric means. All other averaged values are arithmetic means  
2) Values are expressed as arithmetic mean / geometric means, unless all samples were below LOR. For samples that are below LOR, the value is substituted with LOR to allow for calculation.

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

**Contract No. SPW 09 / 2018**  
**Environmental Team Baseline Surveys for Sha Tin Cavern Sewage Treatment Works**  
**Baseline Water Quality Monitoring Results at F3**

**(Mid-Flood Tide)**

Date	Weather Condition	Sea Condition	Sampling Time	Depth (m)	Suspended Solids (mg/L)		5-day Biochemical Oxygen Demand (mg O <sub>2</sub> /L)		Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)		Nitrite-nitrogen (mg NO <sub>2</sub> -N/L)		Nitrate-nitrogen (mg NO <sub>3</sub> -N/L)		E. coli (cfu/100mL)		Chlorophyll-a (mg/m <sup>3</sup> )		Total Inorganic Nitrogen (mg NL)		Un-ionized Ammonia (mg/L)			
					Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average
20-Jun-18	Cloudy	Calm	09:39	Surface	1	3	4	<2	<2	<0.05	0.06	<0.01	<0.01	<0.05	<0.05	<1	2	4.4	5.0	<0.1	0.10	0.002	0.002	
				Middle	3.5	3		<2		0.08		<0.01		<0.05		3		5.3		<0.1		0.003		
				Bottom	6	6		<2		0.05		<0.01		<0.05		3		5.4		<0.1		0.002		
26-Jun-18	Cloudy	Moderate	17:25	Surface	1	7	6	<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	<1	<1	6.0	12.3	<0.1	<0.1	0.001	0.001	
				Middle	3	6		<2		<0.05		<0.01		<0.05		<0.05		<1		19.0		<0.1		<0.001
				Bottom	5	5		<2		<0.05		<0.01		<0.05		<0.05		<1		12.0		<0.1		<0.001
16-Jul-18	Cloudy	Rough	06:31	Surface	1	3	3	<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	1	2	1.0	1.1	<0.1	<0.1	<0.001	<0.001	
				Middle	3.5	<2.5		<2		<0.05		<0.01		<0.05		<0.05		3		1.1		<0.1		<0.001
				Bottom	6	3		<2		<0.05		<0.01		<0.05		<0.05		2		1.2		<0.1		<0.001
24-Jul-18	Cloudy	Calm	17:04	Surface	1	4	4	<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	1	2	9.6	9.3	<0.1	<0.1	<0.001	<0.001	
				Middle	3.5	6		<2		<0.05		<0.01		<0.05		<0.05		4		9.2		<0.1		<0.001
				Bottom	6	3		<2		<0.05		<0.01		<0.05		<0.05		<1		9.1		<0.1		<0.001
16-Aug-18	Cloudy	Calm	07:57	Surface	1	5	4	<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	<1	1	4.2	4.0	<0.1	<0.1	0.002	0.002	
				Middle	3.5	<2.5		<2		<0.05		<0.01		<0.05		<0.05		1		3.8		<0.1		<0.001
				Bottom	6	4		<2		<0.05		<0.01		<0.05		<0.05		<1		4.1		<0.1		0.003
25-Aug-18	Fine	Calm	18:52	Surface	1	3	5	<2	<2	<0.05	0.06	<0.01	<0.01	<0.05	<0.05	6	8	2.6	9.2	<0.1	<0.1	0.005	0.003	
				Middle	3.5	5		<2		<0.05		<0.01		<0.05		<0.05		5		4.9		<0.1		0.001
				Bottom	6	8		<2		0.08		<0.01		<0.05		<0.05		17		20.0		<0.1		0.002
20-Sep-18	Fine	Moderate	17:04	Surface	1	3	6	<2	<2	<0.05	0.07	<0.01	<0.01	<0.05	0.05	<1	2	5.3	8.5	<0.1	0.10	0.004	0.004	
				Middle	3.5	8		<2		<0.05		<0.01		<0.05		<0.05		<1		6.3		<0.1		0.002
				Bottom	6	8		<2		0.12		<0.01		<0.05		<0.05		6		14.0		<0.1		0.005
23-Sep-18	Cloudy	Moderate	17:46	Surface	1	5	5	<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	<1	<1	3.4	3.9	<0.1	<0.1	<0.001	0.001	
				Middle	3.5	5		<2		<0.05		<0.01		<0.05		<0.05		<1		3.3		<0.1		0.002
				Bottom	6	6		<2		<0.05		<0.01		<0.05		<0.05		<1		4.9		<0.1		<0.001
13-Oct-18	Sunny	Calm	09:06	Surface	1	4	4	<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	<1	2	3.0	3.9	<0.1	<0.1	0.004	0.003	
				Middle	3.5	5		<2		<0.05		<0.01		<0.05		<0.05		2		2.2		<0.1		0.003
				Bottom	6	<2.5		<2		<0.05		<0.01		<0.05		<0.05		3		6.4		<0.1		0.002
22-Oct-18	Fine	Calm	17:12	Surface	1	8	6	<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	1	1	5.4	7.9	<0.1	<0.1	0.003	0.002	
				Middle	3.5	8		<2		<0.05		<0.01		<0.05		<0.05		<1		6.2		<0.1		0.002
				Bottom	6	3		<2		<0.05		<0.01		<0.05		<0.05		<1		12.0		<0.1		<0.001
8-Nov-18	Sunny	Calm	17:18	Surface	1	11	9	<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	<1	<1	3.6	3.5	<0.1	<0.1	<0.001	<0.001	
				Middle	3.5	11		<2		<0.05		<0.01		<0.05		<0.05		<1		3.4		<0.1		<0.001
				Bottom	6	4		<2		<0.05		<0.01		<0.05		<0.05		<1		3.5		<0.1		<0.001
10-Nov-18	Cloudy	Rough	08:41	Surface	1	8	8	<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	2	1	4.4	4.7	<0.1	<0.1	<0.001	<0.001	
				Middle	3.5	12		<2		<0.05		<0.01		<0.05		<0.05		1		5.0		<0.1		<0.001
				Bottom	6	4		<2		<0.05		<0.01		<0.05		<0.05		1		4.7		<0.1		<0.001
17-Dec-18	Sunny	Moderate	14:50	Surface	1	7	5	<2	<2	0.06	0.06	<0.01	<0.01	<0.05	<0.05	3	4	2.4	2.5	<0.1	<0.1	0.002	0.002	
				Middle	3.5	3		<2		0.06		<0.01		<0.05		<0.05		4		2.3		<0.1		0.002
				Bottom	6	5		<2		0.06		<0.01		<0.05		<0.05		6		2.9		<0.1		0.002
19-Dec-18	Cloudy	Calm	15:11	Surface	1	3	4	<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	<1	<1	3.8	2.9	<0.1	<0.1	<0.001	<0.001	
				Middle	3.5	5		<2		<0.05		<0.01		<0.05		<0.05		<1		2.5		<0.1		<0.001
				Bottom	6	3		<2		<0.05		<0.01		<0.05		<0.05		<1		2.5		<0.1		<0.001

Note: 1) Averages for E. coli are geometric means. All other averaged values are arithmetic means  
2) Values are expressed as arithmetic mean / geometric means, unless all samples were below LOR. For samples that are below LOR, the value is substituted with LOR to allow for calculation.

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

**Contract No. SPW 09 / 2018**  
**Environmental Team Baseline Surveys for Sha Tin Cavern Sewage Treatment Works**  
**Baseline Water Quality Monitoring Results at F4**

**(Mid-Ebb Tide)**

Date	Weather Condition	Sea Condition	Sampling Time	Depth (m)	Suspended Solids (mg/L)		5-day Biochemical Oxygen Demand (mg O <sub>2</sub> /L)		Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)		Nitrite-nitrogen (mg NO <sub>2</sub> -N/L)		Nitrate-nitrogen (mg NO <sub>3</sub> -N/L)		E. coli (cfu/100mL)		Chlorophyll-a (mg/m <sup>3</sup> )		Total Inorganic Nitrogen (mg NL)		Un-ionized Ammonia (mg/L)		
					Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value
20-Jun-18	Rainy	Calm	17:23	Surface	1	3	3	<2	<2	0.14	0.09	<0.01	<0.01	1.79	0.63	1	1	3.7	3.9	1.90	0.70	0.009	0.006
				Middle	5.5	4		<2		0.06		<0.01		<0.05		1		4.0		<0.1		0.004	
				Bottom	10	3		<2		0.08		<0.01		<0.05		1		4.1		<0.1		0.004	
26-Jun-18	Cloudy	Moderate	11:33	Surface	1	13	7	<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	<1	<1	4.8	6.5	<0.1	<0.1	0.003	0.002
				Middle	5.5	4		<2		<0.05		<0.01		<0.05		<1		7.4		<0.1		0.001	
				Bottom	10	4		<2		<0.05		<0.01		<0.05		<1		7.3		<0.1		0.001	
16-Jul-18	Cloudy	Moderate	14:41	Surface	1	<2.5	<2.5	<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	<1	<1	3.2	2.9	<0.1	<0.1	<0.001	<0.001
				Middle	6	<2.5		<2		<0.05		<0.01		<0.05		<1		3.0		<0.1		<0.001	
				Bottom	11	<2.5		<2		<0.05		<0.01		<0.05		<1		2.6		<0.1		<0.001	
24-Jul-18	Cloudy	Moderate	10:27	Surface	1	5	5	<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	<1	<1	6.6	5.6	<0.1	<0.1	<0.001	<0.001
				Middle	5.5	5		<2		<0.05		<0.01		<0.05		<1		5.3		<0.1		<0.001	
				Bottom	10	4		<2		<0.05		<0.01		<0.05		<1		4.9		<0.1		<0.001	
16-Aug-18	Cloudy	Calm	15:22	Surface	1	3	3	<2	<2	<0.05	0.08	<0.01	<0.01	<0.05	<0.05	1	1	9.4	5.2	<0.1	0.13	0.002	0.005
				Middle	6	<2.5		<2		<0.05		<0.01		<0.05		<1		4.3		<0.1		0.002	
				Bottom	11	<2.5		<2		0.15		<0.01		<0.05		<1		2.0		<0.1		0.011	
25-Aug-18	Fine	Calm	12:21	Surface	1	6	5	<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	<1	<1	7.0	10.2	<0.1	<0.1	<0.001	<0.001
				Middle	5.5	6		<2		<0.05		<0.01		<0.05		<1		15.0		<0.1		<0.001	
				Bottom	10	<2.5		<2		<0.05		<0.01		<0.05		<1		8.6		<0.1		<0.001	
20-Sep-18	Fine	Moderate	09:54	Surface	1	5	4	<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	1	1	10.0	7.1	<0.1	<0.1	0.002	0.002
				Middle	5.5	3		<2		<0.05		<0.01		<0.05		<1		6.8		<0.1		0.003	
				Bottom	10	5		<2		<0.05		<0.01		<0.05		<1		4.6		<0.1		0.001	
23-Sep-18	Sunny	Calm	11:44	Surface	1	3	3	<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	<1	1	3.0	4.0	<0.1	<0.1	0.004	0.002
				Middle	5.5	<2.5		<2		<0.05		<0.01		<0.05		<1		3.0		<0.1		<0.001	
				Bottom	10	3		<2		<0.05		<0.01		<0.05		<1		6.0		<0.1		<0.001	
13-Oct-18	Sunny	Calm	14:29	Surface	1	18	9	<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	<1	1	6.9	6.3	<0.1	<0.1	0.004	0.003
				Middle	6	3		<2		<0.05		<0.01		<0.05		<1		5.4		<0.1		0.002	
				Bottom	11	5		<2		<0.05		<0.01		<0.05		<1		6.7		<0.1		0.002	
22-Oct-18	Fine	Calm	10:53	Surface	1	5	9	<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	<1	1	6.0	7.1	<0.1	<0.1	<0.001	<0.001
				Middle	5.5	7		<2		<0.05		<0.01		<0.05		<1		9.1		<0.1		<0.001	
				Bottom	10	14		<2		<0.05		<0.01		<0.05		3		6.1		<0.1		<0.001	
8-Nov-18	Sunny	Calm	12:53	Surface	1	7	10	<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	<1	<1	3.2	2.7	<0.1	<0.1	<0.001	<0.001
				Middle	5.5	15		<2		<0.05		<0.01		<0.05		<1		2.6		<0.1		<0.001	
				Bottom	10	7		<2		<0.05		<0.01		<0.05		<1		2.4		<0.1		<0.001	
10-Nov-18	Cloudy	Rough	13:27	Surface	1	8	7	<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	<1	1	3.3	3.1	<0.1	<0.1	<0.001	<0.001
				Middle	5.5	7		<2		<0.05		<0.01		<0.05		<1		2.8		<0.1		<0.001	
				Bottom	10	5		<2		<0.05		<0.01		<0.05		<1		3.2		<0.1		<0.001	
17-Dec-18	Sunny	Moderate	08:19	Surface	1	11	8	<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	<1	2	3.5	3.5	<0.1	<0.1	<0.001	<0.001
				Middle	5.5	7		<2		<0.05		<0.01		<0.05		<1		3.6		<0.1		<0.001	
				Bottom	10	7		<2		<0.05		<0.01		<0.05		11		3.5		<0.1		<0.001	
19-Dec-18	Cloudy	Calm	09:37	Surface	1	<2.5	4	<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	<1	<1	3.9	4.0	<0.1	<0.1	<0.001	<0.001
				Middle	5.5	4		<2		<0.05		<0.01		<0.05		<1		4.0		<0.1		<0.001	
				Bottom	10	6		<2		<0.05		<0.01		<0.05		<1		4.1		<0.1		<0.001	

Note: 1) Averages for E. coli are geometric means. All other averaged values are arithmetic means  
2) Values are expressed as arithmetic mean / geometric means, unless all samples were below LOR. For samples that are below LOR, the value is substituted with LOR to allow for calculation.

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

**Contract No. SPW 09 / 2018**  
**Environmental Team Baseline Surveys for Sha Tin Cavern Sewage Treatment Works**  
**Baseline Water Quality Monitoring Results at F4**

**(Mid-Flood Tide)**

Date	Weather Condition	Sea Condition	Sampling Time	Depth (m)	Suspended Solids (mg/L)		5-day Biochemical Oxygen Demand (mg O <sub>2</sub> /L)		Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)		Nitrite-nitrogen (mg NO <sub>2</sub> -N/L)		Nitrate-nitrogen (mg NO <sub>3</sub> -N/L)		E. coli (cfu/100mL)		Chlorophyll-a (mg/m <sup>3</sup> )		Total Inorganic Nitrogen (mg NL)		Un-ionized Ammonia (mg/L)		
					Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value
20-Jun-18	Cloudy	Calm	10:00	Surface	1	4	4	<2	<2	<0.05	0.07	<0.01	<0.01	<0.05	<0.05	<1	1	4.8	4.1	<0.1	0.10	0.002	0.003
				Middle	6	4		<2		<0.05		<0.01		<0.05		<1		2.8		<0.1		0.005	
				Bottom	11	4		<2		<0.05		<0.01		<0.05		2		4.7		<0.1		0.002	
26-Jun-18	Cloudy	Moderate	17:10	Surface	1	5	6	<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	<1	<1	8.9	9.6	<0.1	<0.1	0.003	0.002
				Middle	5.5	6		<2		<0.05		<0.01		<0.05		<1		9.0		<0.1		0.002	
				Bottom	10	8		<2		<0.05		<0.01		<0.05		<1		11.0		<0.1		0.002	
16-Jul-18	Cloudy	Rough	06:52	Surface	1	<2.5	3	<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	<1	<1	1.8	1.7	<0.1	<0.1	0.002	0.001
				Middle	6	<2.5		<2		<0.05		<0.01		<0.05		<1		1.7		<0.1		<0.001	
				Bottom	11	3		<2		<0.05		<0.01		<0.05		<1		1.6		<0.1		<0.001	
24-Jul-18	Cloudy	Calm	16:51	Surface	1	5	8	<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	<1	<1	4.9	4.6	<0.1	<0.1	<0.001	0.001
				Middle	5.5	12		<2		<0.05		<0.01		<0.05		<1		5.0		<0.1		<0.001	
				Bottom	10	7		<2		<0.05		<0.01		<0.05		<1		3.9		<0.1		0.002	
16-Aug-18	Cloudy	Calm	08:19	Surface	1	4	4	<2	<2	<0.05	0.05	<0.01	<0.01	<0.05	<0.05	<1	<1	6.2	5.5	<0.1	<0.1	<0.001	0.003
				Middle	6	<2.5		<2		0.05		<0.01		<0.05		<1		4.3		<0.1		0.004	
				Bottom	11	4		<2		0.06		<0.01		<0.05		<1		6.0		<0.1		0.004	
25-Aug-18	Fine	Calm	18:37	Surface	1	9	6	<2	<2	0.06	0.05	<0.01	<0.01	<0.05	<0.05	1	1	3.8	12.9	<0.1	<0.1	0.006	0.003
				Middle	5.5	5		<2		<0.05		<0.01		<0.05		<1		19.0		<0.1		0.002	
				Bottom	10	3		<2		<0.05		<0.01		<0.05		<1		16.0		<0.1		<0.001	
20-Sep-18	Fine	Moderate	16:46	Surface	1	8	7	<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	<1	1	9.2	8.4	<0.1	<0.1	0.005	0.002
				Middle	5.5	5		<2		<0.05		<0.01		<0.05		<1		7.2		<0.1		<0.001	
				Bottom	10	9		<2		<0.05		<0.01		<0.05		<1		8.7		<0.1		0.001	
23-Sep-18	Cloudy	Moderate	17:31	Surface	1	4	11	<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	84	7	2.3	3.3	<0.1	<0.1	<0.001	<0.001
				Middle	5.5	16		<2		<0.05		<0.01		<0.05		<1		2.5		<0.1		<0.001	
				Bottom	10	13		<2		<0.05		<0.01		<0.05		4		5.0		<0.1		<0.001	
13-Oct-18	Sunny	Calm	09:24	Surface	1	4	4	<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	<1	1	5.8	6.2	<0.1	<0.1	<0.001	0.001
				Middle	5.5	4		<2		<0.05		<0.01		<0.05		<1		6.4		<0.1		0.001	
				Bottom	10	<2.5		<2		<0.05		<0.01		<0.05		<1		6.4		<0.1		<0.001	
22-Oct-18	Fine	Calm	16:59	Surface	1	9	10	<2	<2	<0.05	<0.05	<0.01	<0.01	0.05	<0.05	<1	<1	4.3	5.7	<0.1	<0.1	0.002	0.001
				Middle	5.5	14		<2		<0.05		<0.01		<0.05		<1		6.6		<0.1		<0.001	
				Bottom	10	6		<2		<0.05		<0.01		<0.05		<1		6.2		<0.1		<0.001	
8-Nov-18	Sunny	Calm	17:00	Surface	1	4	5	<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	<1	1	3.1	2.7	<0.1	<0.1	<0.001	<0.001
				Middle	5.5	6		<2		<0.05		<0.01		<0.05		<1		2.6		<0.1		<0.001	
				Bottom	10	4		<2		<0.05		<0.01		<0.05		1		2.5		<0.1		<0.001	
10-Nov-18	Cloudy	Rough	09:00	Surface	1	16	9	<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	<1	1	3.1	2.8	<0.1	<0.1	<0.001	<0.001
				Middle	5.5	9		<2		<0.05		<0.01		<0.05		<1		2.6		<0.1		<0.001	
				Bottom	10	4		<2		<0.05		<0.01		<0.05		2		2.8		<0.1		<0.001	
17-Dec-18	Sunny	Moderate	14:13	Surface	1	8	6	<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	<1	<1	3.7	4.2	<0.1	<0.1	<0.001	<0.001
				Middle	5.5	5		<2		<0.05		<0.01		<0.05		<1		4.5		<0.1		<0.001	
				Bottom	10	6		<2		<0.05		<0.01		<0.05		<1		4.3		<0.1		<0.001	
19-Dec-18	Cloudy	Calm	14:51	Surface	1	9	6	<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	<1	<1	3.9	4.0	<0.1	<0.1	<0.001	<0.001
				Middle	5.5	6		<2		<0.05		<0.01		<0.05		<1		4.0		<0.1		<0.001	
				Bottom	10	3		<2		<0.05		<0.01		<0.05		<1		4.0		<0.1		<0.001	

Note: 1) Averages for E. coli are geometric means. All other averaged values are arithmetic means  
2) Values are expressed as arithmetic mean / geometric means, unless all samples were below LOR. For samples that are below LOR, the value is substituted with LOR to allow for calculation.

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

**Contract No. SPW 09 / 2018**  
**Environmental Team Baseline Surveys for Sha Tin Cavern Sewage Treatment Works**  
**Baseline Water Quality Monitoring Results at W1**

**(Mid-Ebb Tide)**

Date	Weather Condition	Sea Condition	Sampling Time	Depth (m)	Suspended Solids (mg/L)		5-day Biochemical Oxygen Demand (mg O <sub>2</sub> /L)		Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)		Nitrite-nitrogen (mg NO <sub>2</sub> -N/L)		Nitrate-nitrogen (mg NO <sub>3</sub> -N/L)		E. coli (cfu/100mL)		Chlorophyll-a (mg/m <sup>3</sup> )		Total Inorganic Nitrogen (mg NL)		Un-ionized Ammonia (mg/L)		
					Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value
20-Jun-18	Cloudy	Calm	18:55	Surface	1	3	4	<2	<2	0.11	0.12	<0.01	<0.01	0.07	0.06	1	1	6.0	5.7	0.20	0.20	0.004	0.003
				Middle	3	5		<2		0.12		<0.01		0.05		1		5.9		0.003			
				Bottom	5	3		<2		0.13		<0.01		0.06		1		5.2		0.003			
26-Jun-18	Cloudy	Calm	10:53	Surface	1	7	7	<2	<2	0.29	0.19	<0.01	0.02	0.05	0.05	7	2	15.0	12.9	0.30	0.20	0.021	0.010
				Middle	3.5	9		<2		0.08		0.02		<0.05		1		14.0		0.003			
				Bottom	6	5		<2		0.19		0.02		<0.05		1		9.6		0.007			
16-Jul-18	Cloudy	Moderate	16:09	Surface	1	13	9	<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	220	37	3.3	3.4	<0.1	<0.1	<0.001	0.001
				Middle	3	11		<2		<0.05		<0.01		<0.05		25		5.4		<0.001			
				Bottom	5	4		<2		<0.05		<0.01		<0.05		9		1.5		0.001			
24-Jul-18	Cloudy	Moderate	09:45	Surface	1	4	5	<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	7	7	7.6	12.9	<0.1	<0.1	<0.001	<0.001
				Middle	3.5	5		<2		<0.05		<0.01		<0.05		6		16.0		<0.001			
				Bottom	6	5		<2		<0.05		<0.01		<0.05		8		15.0		<0.001			
16-Aug-18	Cloudy	Calm	16:56	Surface	1	3	3	<2	<2	0.06	0.05	<0.01	<0.01	<0.05	0.05	220	83	24.0	20.7	<0.1	0.10	0.007	0.004
				Middle	3.5	<2.5		<2		0.05		<0.01		<0.05		98		18.0		<0.002			
				Bottom	6	4		<2		<0.05		<0.01		0.06		27		20.0		0.002			
25-Aug-18	Fine	Calm	11:33	Surface	1	9	7	<2	<2	<0.05	0.09	<0.01	<0.01	<0.05	<0.05	25	11	15.0	15.8	<0.1	0.13	0.002	0.003
				Middle	3.5	8		<2		0.05		<0.01		<0.05		8		25.0		0.002			
				Bottom	6	5		<2		0.17		<0.01		<0.05		6		7.3		0.005			
20-Sep-18	Fine	Calm	08:55	Surface	1	4	4	<2	<2	<0.05	0.06	<0.01	<0.01	0.14	0.08	180	58	16.0	14.6	0.20	0.13	0.001	0.003
				Middle	3.5	3		<2		<0.05		<0.01		<0.05		32		18.0		<0.002			
				Bottom	6	4		<2		0.09		<0.01		<0.05		34		9.9		0.005			
23-Sep-18	Sunny	Calm	10:50	Surface	1	3	5	<2	<2	<0.05	0.05	<0.01	<0.01	<0.05	<0.05	13	6	9.5	10.7	<0.1	<0.1	0.003	0.002
				Middle	3.5	7		<2		<0.05		<0.01		<0.05		5		9.7		0.002			
				Bottom	6	5		<2		0.05		<0.01		<0.05		3		13.0		0.002			
13-Oct-18	Sunny	Calm	15:44	Surface	1	3	5	<2	<2	0.05	0.05	<0.01	<0.01	0.06	0.05	4	3	17.0	15.3	0.10	0.10	0.006	0.003
				Middle	3.5	8		<2		<0.05		<0.01		<0.05		3		15.0		0.002			
				Bottom	6	3		<2		<0.05		<0.01		<0.05		3		14.0		0.001			
22-Oct-18	Fine	Calm	10:09	Surface	1	3	4	<2	<2	<0.05	<0.05	<0.01	<0.01	0.06	0.05	18	6	6.8	10.6	<0.1	<0.1	0.002	0.001
				Middle	3.5	6		<2		<0.05		<0.01		<0.05		6		11.0		<0.001			
				Bottom	6	3		<2		<0.05		<0.01		<0.05		2		14.0		<0.001			
8-Nov-18	Sunny	Calm	12:05	Surface	1	5	5	<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	<1	1	7.9	10.6	<0.1	<0.1	<0.001	<0.001
				Middle	3.5	5		<2		<0.05		<0.01		<0.05		1		13.0		<0.001			
				Bottom	6	4		<2		<0.05		<0.01		<0.05		<1		11.0		<0.001			
10-Nov-18	Cloudy	Rough	14:40	Surface	1	8	9	<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	6	2	9.4	10.3	<0.1	<0.1	<0.001	<0.001
				Middle	3.5	11		<2		<0.05		<0.01		<0.05		<1		12.0		<0.001			
				Bottom	6	7		<2		<0.05		<0.01		<0.05		<1		9.4		<0.001			
17-Dec-18	Sunny	Moderate	07:12	Surface	1	10	8	<2	<2	<0.05	0.08	<0.01	<0.01	<0.05	<0.05	8	5	8.6	8.6	<0.1	0.18	<0.001	0.002
				Middle	3.5	8		<2		0.08		<0.01		<0.05		4		8.6		0.003			
				Bottom	6	5		<2		0.10		<0.01		<0.05		3		8.6		0.003			
19-Dec-18	Cloudy	Moderate	09:20	Surface	1	3	5	<2	<2	0.08	0.07	<0.01	<0.01	<0.05	<0.05	1	2	8.0	8.2	<0.1	<0.1	0.002	0.002
				Middle	3.5	8		<2		0.06		<0.01		<0.05		2		7.9		0.002			
				Bottom	6	5		<2		0.06		<0.01		<0.05		4		8.8		0.002			

Note: 1) Averages for E. coli are geometric means. All other averaged values are arithmetic means  
2) Values are expressed as arithmetic mean / geometric means, unless all samples were below LOR. For samples that are below LOR, the value is substituted with LOR to allow for calculation.

**Contract No. SPW 09 / 2018**  
**Environmental Team Baseline Surveys for Sha Tin Cavern Sewage Treatment Works**  
**Baseline Water Quality Monitoring Results at W1**

**(Mid-Flood Tide)**

Date	Weather Condition	Sea Condition	Sampling Time	Depth (m)	Suspended Solids (mg/L)		5-day Biochemical Oxygen Demand (mg O <sub>2</sub> /L)		Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)		Nitrite-nitrogen (mg NO <sub>2</sub> -N/L)		Nitrate-nitrogen (mg NO <sub>3</sub> -N/L)		E. coli (cfu/100mL)		Chlorophyll-a (mg/m <sup>3</sup> )		Total Inorganic Nitrogen (mg NL)		Un-ionized Ammonia (mg/L)		
					Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value
20-Jun-18	Cloudy	Calm	09:19	Surface	1	4	4	<2	<2	0.12	0.15	<0.01	<0.01	0.05	0.05	4	9	4.6	4.5	0.20	0.23	0.003	0.004
				Middle	3.5	4		<2		0.13		<0.01		<0.05		4		3.6		0.003			
				Bottom	6	4		<2		0.21		<0.01		0.06		42		5.4		0.005			
26-Jun-18	Fine	Calm	18:52	Surface	1	4	5	<2	<2	0.07	0.11	0.01	0.01	<0.05	<0.05	1	1	17.0	16.3	0.10	0.13	0.004	0.004
				Middle	3	7		<2		0.10		0.01		<0.05		2		19.0		0.10		0.003	
				Bottom	5	3		<2		0.17		0.01		<0.05		<1		13.0		0.20		0.006	
16-Jul-18	Cloudy	Rough	05:45	Surface	1	11	6	<2	<2	0.06	0.05	<0.01	<0.01	<0.05	<0.05	980	51	2.1	1.9	<0.1	<0.1	0.002	0.001
				Middle	3.5	3		<2		<0.05		<0.01		<0.05		23		1.6		<0.1		<0.001	
				Bottom	6	<2.5		<2		<0.05		<0.01		<0.05		6		1.9		<0.1		<0.001	
24-Jul-18	Cloudy	Calm	17:42	Surface	1	5	6	<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	4	4	9.2	10.1	<0.1	<0.1	0.001	0.001
				Middle	3	9		<2		<0.05		<0.01		<0.05		4		10.0		<0.1		<0.001	
				Bottom	5	3		<2		<0.05		<0.01		<0.05		5		11.0		<0.1		<0.001	
16-Aug-18	Cloudy	Calm	07:21	Surface	1	5	3	<2	<2	<0.05	0.07	<0.01	<0.01	<0.05	0.05	33	6	21.0	11.6	<0.1	0.10	0.003	0.004
				Middle	3.5	<2.5		<2		0.09		<0.01		0.05		2		9.6		0.10		0.005	
				Bottom	6	<2.5		<2		0.08		<0.01		<0.05		3		4.1		<0.1		0.003	
25-Aug-18	Fine	Calm	19:30	Surface	1	5	8	<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	<1	1	6.8	10.1	<0.1	<0.1	<0.001	0.001
				Middle	3	8		<2		<0.05		<0.01		<0.05		2		8.6		<0.1		0.001	
				Bottom	5	10		<2		<0.05		<0.01		<0.05		<1		15.0		<0.1		<0.001	
20-Sep-18	Fine	Calm	17:51	Surface	1	7	7	<2	<2	<0.05	0.06	<0.01	<0.01	<0.05	<0.05	9	23	16.0	13.5	<0.1	<0.1	0.002	0.002
				Middle	3.5	5		<2		0.08		<0.01		<0.05		19		20.0		<0.1		0.004	
				Bottom	6	9		<2		<0.05		<0.01		<0.05		75		4.6		<0.1		<0.001	
23-Sep-18	Cloudy	Calm	18:39	Surface	1	4	4	<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	10	9	8.8	9.3	<0.1	<0.1	0.005	0.003
				Middle	3.5	4		<2		<0.05		<0.01		<0.05		2		10.0		<0.1		<0.001	
				Bottom	6	3		<2		<0.05		<0.01		<0.05		31		9.1		<0.1		0.002	
13-Oct-18	Sunny	Calm	08:23	Surface	1	6	4	<2	<2	0.06	0.12	<0.01	<0.01	<0.05	0.14	220	487	10.0	9.6	<0.1	0.23	0.004	0.007
				Middle	3.5	<2.5		<2		0.15		<0.01		0.19		940		11.0		0.30		0.009	
				Bottom	6	3		<2		0.15		<0.01		0.19		560		7.8		0.30		0.008	
22-Oct-18	Fine	Calm	18:28	Surface	1	5	6	<2	<2	0.07	0.09	<0.01	<0.01	0.05	0.06	3	3	13.0	9.0	0.10	0.13	0.005	0.003
				Middle	3.5	9		<2		0.07		<0.01		<0.05		6		6.3		0.10		0.002	
				Bottom	6	4		<2		0.13		<0.01		0.08		<1		7.7		0.20		0.003	
8-Nov-18	Sunny	Calm	18:00	Surface	1	6	5	<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	<1	1	16.0	15.0	<0.1	<0.1	<0.001	<0.001
				Middle	3.5	3		<2		<0.05		<0.01		<0.05		1		13.0		<0.1		<0.001	
				Bottom	6	7		<2		<0.05		<0.01		<0.05		<1		16.0		<0.1		<0.001	
10-Nov-18	Cloudy	Rough	07:30	Surface	1	4	5	<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	4	2	20.0	18.3	<0.1	<0.1	<0.001	<0.001
				Middle	3.5	7		<2		<0.05		<0.01		<0.05		3		17.0		<0.1		<0.001	
				Bottom	6	5		<2		<0.05		<0.01		<0.05		1		18.0		<0.1		<0.001	
17-Dec-18	Sunny	Moderate	15:09	Surface	1	10	12	<2	<2	0.07	0.07	<0.01	<0.01	<0.05	<0.05	<1	2	12.0	10.1	<0.1	0.13	0.003	0.003
				Middle	3.5	15		<2		0.09		<0.01		<0.05		1		11.0		<0.1		0.003	
				Bottom	6	12		<2		0.06		<0.01		<0.05		7		7.2		0.18		0.002	
19-Dec-18	Cloudy	Moderate	16:08	Surface	1	11	9	<2	<2	0.06	0.06	<0.01	<0.01	<0.05	<0.05	4	2	13.0	10.7	<0.1	<0.1	0.003	0.003
				Middle	3.5	6		<2		0.05		<0.01		<0.05		<1		10.0		<0.1		0.002	
				Bottom	6	11		<2		0.06		<0.01		<0.05		1		9.2		<0.1		0.003	

Note: 1) Averages for E. coli are geometric means. All other averaged values are arithmetic means  
2) Values are expressed as arithmetic mean / geometric means, unless all samples were below LOR. For samples that are below LOR, the value is substituted with LOR to allow for calculation.

**Contract No. SPW 09 / 2018**  
**Environmental Team Baseline Surveys for Sha Tin Cavern Sewage Treatment Works**  
**Baseline Water Quality Monitoring Results at W2**

**(Mid-Ebb Tide)**

Date	Weather Condition	Sea Condition	Sampling Time	Depth (m)	Suspended Solids (mg/L)		5-day Biochemical Oxygen Demand (mg O <sub>2</sub> /L)		Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)		Nitrite-nitrogen (mg NO <sub>2</sub> -N/L)		Nitrate-nitrogen (mg NO <sub>3</sub> -N/L)		E. coli (cfu/100mL)		Chlorophyll-a (mg/m <sup>3</sup> )		Total Inorganic Nitrogen (mg NL)		Un-ionized Ammonia (mg/L)			
					Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average
20-Jun-18	Cloudy	Calm	17:29	Surface	1	3	4	<2	<2	0.12	0.11	<0.01	<0.01	0.10	0.08	19000	1248	9.8	8.7	0.20	0.20	0.006	0.005	
				Middle	-	-		-		-		-		-		-		-		-		-		-
				Bottom	4.1	4		<2		0.09		<0.01		0.06		82		7.6		0.20		0.003		
26-Jun-18	Cloudy	Calm	12:28	Surface	1	5	5	<2	<2	0.21	0.20	<0.01	<0.01	0.12	0.12	3600	3888	6.4	13.2	0.30	0.30	0.016	0.011	
				Middle	-	-		-		-		-		-		-		-		-		-		
				Bottom	3.5	4		<2		0.18		<0.01		0.11		4200		20.0		0.30		0.005		
16-Jul-18	Cloudy	Moderate	14:53	Surface	1	7	5	<2	<2	0.32	0.19	0.01	0.01	0.21	0.18	6400	1187	19.0	13.7	0.54	0.36	0.014	0.008	
				Middle	-	-		-		-		-		-		-		-		-		-		
				Bottom	4.2	3		<2		<0.05		<0.01		0.14		220		8.4		0.18		0.002		
24-Jul-18	Cloudy	Moderate	11:07	Surface	1	6	6	<2	<2	0.15	0.11	<0.01	<0.01	0.08	0.08	1200	890	26.0	26.0	0.20	0.15	0.011	0.008	
				Middle	-	-		-		-		-		-		-		-		-		-		
				Bottom	3.9	6		<2		0.07		<0.01		0.08		660		26.0		0.10		0.004		
16-Aug-18	Cloudy	Calm	15:27	Surface	1	6	5	<2	<2	<0.05	<0.05	<0.01	<0.01	0.12	0.09	2400	537	38.0	28.0	0.20	0.15	0.005	0.004	
				Middle	-	-		-		-		-		-		-		-		-		-		
				Bottom	4.2	4		<2		<0.05		<0.01		<0.05		120		18.0		<0.1		0.002		
25-Aug-18	Fine	Calm	12:49	Surface	1	12	11	<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	240	277	23.0	25.5	<0.1	<0.1	<0.001	0.001	
				Middle	-	-		-		-		-		-		-		-		-		-		
				Bottom	3.7	9		<2		<0.05		<0.01		<0.05		320		28.0		<0.1		0.001		
20-Sep-18	Fine	Calm	10:05	Surface	1	6	7	<2	<2	0.09	0.10	<0.01	<0.01	<0.05	<0.05	200	107	23.0	22.0	0.10	0.10	0.009	0.007	
				Middle	-	-		-		-		-		-		-		-		-		-		
				Bottom	3.8	7		<2		0.10		<0.01		<0.05		57		21.0		0.10		0.005		
23-Sep-18	Sunny	Calm	12:05	Surface	1	5	7	<2	<2	0.32	0.26	<0.01	<0.01	<0.05	<0.05	67	79	9.7	11.4	0.30	0.25	0.098	0.055	
				Middle	-	-		-		-		-		-		-		-		-		-		
				Bottom	3.8	8		<2		0.20		<0.01		<0.05		92		13.0		0.20		0.011		
13-Oct-18	Sunny	Calm	14:31	Surface	1	3	3	<2	<2	0.20	0.29	<0.01	<0.01	<0.05	<0.05	86	87	15.0	12.5	0.20	0.30	0.019	0.028	
				Middle	-	-		-		-		-		-		-		-		-		-		
				Bottom	4.5	3		<2		0.38		<0.01		<0.05		89		10.0		0.40		0.036		
22-Oct-18	Fine	Calm	11:24	Surface	1	7	8	<2	<2	0.27	0.16	<0.01	<0.01	0.08	0.07	2	1	8.2	11.1	0.30	0.20	0.020	0.010	
				Middle	-	-		-		-		-		-		-		-		-		-		
				Bottom	4	9		<2		<0.05		<0.01		<0.05		1		14.0		<0.1		<0.001		
8-Nov-18	Sunny	Calm	13:20	Surface	1	5	5	<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	3	4	20.0	18.0	<0.1	<0.1	<0.001	<0.001	
				Middle	-	-		-		-		-		-		-		-		-		-		
				Bottom	3.8	4		<2		<0.05		<0.01		<0.05		5		16.0		<0.1		<0.001		
10-Nov-18	Cloudy	Rough	13:03	Surface	1	9	8	<2	<2	0.06	0.07	<0.01	<0.01	<0.05	<0.05	90	54	9.5	9.0	<0.1	<0.1	0.005	0.006	
				Middle	-	-		-		-		-		-		-		-		-		-		
				Bottom	4.6	6		<2		0.07		<0.01		<0.05		33		8.4		<0.1		0.006		
17-Dec-18	Sunny	Moderate	08:18	Surface	1	5	7	<2	<2	0.15	0.11	<0.01	<0.01	<0.05	<0.05	160	94	5.2	5.1	<0.1	0.22	0.005	0.004	
				Middle	-	-		-		-		-		-		-		-		-		-		
				Bottom	4	9		<2		0.07		<0.01		<0.05		55		4.9		0.34		0.003		
19-Dec-18	Cloudy	Moderate	10:57	Surface	1	12	14	<2	<2	0.12	0.10	<0.01	<0.01	<0.05	<0.05	280	135	12.0	11.5	<0.1	<0.1	0.006	0.005	
				Middle	-	-		-		-		-		-		-		-		-		-		
				Bottom	3.8	15		<2		0.08		<0.01		<0.05		65		11.0		<0.1		0.004		

Note: 1) Averages for E. coli are geometric means. All other averaged values are arithmetic means  
2) Values are expressed as arithmetic mean / geometric means, unless all samples were below LOR. For samples that are below LOR, the value is substituted with LOR to allow for calculation.

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



**Contract No. SPW 09 / 2018**  
**Environmental Team Baseline Surveys for Sha Tin Cavern Sewage Treatment Works**  
**Baseline Water Quality Monitoring Results at W2**

**(Mid-Flood Tide)**

Date	Weather Condition	Sea Condition	Sampling Time	Depth (m)	Suspended Solids (mg/L)		5-day Biochemical Oxygen Demand (mg O <sub>2</sub> /L)		Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)		Nitrite-nitrogen (mg NO <sub>2</sub> -N/L)		Nitrate-nitrogen (mg NO <sub>3</sub> -N/L)		E. coli (cfu/100mL)		Chlorophyll-a (mg/m <sup>3</sup> )		Total Inorganic Nitrogen (mg NL)		Un-ionized Ammonia (mg/L)			
					Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average
20-Jun-18	Cloudy	Calm	10:49	Surface	1	4	<2	<2	0.11	0.10	<0.01	<0.01	0.09	0.08	280	148	7.9	7.5	0.20	0.15	0.004	0.003		
				Middle	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
				Bottom	4.5	3	<2	<2	0.08	0.07	<0.01	<0.01	0.06	0.06	78	5	7.0	19.5	0.10	0.15	0.002	0.003		
26-Jun-18	Fine	Calm	17:18	Surface	1	10	<2	<2	0.09	0.07	<0.01	<0.01	0.06	0.06	29	5	24.0	19.5	0.20	0.15	0.013	0.007		
				Middle	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
				Bottom	3.8	10	<2	<2	<0.05	0.07	<0.01	<0.01	<0.05	0.06	<1	5	15.0	19.5	<0.1	0.15	<0.001	0.007		
16-Jul-18	Cloudy	Rough	07:07	Surface	1	4	<2	<2	0.08	0.07	<0.01	<0.01	<0.05	<0.05	2200	541	12.0	8.6	<0.1	0.11	0.003	0.003		
				Middle	3	6	<2	<2	0.06	0.07	<0.01	<0.01	<0.05	<0.05	200	541	7.6	8.6	0.11	0.11	0.003	0.003		
				Bottom	5	5	<2	<2	0.08	0.07	<0.01	<0.01	<0.05	<0.05	360	541	6.2	8.6	0.11	0.11	0.004	0.003		
24-Jul-18	Cloudy	Calm	16:23	Surface	1	4	<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	64	129	19.0	18.0	<0.1	<0.1	0.008	0.005		
				Middle	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
				Bottom	4	4	<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	260	129	17.0	18.0	<0.1	<0.1	<0.001	0.005		
16-Aug-18	Cloudy	Calm	08:42	Surface	1	3	<2	<2	0.10	0.20	<0.01	<0.01	0.16	0.12	240	208	29.0	25.5	0.30	0.35	0.011	0.013		
				Middle	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
				Bottom	4.6	<2.5	<2	<2	0.29	0.20	<0.01	<0.01	0.08	0.12	180	208	22.0	25.5	0.40	0.35	0.014	0.013		
25-Aug-18	Fine	Calm	18:07	Surface	1	8	<2	<2	0.13	0.10	<0.01	<0.01	<0.05	<0.05	94	79	25.0	24.5	0.10	0.10	0.008	0.006		
				Middle	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
				Bottom	3.8	10	<2	<2	0.06	0.10	<0.01	<0.01	<0.05	<0.05	67	79	24.0	24.5	<0.1	0.10	0.003	0.006		
20-Sep-18	Fine	Calm	16:37	Surface	1	10	<2	<2	0.12	0.09	<0.01	<0.01	0.14	0.10	2300	480	28.0	28.0	0.30	0.20	0.022	0.012		
				Middle	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
				Bottom	3.6	7	<2	<2	<0.05	0.09	<0.01	<0.01	<0.05	0.10	100	480	28.0	28.0	<0.1	0.20	0.001	0.012		
23-Sep-18	Cloudy	Calm	17:29	Surface	1	11	<2	<2	0.26	0.31	<0.01	<0.01	0.06	0.06	1200	465	21.0	18.5	0.30	0.35	0.040	0.032		
				Middle	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
				Bottom	3.9	5	<2	<2	0.36	0.31	<0.01	<0.01	<0.05	0.06	180	465	16.0	18.5	0.40	0.35	0.024	0.032		
13-Oct-18	Sunny	Calm	09:39	Surface	1	4	<2	<2	0.09	0.13	<0.01	<0.01	<0.05	<0.05	520	577	10.0	10.5	<0.1	0.15	0.009	0.013		
				Middle	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
				Bottom	4	3	<2	<2	0.17	0.13	<0.01	<0.01	<0.05	<0.05	640	577	11.0	10.5	0.20	0.15	0.016	0.013		
22-Oct-18	Fine	Calm	17:03	Surface	1	9	<2	<2	<0.05	0.13	<0.01	<0.01	<0.05	0.07	8	15	10.0	11.0	<0.1	0.20	0.003	0.004		
				Middle	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
				Bottom	4.2	13	<2	<2	0.20	0.13	<0.01	<0.01	0.08	0.07	30	15	12.0	11.0	0.30	0.20	0.005	0.004		
8-Nov-18	Sunny	Calm	16:45	Surface	1	7	<2	<2	<0.05	<0.05	<0.01	<0.01	0.07	0.06	4	3	17.0	16.5	<0.1	<0.1	<0.001	<0.001		
				Middle	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
				Bottom	4	4	<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	0.06	2	3	16.0	16.5	<0.1	<0.1	<0.001	<0.001		
10-Nov-18	Cloudy	Rough	09:02	Surface	1	9	<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	29	31	10.0	10.0	<0.1	<0.1	0.002	0.002		
				Middle	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
				Bottom	4.3	13	<2	<2	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	34	31	9.9	10.0	<0.1	<0.1	<0.001	0.002		
17-Dec-18	Sunny	Moderate	13:52	Surface	1	8	<2	<2	0.30	0.20	<0.01	<0.01	0.05	0.05	1	1	3.0	5.0	<0.1	<0.1	0.010	0.007		
				Middle	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
				Bottom	4.1	<2.5	<2	<2	0.10	0.20	<0.01	<0.01	<0.05	0.05	1	1	6.9	5.0	<0.1	<0.1	0.003	0.007		
19-Dec-18	Cloudy	Moderate	15:02	Surface	1	9	<2	<2	0.09	0.08	<0.01	<0.01	<0.05	<0.05	70	36	12.0	12.0	<0.1	<0.1	0.004	0.004		
				Middle	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
				Bottom	4.1	5	<2	<2	0.06	0.08	<0.01	<0.01	<0.05	<0.05	19	36	12.0	12.0	<0.1	<0.1	0.003	0.004		

Note: 1) Averages for E. coli are geometric means. All other averaged values are arithmetic means  
2) Values are expressed as arithmetic mean / geometric means, unless all samples were below LOR. For samples that are below LOR, the value is substituted with LOR to allow for calculation.

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

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**APPENDIX C  
BASELINE WATER QUALITY  
MONITORING SCHEDULE**

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**Contract No. SPW 09 / 2018**  
**Environmental Team Baseline Surveys for Sha Tin Cavern Sewage Treatment Works**  
**Water Quality Monitoring Schedule (June 2018)**

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
					1-Jun	2-Jun
<b>3-Jun</b>	4-Jun	5-Jun	6-Jun	7-Jun	8-Jun	9-Jun
<b>10-Jun</b>	11-Jun	12-Jun	13-Jun	14-Jun	15-Jun	16-Jun
<b>17-Jun</b>	<b>18-Jun</b>	19-Jun	20-Jun	21-Jun	22-Jun	23-Jun
			Mid-Flood 9:59 Mid-Ebb 18:29			
<b>24-Jun</b>	25-Jun	26-Jun	27-Jun	28-Jun	29-Jun	30-Jun
		Mid-Ebb 11:59 Mid-Flood 18:24				

Monitoring Station:

W1, W2, C1, F1, F2, F3, F4, CR1, CR15, CR16, CR17, G1, CR9

**Contract No. SPW 09 / 2018**  
**Environmental Team Baseline Surveys for Sha Tin Cavern Sewage Treatment Works**  
**Water Quality Monitoring Schedule (July 2018)**

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
1-Jul	2-Jul	3-Jul	4-Jul	5-Jul	6-Jul	7-Jul
8-Jul	9-Jul	10-Jul	11-Jul	12-Jul	13-Jul	14-Jul
15-Jul	16-Jul	17-Jul	18-Jul	19-Jul	20-Jul	21-Jul
	Mid-Flood 7:03 Mid-Ebb 15:31					
22-Jul	23-Jul	24-Jul	25-Jul	26-Jul	27-Jul	28-Jul
		Mid-Ebb 11:00 Mid-Flood 17:35				
29-Jul	30-Jul	31-Jul				

Monitoring Station:

W1, W2, C1, F1, F2, F3, F4, CR1, CR15, CR16, CR17, G1, CR9

**Contract No. SPW 09 / 2018**  
**Environmental Team Baseline Surveys for Sha Tin Cavern Sewage Treatment Works**  
**Water Quality Monitoring Schedule (August 2018)**

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
			1-Aug	2-Aug	3-Aug	4-Aug
5-Aug	6-Aug	7-Aug	8-Aug	9-Aug	10-Aug	11-Aug
12-Aug	13-Aug	14-Aug	15-Aug	16-Aug	17-Aug	18-Aug
				Mid-Flood 8:21 Mid-Ebb 16:34		
19-Aug	20-Aug	21-Aug	22-Aug	23-Aug	24-Aug	25-Aug
						Mid-Ebb 12:55 Mid-Flood 19:12
26-Aug	27-Aug	28-Aug	29-Aug	30-Aug	31-Aug	

Monitoring Station:

W1, W2, C1, F1, F2, F3, F4, CR1, CR15, CR16, CR17, G1, CR9

**Contract No. SPW 09 / 2018**  
**Environmental Team Baseline Surveys for Sha Tin Cavern Sewage Treatment Works**  
**Water Quality Monitoring Schedule (September 2018)**

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
						1-Sep
2-Sep	3-Sep	4-Sep	5-Sep	6-Sep	7-Sep	8-Sep
9-Sep	10-Sep	11-Sep	12-Sep	13-Sep	14-Sep	15-Sep
16-Sep	17-Sep	18-Sep	19-Sep	20-Sep	21-Sep	22-Sep
				Mid-Ebb 9:51 Mid-Flood 17:45		
23-Sep	24-Sep	25-Sep	26-Sep	27-Sep	28-Sep	29-Sep
Mid-Ebb 12:06 Mid-Flood 18:40						
30-Sep						

Monitoring Station:  
W1, W2, C1, F1, F2, F3, F4, CR1, CR15, CR16, CR17, G1, CR9

**Contract No. SPW 09 / 2018**  
**Environmental Team Baseline Surveys for Sha Tin Cavern Sewage Treatment Works**  
**Water Quality Monitoring Schedule (October 2018)**

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	1-Oct	2-Oct	3-Oct	4-Oct	5-Oct	6-Oct
7-Oct	8-Oct	9-Oct	10-Oct	11-Oct	12-Oct	13-Oct
						Mid-Flood 9:38 Mid-Ebb 15:33
14-Oct	15-Oct	16-Oct	17-Oct	18-Oct	19-Oct	20-Oct
21-Oct	22-Oct	23-Oct	24-Oct	25-Oct	26-Oct	27-Oct
	Mid-Ebb 11:22 Mid-Flood 17:58					
28-Oct	29-Oct	30-Oct	31-Oct			

Monitoring Station:

W1, W2, C1, F1, F2, F3, F4, CR1, CR15, CR16, CR17, G1, CR9

**Contract No. SPW 09 / 2018**  
**Environmental Team Baseline Surveys for Sha Tin Cavern Sewage Treatment Works**  
**Water Quality Monitoring Schedule (November 2018)**

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
				1-Nov	2-Nov	3-Nov
4-Nov	5-Nov	6-Nov	7-Nov	8-Nov	9-Nov	10-Nov
				Mid-Ebb 13:15 Mid-Flood 17:56		Mid-Flood 8:39 Mid-Ebb 14:29
11-Nov	12-Nov	13-Nov	14-Nov	15-Nov	16-Nov	17-Nov
18-Nov	19-Nov	20-Nov	21-Nov	22-Nov	23-Nov	24-Nov
25-Nov	26-Nov	27-Nov	28-Nov	29-Nov	30-Nov	

Monitoring Station:

W1, W2, C1, F1, F2, F3, F4, CR1, CR15, CR16, CR17, G1, CR9



**Contract No. SPW 09 / 2018**  
**Environmental Team Baseline Surveys for Sha Tin Cavern Sewage Treatment Works**  
**Water Quality Monitoring Schedule (December 2018)**

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
						1-Dec
2-Dec	3-Dec	4-Dec	5-Dec	6-Dec	7-Dec	8-Dec
9-Dec	10-Dec	11-Dec	12-Dec	13-Dec	14-Dec	15-Dec
16-Dec	17-Dec	18-Dec	19-Dec	20-Dec	21-Dec	22-Dec
	Mid-Ebb 7:21 Mid-Flood 14:55		Mid-Ebb 9:47 Mid-Flood 16:07			
23-Dec	24-Dec	25-Dec	26-Dec	27-Dec	28-Dec	29-Dec
30-Dec	31-Dec					

Monitoring Station:  
W1, W2, C1, F1, F2, F3, F4, CR1, CR15, CR16, CR17, G1, CR9

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**APPENDIX D  
LABORATORY TESTING REPORTS  
AND QUALITY CONTROL REPORTS**

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**TEST REPORT**

**APPLICANT:** Cinotech Consultants Limited  
Room 1710, Technology Park,  
18 On Lai Street,  
Shatin, N.T., Hong Kong

Report No.:	29108-V1
Date of Issue:	2019-02-01
Date Received:	2018-06-20
Date Tested:	2018-06-20
Date Completed:	2018-06-29

**ATTN:** Ms. Mei Ling Tang

Page: 1 of 11

**Sample Description** : 74 liquid samples as received from client said to be water  
**Laboratory No.** : 29108  
**Project No.** : MA18061  
**Project Name** : Contract No. SPW 09 / 2018  
 Environmental Team Baseline Surveys for Sha Tin Cavern Sewage Treatment Works  
**Custody No.** : MA18061/180620  
**Sampling Date** : 2018-06-20

**Tests Requested & Methodology:**

Item	Parameters	Ref. Method	Limit of reporting
1	Suspended Solids	APHA 17ed 2540 D	2.5 mg/L
2	5-day Biochemical Oxygen Demand	APHA 19ed 5210 B	2 mg-O <sub>2</sub> /L
3	Ammonia Nitrogen	In-house method SOP057 (FIA)	0.05mg NH <sub>3</sub> -N/L
4	Nitrite-nitrogen	In-house method SOP068 (FIA)	0.01 mg NO <sub>2</sub> <sup>-</sup> -N/L
5	Nitrate-nitrogen	In-house method SOP067 (FIA)	0.05 mg NO <sub>3</sub> <sup>-</sup> -N/L
6	<i>E. coli</i>	In-house method SOP069 (Membrane Filtration Method by CHROMagar)	1 cfu/100mL
7	Chlorophyll-a	In-house method SOP009 (Fluorometer)	0.025 mg/m <sup>3</sup>
8	Total Inorganic Nitrogen	In-house method SOP061 (By calculation)	0.1 mg N/L
9	Unionized Ammonia	By Calculation	0.001 mg/L

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PREPARED AND CHECKED BY:  
For and On Behalf of **WELLAB Ltd.**

  
**PATRICK TSE**  
Laboratory Manager

## TEST REPORT

Report No.:	29108-V1
Date of Issue:	2019-02-01
Date Received:	2018-06-20
Date Tested:	2018-06-20
Date Completed:	2018-06-29

Page: 2 of 11

### Results:

Sample ID	F1	F1	F1	W2
Sampling Depth	S	M	B	S
Tide	Mid-Ebb	Mid-Ebb	Mid-Ebb	Mid-Ebb
Sample No.	29108-1	29108-2	29108-3	29108-4
Suspended Solids (mg/L)	3	4	3	3
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	0.07	0.07	0.06	0.12
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	0.08	0.09	0.07	0.10
<i>E. coli</i> (cfu/100mL)	14	1	8	19000
Chlorophyll-a (mg/m <sup>3</sup> )	6.8	7.2	6.5	9.8
Total Inorganic Nitrogen (mg N/L)	0.1	0.2	0.1	0.2
Unionized Ammonia (mg/L)	0.003	0.003	0.001	0.006

Sample ID	W2	CR1	CR1	CR15
Sampling Depth	B	S	B	S
Tide	Mid-Ebb	Mid-Ebb	Mid-Ebb	Mid-Ebb
Sample No.	29108-6	29108-7	29108-9	29108-10
Suspended Solids (mg/L)	4	4	3	14
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	0.09	0.07	0.05	0.08
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	0.06	0.07	0.05	0.07
<i>E. coli</i> (cfu/100mL)	82	16	2	80
Chlorophyll-a (mg/m <sup>3</sup> )	7.6	9.7	7.6	5.7
Total Inorganic Nitrogen (mg N/L)	0.2	0.1	0.1	0.1
Unionized Ammonia (mg/L)	0.003	0.003	0.002	0.003

Remarks: 1) < = less than  
2) S = Surface, M = Middle, B = Bottom  
3) N/A = Not applicable  
4) This report supersedes the one dated 2018/06/29 with certificate number 29108

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## TEST REPORT

Report No.:	29108-V1
Date of Issue:	2019-02-01
Date Received:	2018-06-20
Date Tested:	2018-06-20
Date Completed:	2018-06-29

Page: 3 of 11

### Results:

Sample ID	CR15	CR15	C1	C1
Sampling Depth	M	B	S	M
Tide	Mid-Ebb	Mid-Ebb	Mid-Ebb	Mid-Ebb
Sample No.	29108-11	29108-12	29108-13	29108-14
Suspended Solids (mg/L)	4	3	3	7
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.05	0.12	0.14	0.13
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	0.02	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	<0.05	0.06	0.08	0.06
<i>E. coli</i> (cfu/100mL)	18	17	2	2
Chlorophyll-a (mg/m <sup>3</sup> )	5.8	6.4	5.2	5.5
Total Inorganic Nitrogen (mg N/L)	<0.1	0.2	0.2	0.2
Unionized Ammonia (mg/L)	<0.001	0.004	0.004	0.004

Sample ID	C1	CR16	CR16	CR16
Sampling Depth	B	S	M	B
Tide	Mid-Ebb	Mid-Ebb	Mid-Ebb	Mid-Ebb
Sample No.	29108-15	29108-16	29108-17	29108-18
Suspended Solids (mg/L)	3	3	4	5
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	0.15	0.15	0.18	0.18
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	0.06	0.06	0.05	0.06
<i>E. coli</i> (cfu/100mL)	1	2	<1	1
Chlorophyll-a (mg/m <sup>3</sup> )	4.7	5.4	4.5	5.3
Total Inorganic Nitrogen (mg N/L)	0.2	0.2	0.2	0.2
Unionized Ammonia (mg/L)	0.003	0.006	0.004	0.004

- Remarks: 1) < = less than  
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3) N/A = Not applicable  
4) This report supersedes the one dated 2018/06/29 with certificate number 29108

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## TEST REPORT

Report No.:	29108-V1
Date of Issue:	2019-02-01
Date Received:	2018-06-20
Date Tested:	2018-06-20
Date Completed:	2018-06-29

Page: 4 of 11

### Results:

Sample ID	CR17	CR17	W1	W1
Sampling Depth	S	B	S	M
Tide	Mid-Ebb	Mid-Ebb	Mid-Ebb	Mid-Ebb
Sample No.	29108-19	29108-21	29108-22	29108-23
Suspended Solids (mg/L)	3	4	3	5
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	0.14	0.24	0.11	0.12
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	0.07	0.06	0.07	0.05
<i>E. coli</i> (cfu/100mL)	5	2	1	1
Chlorophyll-a (mg/m <sup>3</sup> )	4.8	4.2	6.0	5.9
Total Inorganic Nitrogen (mg N/L)	0.2	0.3	0.2	0.2
Unionized Ammonia (mg/L)	0.004	0.007	0.004	0.003

Sample ID	W1	F1	F1	F1
Sampling Depth	B	S	M	B
Tide	Mid-Ebb	Mid-Flood	Mid-Flood	Mid-Flood
Sample No.	29108-24	29108-25	29108-26	29108-27
Suspended Solids (mg/L)	3	<2.5	3	3
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	0.13	0.09	0.08	0.10
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	0.06	0.05	<0.05	0.05
<i>E. coli</i> (cfu/100mL)	1	22	14	2
Chlorophyll-a (mg/m <sup>3</sup> )	5.2	4.7	6.7	5.4
Total Inorganic Nitrogen (mg N/L)	0.2	0.1	0.1	0.2

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## TEST REPORT

Report No.:	29108-V1
Date of Issue:	2019-02-01
Date Received:	2018-06-20
Date Tested:	2018-06-20
Date Completed:	2018-06-29

Page: 5 of 11

### Results:

Sample ID	W2	W2	CR1	CR1
Sampling Depth	S	B	S	M
Tide	Mid-Flood	Mid-Flood	Mid-Flood	Mid-Flood
Sample No.	29108-28	29108-30	29108-31	29108-32
Suspended Solids (mg/L)	4	3	3	3
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	0.11	0.08	0.07	0.06
Nitrite-nitrogen (NO <sub>2</sub> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> -N/L)	0.09	0.06	0.09	0.07
<i>E. coli</i> (cfu/100mL)	280	78	680	180
Chlorophyll-a (mg/m <sup>3</sup> )	7.9	7.0	7.2	8.4
Total Inorganic Nitrogen (mg N/L)	0.2	0.1	0.2	0.1
Unionized Ammonia (mg/L)	0.004	0.002	0.003	0.002

Sample ID	CR1	CR15	CR15	CR15
Sampling Depth	B	S	M	B
Tide	Mid-Flood	Mid-Flood	Mid-Flood	Mid-Flood
Sample No.	29108-33	29108-34	29108-35	29108-36
Suspended Solids (mg/L)	3	5	4	<2.5
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	0.17	0.08	<0.05	0.10
Nitrite-nitrogen (NO <sub>2</sub> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> -N/L)	0.06	0.07	<0.05	0.07
<i>E. coli</i> (cfu/100mL)	66	320	140	66
Chlorophyll-a (mg/m <sup>3</sup> )	6.4	6.4	7.1	4.9
Total Inorganic Nitrogen (mg N/L)	0.2	0.1	<0.1	0.2

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3) N/A = Not applicable  
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## TEST REPORT

Report No.:	29108-V1
Date of Issue:	2019-02-01
Date Received:	2018-06-20
Date Tested:	2018-06-20
Date Completed:	2018-06-29

Page: 6 of 11

### Results:

Sample ID	C1	C1	C1	CR16
Sampling Depth	S	M	B	S
Tide	Mid-Flood	Mid-Flood	Mid-Flood	Mid-Flood
Sample No.	29108-37	29108-38	29108-39	29108-40
Suspended Solids (mg/L)	4	3	4	3
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	0.16	0.12	0.12	0.08
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	0.05	<0.05	<0.05	<0.05
<i>E. coli</i> (cfu/100mL)	40	35	20	76
Chlorophyll-a (mg/m <sup>3</sup> )	7.1	7.1	6.9	6.8
Total Inorganic Nitrogen (mg N/L)	0.2	0.2	0.2	0.1
Unionized Ammonia (mg/L)	0.006	0.003	0.003	0.003

Sample ID	CR16	CR16	CR17	CR17
Sampling Depth	M	B	S	M
Tide	Mid-Flood	Mid-Flood	Mid-Flood	Mid-Flood
Sample No.	29108-41	29108-42	29108-43	29108-44
Suspended Solids (mg/L)	3	6	4	8
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	0.09	0.09	<0.05	0.17
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	<0.05	0.05	0.06	0.07
<i>E. coli</i> (cfu/100mL)	11	8	16	2
Chlorophyll-a (mg/m <sup>3</sup> )	5.9	6.7	3.6	3.9
Total Inorganic Nitrogen (mg N/L)	0.1	0.1	0.2	0.2

Remarks: 1) <= less than  
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3) N/A = Not applicable  
4) This report supersedes the one dated 2018/06/29 with certificate number 29108

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**TEST REPORT**

Report No.:	29108-V1
Date of Issue:	2019-02-01
Date Received:	2018-06-20
Date Tested:	2018-06-20
Date Completed:	2018-06-29

Page: 7 of 11

**Results:**

Sample ID	CR17	W1	W1	W1
Sampling Depth	B	S	M	B
Tide	Mid-Flood	Mid-Flood	Mid-Flood	Mid-Flood
Sample No.	29108-45	29108-46	29108-47	29108-48
Suspended Solids (mg/L)	<2.5	4	4	4
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	0.20	0.12	0.13	0.21
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	0.07	0.05	<0.05	0.06
<i>E. coli</i> (cfu/100mL)	8	4	4	42
Chlorophyll-a (mg/m <sup>3</sup> )	3.2	4.6	3.6	5.4
Total Inorganic Nitrogen (mg N/L)	0.3	0.2	0.2	0.3
Unionized Ammonia (mg/L)	0.005	0.003	0.003	0.005

Sample ID	G1	G1	G1	F2
Sampling Depth	S	M	B	S
Tide	Mid-Ebb	Mid-Ebb	Mid-Ebb	Mid-Ebb
Sample No.	29108-49	29108-50	29108-51	29108-52
Suspended Solids (mg/L)	4	3	3	3
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.05	<0.05	<0.05	0.06
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	<0.05	<0.05	<0.05	<0.05
<i>E. coli</i> (cfu/100mL)	4	6	6	1
Chlorophyll-a (mg/m <sup>3</sup> )	5.9	6.4	5.6	4.3
Total Inorganic Nitrogen (mg N/L)	<0.1	<0.1	<0.1	<0.1

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## TEST REPORT

Report No.:	29108-V1
Date of Issue:	2019-02-01
Date Received:	2018-06-20
Date Tested:	2018-06-20
Date Completed:	2018-06-29

Page: 8 of 11

**Results:**

Sample ID	F2	F2	F4	F4
Sampling Depth	M	B	S	M
Tide	Mid-Ebb	Mid-Ebb	Mid-Ebb	Mid-Ebb
Sample No.	29108-53	29108-54	29108-55	29108-56
Suspended Solids (mg/L)	3	4	3	4
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	0.08	0.10	0.14	0.06
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	<0.05	<0.05	1.79	<0.05
<i>E. coli</i> (cfu/100mL)	1	2	1	1
Chlorophyll-a (mg/m <sup>3</sup> )	5.5	5.2	3.7	4.0
Total Inorganic Nitrogen (mg N/L)	0.1	0.1	1.9	<0.1
Unionized Ammonia (mg/L)	0.004	0.002	0.009	0.004

Sample ID	F4	CR9	CR9	CR9
Sampling Depth	B	S	M	B
Tide	Mid-Ebb	Mid-Ebb	Mid-Ebb	Mid-Ebb
Sample No.	29108-57	29108-58	29108-59	29108-60
Suspended Solids (mg/L)	3	4	3	3
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	0.08	<0.05	0.08	0.06
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	<0.05	<0.05	<0.05	<0.05
<i>E. coli</i> (cfu/100mL)	1	<1	<1	<1
Chlorophyll-a (mg/m <sup>3</sup> )	4.1	3.7	3.9	3.7
Total Inorganic Nitrogen (mg N/L)	0.1	<0.1	0.1	<0.1

Remarks: 1) < = less than  
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## TEST REPORT

Report No.:	29108-V1
Date of Issue:	2019-02-01
Date Received:	2018-06-20
Date Tested:	2018-06-20
Date Completed:	2018-06-29

Page: 9 of 11

### Results:

Sample ID	F3	F3	F3	G1
Sampling Depth	S	M	B	S
Tide	Mid-Ebb	Mid-Ebb	Mid-Ebb	Mid-Flood
Sample No.	29108-61	29108-62	29108-63	29108-64
Suspended Solids (mg/L)	4	6	3	3
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	0.11	0.08	0.08	0.09
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	<0.05	<0.05	0.05	<0.05
<i>E. coli</i> (cfu/100mL)	<1	<1	<1	110
Chlorophyll-a (mg/m <sup>3</sup> )	4.3	5.2	5.2	5.4
Total Inorganic Nitrogen (mg N/L)	0.1	0.1	0.1	0.1
Unionized Ammonia (mg/L)	0.006	0.004	0.002	0.004

Sample ID	G1	G1	F2	F2
Sampling Depth	M	B	S	M
Tide	Mid-Flood	Mid-Flood	Mid-Flood	Mid-Flood
Sample No.	29108-65	29108-66	29108-67	29108-68
Suspended Solids (mg/L)	5	3	6	8
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	0.13	0.13	0.10	0.12
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	<0.05	<0.05	<0.05	<0.05
<i>E. coli</i> (cfu/100mL)	30	24	2	4
Chlorophyll-a (mg/m <sup>3</sup> )	5.00	2.5	3.6	5.4
Total Inorganic Nitrogen (mg N/L)	0.2	0.2	0.1	0.2

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## TEST REPORT

Report No.: 29108-V1  
Date of Issue: 2019-02-01  
Date Received: 2018-06-20  
Date Tested: 2018-06-20  
Date Completed: 2018-06-29

Page: 10 of 11

**Results:**

Sample ID	F2	F4	F4	F4
Sampling Depth	B	S	M	B
Tide	Mid-Flood	Mid-Flood	Mid-Flood	Mid-Flood
Sample No.	29108-69	29108-70	29108-71	29108-72
Suspended Solids (mg/L)	4	4	4	4
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	0.10	<0.05	0.11	<0.05
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	<0.05	<0.05	<0.05	<0.05
<i>E. coli</i> (cfu/100mL)	26	<1	<1	2
Chlorophyll-a (mg/m <sup>3</sup> )	4.4	4.8	2.8	4.7
Total Inorganic Nitrogen (mg N/L)	0.1	<0.1	0.1	<0.1
Unionized Ammonia (mg/L)	0.002	0.002	0.005	0.002

Sample ID	CR9	CR9	CR9	F3
Sampling Depth	S	M	B	S
Tide	Mid-Flood	Mid-Flood	Mid-Flood	Mid-Flood
Sample No.	29108-73	29108-74	29108-75	29108-76
Suspended Solids (mg/L)	3	3	5	3
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.05	<0.05	<0.05	<0.05
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	<0.05	<0.05	<0.05	<0.05
<i>E. coli</i> (cfu/100mL)	<1	1	<1	<1
Chlorophyll-a (mg/m <sup>3</sup> )	4.1	4.4	2.6	4.4
Total Inorganic Nitrogen (mg N/L)	<0.1	<0.1	<0.1	<0.1

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## TEST REPORT

Report No.:	29108-V1
Date of Issue:	2019-02-01
Date Received:	2018-06-20
Date Tested:	2018-06-20
Date Completed:	2018-06-29

Page: 11 of 11

### Results:

Sample ID	F3	F3
Sampling Depth	M	B
Tide	Mid-Flood	Mid-Flood
Sample No.	29108-77	29108-78
Suspended Solids (mg/L)	3	6
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	0.08	0.05
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	<0.05	<0.05
<i>E. coli</i> (cfu/100mL)	3	3
Chlorophyll-a (mg/m <sup>3</sup> )	5.3	5.4
Total Inorganic Nitrogen (mg N/L)	0.1	<0.1
Unionized Ammonia (mg/L)	0.003	0.002

Remarks: 1) <= less than  
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## TEST REPORT

Report No.:	29108-V1
Date of Issue:	2019-02-01
Date Received:	2018-06-20
Date Tested:	2018-06-20
Date Completed:	2018-06-29

Page: 11 of 11

### Results:

Sample ID	F3	F3
Sampling Depth	M	B
Tide	Mid-Flood	Mid-Flood
Sample No.	29108-77	29108-78
Suspended Solids (mg/L)	3	6
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	0.08	0.05
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	<0.05	<0.05
<i>E. coli</i> (cfu/100mL)	3	3
Chlorophyll-a (mg/m <sup>3</sup> )	5.3	5.4
Total Inorganic Nitrogen (mg N/L)	0.1	<0.1
Unionized Ammonia (mg/L)	0.003	0.002

Remarks: 1) <= less than  
2) S = Surface, M = Middle, B = Bottom  
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\*\*\*\*\*END OF REPORT\*\*\*\*\*

**TEST REPORT**

**APPLICANT:** Cinotech Consultants Limited  
Room 1710, Technology Park,  
18 On Lai Street,  
Shatin, N.T., Hong Kong

Report No.:	29151-V1
Date of Issue:	2019-02-01
Date Received:	2018-06-26
Date Tested:	2018-06-26
Date Completed:	2018-07-06

**ATTN:** Ms. Mei Ling Tang

Page: 1 of 10

**Sample Description** : 71 liquid samples as received from client said to be water  
**Laboratory No.** : 29151  
**Project No.** : MA18061  
**Project Name** : Contract No. SPW 09 / 2018  
 Environmental Team Baseline Surveys for Sha Tin Cavern Sewage Treatment Works  
**Custody No.** : MA18061/180626  
**Sampling Date** : 2018-06-26

**Tests Requested & Methodology:**

Item	Parameters	Ref. Method	Limit of reporting
1	Suspended Solids	APHA 17ed 2540 D	2.5 mg/L
2	5-day Biochemical Oxygen Demand	APHA 19ed 5210 B	2 mg-O <sub>2</sub> /L
3	Ammonia Nitrogen	In-house method SOP057 (FIA)	0.05mg NH <sub>3</sub> -N/L
4	Nitrite-nitrogen	In-house method SOP068 (FIA)	0.01 mg NO <sub>2</sub> <sup>-</sup> -N/L
5	Nitrate-nitrogen	In-house method SOP067 (FIA)	0.05 mg NO <sub>3</sub> <sup>-</sup> -N/L
6	<i>E. coli</i>	In-house method SOP069 (Membrane Filtration Method by CHROMagar)	1 cfu/100mL
7	Chlorophyll-a	In-house method SOP009 (Fluorometer)	0.025 mg/m <sup>3</sup>
8	Total Inorganic Nitrogen	In-house method SOP061 (By calculation)	0.1 mg N/L
9	Unionized Ammonia	By Calculation	0.001 mg/L

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*PREPARED AND CHECKED BY:*  
For and On Behalf of **WELLAB Ltd.**

  
**PATRICK TSE**  
Laboratory Manager

## TEST REPORT

Report No.:	29151-V1
Date of Issue:	2019-02-01
Date Received:	2018-06-26
Date Tested:	2018-06-26
Date Completed:	2018-07-06

Page: 2 of 10

### Results:

Sample ID	F1	F1	W2	W2
Sampling Depth	S	B	S	B
Tide	Mid-Ebb	Mid-Ebb	Mid-Ebb	Mid-Ebb
Sample No.	29151-1	29151-3	29151-4	29151-6
Suspended Solids (mg/L)	5	9	5	4
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	0.06	<0.05	0.21	0.18
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	<0.05	<0.05	0.12	0.11
<i>E. coli</i> (cfu/100mL)	3	34	3600	4200
Chlorophyll-a (mg/m <sup>3</sup> )	12	14	6.4	20
Total Inorganic Nitrogen (mg N/L)	<0.1	<0.1	0.3	0.3
Unionized Ammonia (mg/L)	0.007	<0.001	0.016	0.005

Sample ID	CR1	CR1	CR15	CR15
Sampling Depth	S	B	S	M
Tide	Mid-Ebb	Mid-Ebb	Mid-Ebb	Mid-Ebb
Sample No.	29151-7	29151-9	29151-10	29151-11
Suspended Solids (mg/L)	5	5	5	4
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.05	0.05	<0.05	0.11
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	<0.05	<0.05	0.06	<0.05
<i>E. coli</i> (cfu/100mL)	800	680	49	2
Chlorophyll-a (mg/m <sup>3</sup> )	19	15	17	20
Total Inorganic Nitrogen (mg N/L)	<0.1	<0.1	<0.1	0.1
Unionized Ammonia (mg/L)	0.007	0.002	0.003	0.005

Remarks: 1) < = less than  
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**TEST REPORT**

Report No.:	29151-V1
Date of Issue:	2019-02-01
Date Received:	2018-06-26
Date Tested:	2018-06-26
Date Completed:	2018-07-06

Page: 3 of 10

**Results:**

Sample ID	CR15	C1	C1	C1
Sampling Depth	B	S	M	B
Tide	Mid-Ebb	Mid-Ebb	Mid-Ebb	Mid-Ebb
Sample No.	29151-12	29151-13	29151-14	29151-15
Suspended Solids (mg/L)	5	5	6	8
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	0.10	<0.05	<0.05	0.07
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.01	<0.01	0.02	0.02
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	<0.05	0.08	<0.05	<0.05
<i>E. coli</i> (cfu/100mL)	2	8	1	1
Chlorophyll-a (mg/m <sup>3</sup> )	22	13	17	24
Total Inorganic Nitrogen (mg N/L)	0.1	0.1	<0.1	0.1
Unionized Ammonia (mg/L)	0.003	0.003	0.002	0.002

Sample ID	CR16	CR16	CR16	CR17
Sampling Depth	S	M	B	S
Tide	Mid-Ebb	Mid-Ebb	Mid-Ebb	Mid-Ebb
Sample No.	29151-16	29151-17	29151-18	29151-19
Suspended Solids (mg/L)	9	16	6	5
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.05	0.16	<0.05	<0.05
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.01	0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	<0.05	<0.05	<0.05	0.05
<i>E. coli</i> (cfu/100mL)	8	8	2	4
Chlorophyll-a (mg/m <sup>3</sup> )	15	16	16	16
Total Inorganic Nitrogen (mg N/L)	<0.1	0.2	<0.1	<0.1
Unionized Ammonia (mg/L)	<0.001	0.006	0.002	0.001

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## TEST REPORT

Report No.:	29151-V1
Date of Issue:	2019-02-01
Date Received:	2018-06-26
Date Tested:	2018-06-26
Date Completed:	2018-07-06

Page: 4 of 10

### Results:

Sample ID	CR17	CR17	W1	W1
Sampling Depth	M	B	S	M
Tide	Mid-Ebb	Mid-Ebb	Mid-Ebb	Mid-Ebb
Sample No.	29151-20	29151-21	29151-22	29151-23
Suspended Solids (mg/L)	4	4	7	9
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.05	0.10	0.29	0.08
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.01	0.02	<0.01	0.02
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	<0.05	<0.05	0.05	<0.05
<i>E. coli</i> (cfu/100mL)	6	5	7	1
Chlorophyll-a (mg/m <sup>3</sup> )	14	22	15	14
Total Inorganic Nitrogen (mg N/L)	<0.1	0.1	0.3	0.1
Unionized Ammonia (mg/L)	<0.001	0.003	0.021	0.003

Sample ID	W1	F1	F1	W2
Sampling Depth	B	S	B	S
Tide	Mid-Ebb	Mid-Flood	Mid-Flood	Mid-Flood
Sample No.	29151-24	29151-25	29151-27	29151-28
Suspended Solids (mg/L)	5	3	5	10
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	0.19	<0.05	<0.05	0.09
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	0.02	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	<0.05	<0.05	<0.05	0.06
<i>E. coli</i> (cfu/100mL)	1	1	2	29
Chlorophyll-a (mg/m <sup>3</sup> )	9.6	14	13	24
Total Inorganic Nitrogen (mg N/L)	0.2	<0.1	<0.1	0.2

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## TEST REPORT

Report No.:	29151-V1
Date of Issue:	2019-02-01
Date Received:	2018-06-26
Date Tested:	2018-06-26
Date Completed:	2018-07-06

Page: 5 of 10

### Results:

Sample ID	W2	CR1	CR1	CR15
Sampling Depth	B	S	B	S
Tide	Mid-Flood	Mid-Flood	Mid-Flood	Mid-Flood
Sample No.	29151-30	29151-31	29151-33	29151-34
Suspended Solids (mg/L)	10	7	5	6
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.05	<0.05	0.05	<0.05
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	<0.05	<0.05	<0.05	<0.05
<i>E. coli</i> (cfu/100mL)	<1	4	2	45
Chlorophyll-a (mg/m <sup>3</sup> )	15	19	16	13
Total Inorganic Nitrogen (mg N/L)	<0.1	<0.1	<0.1	<0.1
Unionized Ammonia (mg/L)	<0.001	0.001	0.002	0.002

Sample ID	CR15	CR15	C1	C1
Sampling Depth	M	B	S	M
Tide	Mid-Flood	Mid-Flood	Mid-Flood	Mid-Flood
Sample No.	29151-35	29151-36	29151-37	29151-38
Suspended Solids (mg/L)	5	6	5	4
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.05	<0.05	<0.05	0.09
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	<0.05	<0.05	<0.05	<0.05
<i>E. coli</i> (cfu/100mL)	4	3	<1	<1
Chlorophyll-a (mg/m <sup>3</sup> )	14	11	14	17
Total Inorganic Nitrogen (mg N/L)	<0.1	<0.1	<0.1	0.1

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## TEST REPORT

Report No.:	29151-V1
Date of Issue:	2019-02-01
Date Received:	2018-06-26
Date Tested:	2018-06-26
Date Completed:	2018-07-06

Page: 6 of 10

### Results:

Sample ID	C1	CR16	CR16	CR16
Sampling Depth	B	S	M	B
Tide	Mid-Flood	Mid-Flood	Mid-Flood	Mid-Flood
Sample No.	29151-39	29151-40	29151-41	29151-42
Suspended Solids (mg/L)	4	10	4	10
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	0.09	<0.05	0.10	<0.05
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	0.02	<0.01	0.02	<0.01
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	<0.05	<0.05	<0.05	<0.05
<i>E. coli</i> (cfu/100mL)	1	5	<1	6
Chlorophyll-a (mg/m <sup>3</sup> )	20	20	16	16
Total Inorganic Nitrogen (mg N/L)	0.1	<0.1	0.1	<0.1
Unionized Ammonia (mg/L)	0.003	0.002	0.003	<0.001

Sample ID	CR17	CR17	W1	W1
Sampling Depth	S	B	S	M
Tide	Mid-Flood	Mid-Flood	Mid-Flood	Mid-Flood
Sample No.	29151-43	29151-45	29151-46	29151-47
Suspended Solids (mg/L)	9	14	4	7
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.05	<0.05	0.07	0.10
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	0.02	<0.01	0.01	0.01
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	0.06	<0.05	<0.05	<0.05
<i>E. coli</i> (cfu/100mL)	34	1	1	2
Chlorophyll-a (mg/m <sup>3</sup> )	16	18	17	19
Total Inorganic Nitrogen (mg N/L)	0.1	<0.1	0.1	0.1

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## TEST REPORT

Report No.:	29151-V1
Date of Issue:	2019-02-01
Date Received:	2018-06-26
Date Tested:	2018-06-26
Date Completed:	2018-07-06

Page: 7 of 10

### Results:

Sample ID	W1	G1	G1	G1
Sampling Depth	B	S	M	B
Tide	Mid-Flood	Mid-Ebb	Mid-Ebb	Mid-Ebb
Sample No.	29151-48	29151-49	29151-50	29151-51
Suspended Solids (mg/L)	3	3	4	5
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	0.17	<0.05	<0.05	0.10
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	<0.05	<0.05	<0.05	<0.05
<i>E. coli</i> (cfu/100mL)	<1	1	2	<1
Chlorophyll-a (mg/m <sup>3</sup> )	13	11	11	12
Total Inorganic Nitrogen (mg N/L)	0.2	<0.1	<0.1	0.1
Unionized Ammonia (mg/L)	0.006	<0.001	<0.001	0.003

Sample ID	F2	F2	F2	F4
Sampling Depth	S	M	B	S
Tide	Mid-Ebb	Mid-Ebb	Mid-Ebb	Mid-Ebb
Sample No.	29151-52	29151-53	29151-54	29151-55
Suspended Solids (mg/L)	10	6	7	13
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	0.07	<0.05	0.09	<0.05
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	<0.05	<0.05	<0.05	<0.05
<i>E. coli</i> (cfu/100mL)	7	3	<1	<1
Chlorophyll-a (mg/m <sup>3</sup> )	10	7.3	12	4.8
Total Inorganic Nitrogen (mg N/L)	<0.1	<0.1	0.1	<0.1

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**TEST REPORT**

Report No.:	29151-V1
Date of Issue:	2019-02-01
Date Received:	2018-06-26
Date Tested:	2018-06-26
Date Completed:	2018-07-06

Page: 8 of 10

**Results:**

Sample ID	F4	F4	CR9	CR9
Sampling Depth	M	B	S	M
Tide	Mid-Ebb	Mid-Ebb	Mid-Ebb	Mid-Ebb
Sample No.	29151-56	29151-57	29151-58	29151-59
Suspended Solids (mg/L)	4	4	<2.5	<2.5
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.05	<0.05	<0.05	<0.05
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	0.02
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	<0.05	<0.05	<0.05	<0.05
<i>E. coli</i> (cfu/100mL)	<1	<1	<1	<1
Chlorophyll-a (mg/m <sup>3</sup> )	7.4	7.3	4.8	4.8
Total Inorganic Nitrogen (mg N/L)	<0.1	<0.1	<0.1	<0.1
Unionized Ammonia (mg/L)	0.001	0.001	<0.001	<0.001

Sample ID	CR9	F3	F3	F3
Sampling Depth	B	S	M	B
Tide	Mid-Ebb	Mid-Ebb	Mid-Ebb	Mid-Ebb
Sample No.	29151-60	29151-61	29151-62	29151-63
Suspended Solids (mg/L)	4	5	7	6
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.05	<0.05	<0.05	0.05
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	0.02	<0.01	0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	<0.05	<0.05	<0.05	<0.05
<i>E. coli</i> (cfu/100mL)	<1	<1	5	8
Chlorophyll-a (mg/m <sup>3</sup> )	4.0	6.2	6.8	12
Total Inorganic Nitrogen (mg N/L)	<0.1	<0.1	<0.1	<0.1

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**TEST REPORT**

Report No.:	29151-V1
Date of Issue:	2019-02-01
Date Received:	2018-06-26
Date Tested:	2018-06-26
Date Completed:	2018-07-06

Page: 9 of 10

**Results:**

Sample ID	G1	G1	G1	F2
Sampling Depth	S	M	B	S
Tide	Mid-Flood	Mid-Flood	Mid-Flood	Mid-Flood
Sample No.	29151-64	29151-65	29151-66	29151-67
Suspended Solids (mg/L)	4	6	13	6
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.05	<0.05	<0.05	<0.05
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.01	<0.01	0.02	<0.01
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	<0.05	<0.05	<0.05	<0.05
<i>E. coli</i> (cfu/100mL)	<1	4	4	<1
Chlorophyll-a (mg/m <sup>3</sup> )	13	11	23	9.2
Total Inorganic Nitrogen (mg N/L)	<0.1	<0.1	<0.1	<0.1
Unionized Ammonia (mg/L)	0.001	<0.001	0.001	<0.001

Sample ID	F2	F2	F4	F4
Sampling Depth	M	B	S	M
Tide	Mid-Flood	Mid-Flood	Mid-Flood	Mid-Flood
Sample No.	29151-68	29151-69	29151-70	29151-71
Suspended Solids (mg/L)	6	7	5	6
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.05	<0.05	<0.05	<0.05
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	0.02	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	<0.05	<0.05	<0.05	<0.05
<i>E. coli</i> (cfu/100mL)	2	<1	<1	<1
Chlorophyll-a (mg/m <sup>3</sup> )	8.4	7.8	8.9	9.0
Total Inorganic Nitrogen (mg N/L)	<0.1	<0.1	<0.1	<0.1

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**TEST REPORT**

Report No.:	29151-V1
Date of Issue:	2019-02-01
Date Received:	2018-06-26
Date Tested:	2018-06-26
Date Completed:	2018-07-06

Page: 10 of 10

**Results:**

Sample ID	F4	CR9	CR9	CR9
Sampling Depth	B	S	M	B
Tide	Mid-Flood	Mid-Flood	Mid-Flood	Mid-Flood
Sample No.	29151-72	29151-73	29151-74	29151-75
Suspended Solids (mg/L)	8	6	10	7
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.05	<0.05	<0.05	<0.05
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	0.02
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	<0.05	<0.05	<0.05	0.07
<i>E. coli</i> (cfu/100mL)	<1	<1	<1	<1
Chlorophyll-a (mg/m <sup>3</sup> )	11	5.9	6.6	5.0
Total Inorganic Nitrogen (mg N/L)	<0.1	<0.1	<0.1	0.1
Unionized Ammonia (mg/L)	0.002	<0.001	<0.001	<0.001

Sample ID	F3	F3	F3
Sampling Depth	S	M	B
Tide	Mid-Flood	Mid-Flood	Mid-Flood
Sample No.	29151-76	29151-77	29151-78
Suspended Solids (mg/L)	7	6	5
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.05	<0.05	<0.05
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	<0.05	<0.05	<0.05
<i>E. coli</i> (cfu/100mL)	<1	<1	<1
Chlorophyll-a (mg/m <sup>3</sup> )	6.0	19	12
Total Inorganic Nitrogen (mg N/L)	<0.1	<0.1	<0.1

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\*\*\*\*\*END OF REPORT\*\*\*\*\*



**TEST REPORT**

**APPLICANT:** Cinotech Consultants Limited  
Room 1710, Technology Park,  
18 On Lai Street,  
Shatin, N.T., Hong Kong

Report No.:	29284-V1
Date of Issue:	2019-02-01
Date Received:	2018-07-16
Date Tested:	2018-07-16
Date Completed:	2018-07-25

**ATTN:** Ms. Mei Ling Tang

Page: 1 of 11

**Sample Description** : 76 liquid samples as received from client said to be water  
**Laboratory No.** : 29284  
**Project No.** : MA18061  
**Project Name** : Contract No. SPW 09 / 2018  
 Environmental Team Baseline Surveys for Sha Tin Cavern Sewage Treatment Works  
**Custody No.** : MA18061/180716  
**Sampling Date** : 2018-07-16

**Tests Requested & Methodology:**

Item	Parameters	Ref. Method	Limit of reporting
1	Suspended Solids	APHA 17ed 2540 D	2.5 mg/L
2	5-day Biochemical Oxygen Demand	APHA 19ed 5210 B	2 mg-O <sub>2</sub> /L
3	Ammonia Nitrogen	In-house method SOP057 (FIA)	0.05mg NH <sub>3</sub> -N/L
4	Nitrite-nitrogen	In-house method SOP068 (FIA)	0.01 mg NO <sub>2</sub> <sup>-</sup> -N/L
5	Nitrate-nitrogen	In-house method SOP067 (FIA)	0.05 mg NO <sub>3</sub> <sup>-</sup> -N/L
6	<i>E. coli</i>	In-house method SOP069 (Membrane Filtration Method by CHROMagar)	1 cfu/100mL
7	Chlorophyll-a	In-house method SOP009 (Fluorometer)	0.025 mg/m <sup>3</sup>
8	Total Inorganic Nitrogen	In-house method SOP061 (By calculation)	0.1 mg N/L
9	Unionized Ammonia	By Calculation	0.001 mg/L

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*PREPARED AND CHECKED BY:*  
For and On Behalf of **WELLAB Ltd.**

  
**PATRICK TSE**  
*Laboratory Manager*

**TEST REPORT**

Report No.:	29284-V1
Date of Issue:	2019-02-01
Date Received:	2018-07-16
Date Tested:	2018-07-16
Date Completed:	2018-07-25

Page: 2 of 11

**Results:**

Sample ID	F1	F1	F1	W2
Sampling Depth	S	M	B	S
Tide	Mid-Ebb	Mid-Ebb	Mid-Ebb	Mid-Ebb
Sample No.	29284-1	29284-2	29284-3	29284-4
Suspended Solids (mg/L)	<2.5	3	<2.5	7
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	0.07	0.13	0.09	0.32
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	0.01
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	0.11	<0.05	0.10	0.21
<i>E. coli</i> (cfu/100mL)	31	16	13	6400
Chlorophyll-a (mg/m <sup>3</sup> )	4.4	5.6	5.3	19
Total Inorganic Nitrogen (mg N/L)	0.2	0.2	0.2	0.5
Unionized Ammonia (mg/L)	0.003	0.006	0.003	0.014

Sample ID	W2	CR1	CR1	CR1
Sampling Depth	B	S	M	B
Tide	Mid-Ebb	Mid-Ebb	Mid-Ebb	Mid-Ebb
Sample No.	29284-6	29284-7	29284-8	29284-9
Suspended Solids (mg/L)	3	8	4	7
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.05	<0.05	<0.05	<0.05
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	0.14	<0.05	<0.05	<0.05
<i>E. coli</i> (cfu/100mL)	220	1900	81	180
Chlorophyll-a (mg/m <sup>3</sup> )	8.4	24	15	16
Total Inorganic Nitrogen (mg N/L)	0.2	<0.1	<0.1	<0.1
Unionized Ammonia (mg/L)	0.002	0.003	<0.001	0.002

Remarks: 1) < = less than  
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## TEST REPORT

Report No.:	29284-V1
Date of Issue:	2019-02-01
Date Received:	2018-07-16
Date Tested:	2018-07-16
Date Completed:	2018-07-25

Page: 3 of 11

### Results:

Sample ID	CR15	CR15	CR15	C1
Sampling Depth	S	M	B	S
Tide	Mid-Ebb	Mid-Ebb	Mid-Ebb	Mid-Ebb
Sample No.	29284-10	29284-11	29284-12	29284-13
Suspended Solids (mg/L)	3	7	3	<2.5
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.05	<0.05	<0.05	<0.05
Nitrite-nitrogen (NO <sub>2</sub> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> -N/L)	<0.05	<0.05	<0.05	<0.05
<i>E. coli</i> (cfu/100mL)	51	1	2	1
Chlorophyll-a (mg/m <sup>3</sup> )	4.6	6.1	6.3	5.1
Total Inorganic Nitrogen (mg N/L)	<0.1	<0.1	<0.1	<0.1
Unionized Ammonia (mg/L)	0.002	<0.001	<0.001	0.001

Sample ID	C1	C1	CR16	CR16
Sampling Depth	M	B	S	M
Tide	Mid-Ebb	Mid-Ebb	Mid-Ebb	Mid-Ebb
Sample No.	29284-14	29284-15	29284-16	29284-17
Suspended Solids (mg/L)	3	6	10	16
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.05	<0.05	<0.05	0.08
Nitrite-nitrogen (NO <sub>2</sub> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> -N/L)	<0.05	<0.05	<0.05	<0.05
<i>E. coli</i> (cfu/100mL)	5	8	65	16
Chlorophyll-a (mg/m <sup>3</sup> )	5.3	6.3	4.4	3.2
Total Inorganic Nitrogen (mg N/L)	<0.1	<0.1	<0.1	<0.1
Unionized Ammonia (mg/L)	0.002	0.001	<0.001	0.004

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Report No.:	29284-V1
Date of Issue:	2019-02-01
Date Received:	2018-07-16
Date Tested:	2018-07-16
Date Completed:	2018-07-25

Page: 4 of 11

**Results:**

Sample ID	CR16	CR17	CR17	W1
Sampling Depth	B	S	B	S
Tide	Mid-Ebb	Mid-Ebb	Mid-Ebb	Mid-Ebb
Sample No.	29284-18	29284-19	29284-21	29284-22
Suspended Solids (mg/L)	17	10	7	13
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.05	<0.05	<0.05	<0.05
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	<0.05	<0.05	<0.05	<0.05
<i>E. coli</i> (cfu/100mL)	7	62	13	220
Chlorophyll-a (mg/m <sup>3</sup> )	2.9	3.7	2.4	3.3
Total Inorganic Nitrogen (mg N/L)	<0.1	<0.1	<0.1	<0.1
Unionized Ammonia (mg/L)	0.001	<0.001	0.002	<0.001

Sample ID	W1	W1	F1	F1
Sampling Depth	M	B	S	M
Tide	Mid-Ebb	Mid-Ebb	Mid-Flood	Mid-Flood
Sample No.	29284-23	29284-24	29284-25	29284-26
Suspended Solids (mg/L)	11	4	4	4
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.05	<0.05	0.09	<0.05
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	<0.05	<0.05	<0.05	<0.05
<i>E. coli</i> (cfu/100mL)	25	9	23	23
Chlorophyll-a (mg/m <sup>3</sup> )	5.4	1.5	3	2.9
Total Inorganic Nitrogen (mg N/L)	<0.1	<0.1	0.1	<0.1
Unionized Ammonia (mg/L)	<0.001	0.001	0.004	0.001

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**TEST REPORT**

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Date Tested:	2018-07-16
Date Completed:	2018-07-25

Page: 5 of 11

**Results:**

Sample ID	F1	W2	W2	W2
Sampling Depth	B	S	M	B
Tide	Mid-Flood	Mid-Flood	Mid-Flood	Mid-Flood
Sample No.	29284-27	29284-28	29284-29	29284-30
Suspended Solids (mg/L)	<2.5	4	6	5
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.05	0.08	0.06	0.08
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	<0.05	<0.05	<0.05	<0.05
<i>E. coli</i> (cfu/100mL)	23	2200	200	360
Chlorophyll-a (mg/m <sup>3</sup> )	2.4	12	7.6	6.2
Total Inorganic Nitrogen (mg N/L)	<0.1	<0.1	0.1	0.1
Unionized Ammonia (mg/L)	0.002	0.003	0.003	0.004

Sample ID	CR1	CR1	CR1	CR15
Sampling Depth	S	M	B	S
Tide	Mid-Flood	Mid-Flood	Mid-Flood	Mid-Flood
Sample No.	29284-31	29284-32	29284-33	29284-34
Suspended Solids (mg/L)	8	5	4	9
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	0.06	<0.05	0.08	<0.05
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	<0.05	<0.05	<0.05	<0.05
<i>E. coli</i> (cfu/100mL)	2000	320	160	340
Chlorophyll-a (mg/m <sup>3</sup> )	13	5	6.2	3.5
Total Inorganic Nitrogen (mg N/L)	<0.1	<0.1	<0.1	<0.1
Unionized Ammonia (mg/L)	0.003	<0.001	0.003	0.002

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Report No.:	29284-V1
Date of Issue:	2019-02-01
Date Received:	2018-07-16
Date Tested:	2018-07-16
Date Completed:	2018-07-25

Page: 6 of 11

### Results:

Sample ID	CR15	CR15	C1	C1
Sampling Depth	M	B	S	M
Tide	Mid-Flood	Mid-Flood	Mid-Flood	Mid-Flood
Sample No.	29284-35	29284-36	29284-37	29284-38
Suspended Solids (mg/L)	3	3	3	3
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.05	<0.05	<0.05	<0.05
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	<0.05	<0.05	<0.05	<0.05
<i>E. coli</i> (cfu/100mL)	92	65	180	260
Chlorophyll-a (mg/m <sup>3</sup> )	3.6	4	2.8	2.7
Total Inorganic Nitrogen (mg N/L)	<0.1	<0.1	<0.1	<0.1
Unionized Ammonia (mg/L)	0.001	0.001	<0.001	0.002

Sample ID	C1	CR16	CR16	CR16
Sampling Depth	B	S	M	B
Tide	Mid-Flood	Mid-Flood	Mid-Flood	Mid-Flood
Sample No.	29284-39	29284-40	29284-41	29284-42
Suspended Solids (mg/L)	6	4	3	<2.5
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.05	<0.05	<0.05	<0.05
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	<0.05	<0.05	<0.05	<0.05
<i>E. coli</i> (cfu/100mL)	87	16	94	5
Chlorophyll-a (mg/m <sup>3</sup> )	3.4	2.4	3	1.9
Total Inorganic Nitrogen (mg N/L)	<0.1	<0.1	<0.1	<0.1
Unionized Ammonia (mg/L)	<0.001	0.001	<0.001	<0.001

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**TEST REPORT**

Report No.:	29284-V1
Date of Issue:	2019-02-01
Date Received:	2018-07-16
Date Tested:	2018-07-16
Date Completed:	2018-07-25

Page: 7 of 11

**Results:**

Sample ID	CR17	CR17	CR17	W1
Sampling Depth	S	M	B	S
Tide	Mid-Flood	Mid-Flood	Mid-Flood	Mid-Flood
Sample No.	29284-43	29284-44	29284-45	29284-46
Suspended Solids (mg/L)	3	7	4	11
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.05	<0.05	<0.05	0.06
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	<0.05	<0.05	<0.05	<0.05
<i>E. coli</i> (cfu/100mL)	260	340	21	960
Chlorophyll-a (mg/m <sup>3</sup> )	1.8	1.8	1.9	2.1
Total Inorganic Nitrogen (mg N/L)	<0.1	<0.1	<0.1	<0.1
Unionized Ammonia (mg/L)	<0.001	0.001	0.001	0.002

Sample ID	W1	W1	G1	G1
Sampling Depth	M	B	S	M
Tide	Mid-Flood	Mid-Flood	Mid-Ebb	Mid-Ebb
Sample No.	29284-47	29284-48	29284-49	29284-50
Suspended Solids (mg/L)	3	<2.5	5	5
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.05	<0.05	<0.05	0.12
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	<0.05	<0.05	<0.05	<0.05
<i>E. coli</i> (cfu/100mL)	23	6	<1	<1
Chlorophyll-a (mg/m <sup>3</sup> )	1.6	1.9	5.2	4.9
Total Inorganic Nitrogen (mg N/L)	<0.1	<0.1	<0.1	0.1
Unionized Ammonia (mg/L)	<0.001	<0.001	<0.001	0.007

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Report No.:	29284-V1
Date of Issue:	2019-02-01
Date Received:	2018-07-16
Date Tested:	2018-07-16
Date Completed:	2018-07-25

Page: 8 of 11

### Results:

Sample ID	G1	F2	F2	F2
Sampling Depth	B	S	M	B
Tide	Mid-Ebb	Mid-Ebb	Mid-Ebb	Mid-Ebb
Sample No.	29284-51	29284-52	29284-53	29284-54
Suspended Solids (mg/L)	3	3	3	5
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.05	<0.05	<0.05	<0.05
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	<0.05	<0.05	<0.05	<0.05
<i>E. coli</i> (cfu/100mL)	<1	1	3	<1
Chlorophyll-a (mg/m <sup>3</sup> )	5.2	4.6	6	5.8
Total Inorganic Nitrogen (mg N/L)	<0.1	<0.1	<0.1	<0.1
Unionized Ammonia (mg/L)	<0.001	<0.001	<0.001	<0.001

Sample ID	F4	F4	F4	CR9
Sampling Depth	S	M	B	S
Tide	Mid-Ebb	Mid-Ebb	Mid-Ebb	Mid-Ebb
Sample No.	29284-55	29284-56	29284-57	29284-58
Suspended Solids (mg/L)	<2.5	<2.5	<2.5	<2.5
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.05	<0.05	<0.05	<0.05
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	<0.05	<0.05	<0.05	<0.05
<i>E. coli</i> (cfu/100mL)	<1	<1	<1	<1
Chlorophyll-a (mg/m <sup>3</sup> )	3.2	3	2.6	3
Total Inorganic Nitrogen (mg N/L)	<0.1	<0.1	<0.1	<0.1
Unionized Ammonia (mg/L)	<0.001	<0.001	<0.001	0.002

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Report No.:	29284-V1
Date of Issue:	2019-02-01
Date Received:	2018-07-16
Date Tested:	2018-07-16
Date Completed:	2018-07-25

Page: 9 of 11

### Results:

Sample ID	CR9	CR9	F3	F3
Sampling Depth	M	B	S	M
Tide	Mid-Ebb	Mid-Ebb	Mid-Ebb	Mid-Ebb
Sample No.	29284-59	29284-60	29284-61	29284-62
Suspended Solids (mg/L)	4	7	<2.5	<2.5
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.05	<0.05	<0.05	<0.05
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	<0.05	<0.05	<0.05	<0.05
<i>E. coli</i> (cfu/100mL)	<1	<1	<1	2
Chlorophyll-a (mg/m <sup>3</sup> )	3.2	2.8	1.8	2.2
Total Inorganic Nitrogen (mg N/L)	<0.1	<0.1	<0.1	<0.1
Unionized Ammonia (mg/L)	<0.001	<0.001	<0.001	<0.001

Sample ID	F3	G1	G1	G1
Sampling Depth	B	S	M	B
Tide	Mid-Ebb	Mid-Flood	Mid-Flood	Mid-Flood
Sample No.	29284-63	29284-64	29284-65	29284-66
Suspended Solids (mg/L)	<2.5	4	3	3
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.05	<0.05	0.07	<0.05
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.01	0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	<0.05	<0.05	<0.05	<0.05
<i>E. coli</i> (cfu/100mL)	1	7	<1	8
Chlorophyll-a (mg/m <sup>3</sup> )	1.9	2.9	2.4	1.6
Total Inorganic Nitrogen (mg N/L)	<0.1	<0.1	<0.1	<0.1
Unionized Ammonia (mg/L)	<0.001	0.002	0.003	<0.001

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Date Tested:	2018-07-16
Date Completed:	2018-07-25

Page: 10 of 11

### Results:

Sample ID	F2	F2	F2	F4
Sampling Depth	S	M	B	S
Tide	Mid-Flood	Mid-Flood	Mid-Flood	Mid-Flood
Sample No.	29284-67	29284-68	29284-69	29284-70
Suspended Solids (mg/L)	4	<2.5	3	<2.5
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.05	<0.05	<0.05	<0.05
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	<0.05	<0.05	<0.05	<0.05
<i>E. coli</i> (cfu/100mL)	2	3	<1	<1
Chlorophyll-a (mg/m <sup>3</sup> )	4.1	4.2	4.7	1.8
Total Inorganic Nitrogen (mg N/L)	0.1	<0.1	<0.1	<0.1
Unionized Ammonia (mg/L)	0.003	<0.001	<0.001	0.002

Sample ID	F4	F4	CR9	CR9
Sampling Depth	M	B	S	M
Tide	Mid-Flood	Mid-Flood	Mid-Flood	Mid-Flood
Sample No.	29284-71	29284-72	29284-73	29284-74
Suspended Solids (mg/L)	<2.5	3	4	3
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.05	<0.05	<0.05	<0.05
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	<0.05	<0.05	<0.05	<0.05
<i>E. coli</i> (cfu/100mL)	<1	<1	6	<1
Chlorophyll-a (mg/m <sup>3</sup> )	1.7	1.6	2.3	2.5
Total Inorganic Nitrogen (mg N/L)	<0.1	<0.1	<0.1	<0.1
Unionized Ammonia (mg/L)	<0.001	<0.001	0.002	<0.001

Remarks: 1) < = less than  
2) S = Surface, M = Middle, B = Bottom  
3) N/A = Not applicable  
4) This report supersedes the one dated 2018/07/25 with certificate number 29284

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**TEST REPORT**

Report No.:	29284-V1
Date of Issue:	2019-02-01
Date Received:	2018-07-16
Date Tested:	2018-07-16
Date Completed:	2018-07-25

Page: 11 of 11

**Results:**

Sample ID	CR9	F3	F3	F3
Sampling Depth	B	S	M	B
Tide	Mid-Flood	Mid-Flood	Mid-Flood	Mid-Flood
Sample No.	29284-75	29284-76	29284-77	29284-78
Suspended Solids (mg/L)	<2.5	3	<2.5	3
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.05	<0.05	<0.05	<0.05
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	<0.05	<0.05	<0.05	<0.05
<i>E. coli</i> (cfu/100mL)	<1	1	3	2
Chlorophyll-a (mg/m <sup>3</sup> )	2.6	1.0	1.1	1.2
Total Inorganic Nitrogen (mg N/L)	<0.1	<0.1	<0.1	<0.1
Unionized Ammonia (mg/L)	<0.001	<0.001	<0.001	<0.001

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 3) N/A = Not applicable  
 4) This report supersedes the one dated 2018/07/25 with certificate number 29284

\*\*\*\*\*END OF REPORT\*\*\*\*\*

**TEST REPORT**

**APPLICANT:** Cinotech Consultants Limited  
Room 1710, Technology Park,  
18 On Lai Street,  
Shatin, N.T., Hong Kong

Report No.:	29356
Date of Issue:	2018-08-02
Date Received:	2018-07-24
Date Tested:	2018-07-24
Date Completed:	2018-08-02
Page:	1 of 10

**ATTN:** Ms. Mei Ling Tang

**Sample Description :** 71 liquid samples as received from client said to be water  
**Laboratory No. :** 29356  
**Project No. :** MA18061  
**Project Name :** Contract No. SPW 09 / 2018  
 Environmental Team Baseline Surveys for Sha Tin Cavern Sewage Treatment Works  
**Custody No. :** MA18061/180724  
**Sampling Date :** 2018-07-24

**Tests Requested & Methodology:**

Item	Parameters	Ref. Method	Limit of reporting
1	Suspended Solids	APHA 17ed 2540 D	2.5 mg/L
2	5-day Biochemical Oxygen Demand	APHA 19ed 5210 B	2 mg-O <sub>2</sub> /L
3	Ammonia Nitrogen	In-house method SOP057 (FIA)	0.05mg NH <sub>3</sub> -N/L
4	Nitrite-nitrogen	In-house method SOP068 (FIA)	0.01 mg NO <sub>2</sub> -N/L
5	Nitrate-nitrogen	In-house method SOP067 (FIA)	0.05 mg NO <sub>3</sub> -N/L
6	<i>E. coli</i>	In-house method SOP069 (Membrane Filtration Method by CHROMagar)	1 cfu/100mL
7	Chlorophyll-a	In-house method SOP009 (Fluorometer)	0.025 mg/m <sup>3</sup>
8	Total Inorganic Nitrogen	In-house method SOP061 (By calculation)	0.1 mg N/L
9	Unionized Ammonia	By Calculation	0.001 mg/L

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**PREPARED AND CHECKED BY:**  
For and On Behalf of **WELLAB Ltd.**

  
**PATRICK TSE**  
Laboratory Manager

## TEST REPORT

Report No.:	29356
Date of Issue:	2018-08-02
Date Received:	2018-07-24
Date Tested:	2018-07-24
Date Completed:	2018-08-02

Page: 2 of 10

### Results:

Sample ID	F1	F1	W2	W2
Sampling Depth	S	B	S	B
Tide	Mid-Ebb	Mid-Ebb	Mid-Ebb	Mid-Ebb
Sample No.	29356-1	29356-3	29356-4	29356-6
Suspended Solids (mg/L)	5	3	6	6
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.05	<0.05	0.15	0.07
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	<0.05	<0.05	0.08	0.08
<i>E. coli</i> (cfu/100mL)	2	7	1200	660
Chlorophyll-a (mg/m <sup>3</sup> )	9.4	11	26	26
Total Inorganic Nitrogen (mg N/L)	<0.1	<0.1	0.2	0.1
Unionized Ammonia (mg/L)	<0.001	<0.001	0.011	0.004

Sample ID	CR1	CR1	CR15	CR15
Sampling Depth	S	B	S	M
Tide	Mid-Ebb	Mid-Ebb	Mid-Ebb	Mid-Ebb
Sample No.	29356-7	29356-9	29356-10	29356-11
Suspended Solids (mg/L)	7	<2.5	4	4
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.05	<0.05	<0.05	<0.05
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	<0.05	<0.05	0.09	<0.05
<i>E. coli</i> (cfu/100mL)	60	6	220	5
Chlorophyll-a (mg/m <sup>3</sup> )	26	9.7	11	9.8
Total Inorganic Nitrogen (mg N/L)	<0.1	<0.1	<0.1	<0.1
Unionized Ammonia (mg/L)	<0.001	<0.001	<0.001	<0.001

Remarks: 1) < = less than  
2) S = Surface, M = Middle, B = Bottom  
3) N/A = Not applicable

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## TEST REPORT

Report No.:	29356
Date of Issue:	2018-08-02
Date Received:	2018-07-24
Date Tested:	2018-07-24
Date Completed:	2018-08-02

Page: 3 of 10

### Results:

Sample ID	CR15	C1	C1	C1
Sampling Depth	B	S	M	B
Tide	Mid-Ebb	Mid-Ebb	Mid-Ebb	Mid-Ebb
Sample No.	29356-12	29356-13	29356-14	29356-15
Suspended Solids (mg/L)	3	<2.5	5	7
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.05	<0.05	<0.05	<0.05
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	<0.05	<0.05	<0.05	<0.05
<i>E. coli</i> (cfu/100mL)	7	98	94	110
Chlorophyll-a (mg/m <sup>3</sup> )	10	8.9	8.9	8.8
Total Inorganic Nitrogen (mg N/L)	<0.1	<0.1	<0.1	<0.1
Unionized Ammonia (mg/L)	<0.001	<0.001	<0.001	<0.001

Sample ID	CR16	CR16	CR16	CR17
Sampling Depth	S	M	B	S
Tide	Mid-Ebb	Mid-Ebb	Mid-Ebb	Mid-Ebb
Sample No.	29356-16	29356-17	29356-18	29356-19
Suspended Solids (mg/L)	4	3	5	4
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.05	<0.05	<0.05	<0.05
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	<0.05	<0.05	<0.05	<0.05
<i>E. coli</i> (cfu/100mL)	260	420	320	55
Chlorophyll-a (mg/m <sup>3</sup> )	8	8.9	9.4	7.5
Total Inorganic Nitrogen (mg N/L)	<0.1	<0.1	<0.1	<0.1
Unionized Ammonia (mg/L)	<0.001	<0.001	<0.001	<0.001

Remarks: 1) < = less than  
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3) N/A = Not applicable

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### TEST REPORT

Report No.:	29356
Date of Issue:	2018-08-02
Date Received:	2018-07-24
Date Tested:	2018-07-24
Date Completed:	2018-08-02

Page: 4 of 10

**Results:**

Sample ID	CR17	CR17	W1	W1
Sampling Depth	M	B	S	M
Tide	Mid-Ebb	Mid-Ebb	Mid-Ebb	Mid-Ebb
Sample No.	29356-20	29356-21	29356-22	29356-23
Suspended Solids (mg/L)	8	4	4	5
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.05	<0.05	<0.05	<0.05
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	<0.05	<0.05	<0.05	<0.05
<i>E. coli</i> (cfu/100mL)	9	10	7	6
Chlorophyll-a (mg/m <sup>3</sup> )	11	12	7.6	16
Total Inorganic Nitrogen (mg N/L)	<0.1	<0.1	<0.1	<0.1
Unionized Ammonia (mg/L)	<0.001	<0.001	<0.001	<0.001

Sample ID	W1	F1	F1	W2
Sampling Depth	B	S	B	S
Tide	Mid-Ebb	Mid-Flood	Mid-Flood	Mid-Flood
Sample No.	29356-24	29356-25	29356-27	29356-28
Suspended Solids (mg/L)	5	5	8	4
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.05	<0.05	<0.05	<0.05
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	<0.05	<0.05	<0.05	<0.05
<i>E. coli</i> (cfu/100mL)	8	<1	1	64
Chlorophyll-a (mg/m <sup>3</sup> )	15	10	9.5	19
Total Inorganic Nitrogen (mg N/L)	<0.1	<0.1	<0.1	<0.1

Remarks: 1) < = less than  
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**TEST REPORT**

Report No.:	29356
Date of Issue:	2018-08-02
Date Received:	2018-07-24
Date Tested:	2018-07-24
Date Completed:	2018-08-02

Page: 5 of 10

**Results:**

Sample ID	W2	CR1	CR1	CR15
Sampling Depth	B	S	B	S
Tide	Mid-Flood	Mid-Flood	Mid-Flood	Mid-Flood
Sample No.	29356-30	29356-31	29356-33	29356-34
Suspended Solids (mg/L)	4	8	4	6
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.05	<0.05	<0.05	<0.05
Nitrite-nitrogen (NO <sub>2</sub> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> -N/L)	<0.05	<0.05	<0.05	<0.05
<i>E. coli</i> (cfu/100mL)	260	1	1	1
Chlorophyll-a (mg/m <sup>3</sup> )	17	19	14	15
Total Inorganic Nitrogen (mg N/L)	<0.1	<0.1	<0.1	<0.1
Unionized Ammonia (mg/L)	<0.001	<0.001	0.001	<0.001

Sample ID	CR15	CR15	C1	C1
Sampling Depth	M	B	S	M
Tide	Mid-Flood	Mid-Flood	Mid-Flood	Mid-Flood
Sample No.	29356-35	29356-36	29356-37	29356-38
Suspended Solids (mg/L)	9	8	5	7
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.05	<0.05	<0.05	<0.05
Nitrite-nitrogen (NO <sub>2</sub> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> -N/L)	<0.05	<0.05	<0.05	<0.05
<i>E. coli</i> (cfu/100mL)	1	1	4	4
Chlorophyll-a (mg/m <sup>3</sup> )	16	14	11	12
Total Inorganic Nitrogen (mg N/L)	<0.1	<0.1	<0.1	<0.1

Remarks: 1) < = less than  
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3) N/A = Not applicable

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**TEST REPORT**

Report No.:	29356
Date of Issue:	2018-08-02
Date Received:	2018-07-24
Date Tested:	2018-07-24
Date Completed:	2018-08-02

Page: 6 of 10

**Results:**

Sample ID	CI	CR16	CR16	CR16
Sampling Depth	B	S	M	B
Tide	Mid-Flood	Mid-Flood	Mid-Flood	Mid-Flood
Sample No.	29356-39	29356-40	29356-41	29356-42
Suspended Solids (mg/L)	7	6	5	7
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.05	<0.05	<0.05	<0.05
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	<0.05	<0.05	<0.05	<0.05
<i>E. coli</i> (cfu/100mL)	1	14	19	6
Chlorophyll-a (mg/m <sup>3</sup> )	11	12	11	12
Total Inorganic Nitrogen (mg N/L)	<0.1	<0.1	<0.1	<0.1
Unionized Ammonia (mg/L)	<0.001	<0.001	<0.001	<0.001

Sample ID	CR17	CR17	W1	W1
Sampling Depth	S	B	S	M
Tide	Mid-Flood	Mid-Flood	Mid-Flood	Mid-Flood
Sample No.	29356-43	29356-45	29356-46	29356-47
Suspended Solids (mg/L)	12	4	5	9
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.05	<0.05	<0.05	<0.05
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	<0.05	<0.05	<0.05	<0.05
<i>E. coli</i> (cfu/100mL)	10	9	4	4
Chlorophyll-a (mg/m <sup>3</sup> )	12	11	9.2	10
Total Inorganic Nitrogen (mg N/L)	<0.1	<0.1	<0.1	<0.1

Remarks: 1) < = less than

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3) N/A = Not applicable

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**TEST REPORT**

Report No.:	29356
Date of Issue:	2018-08-02
Date Received:	2018-07-24
Date Tested:	2018-07-24
Date Completed:	2018-08-02

Page: 7 of 10

**Results:**

Sample ID	W1	G1	G1	G1
Sampling Depth	B	S	M	B
Tide	Mid-Flood	Mid-Ebb	Mid-Ebb	Mid-Ebb
Sample No.	29356-48	29356-49	29356-50	29356-51
Suspended Solids (mg/L)	3	5	3	6
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.05	<0.05	<0.05	<0.05
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	<0.05	<0.05	<0.05	<0.05
<i>E. coli</i> (cfu/100mL)	5	<1	1	<1
Chlorophyll-a (mg/m <sup>3</sup> )	11	8.7	9.9	11
Total Inorganic Nitrogen (mg N/L)	<0.1	<0.1	<0.1	<0.1
Unionized Ammonia (mg/L)	<0.001	<0.001	<0.001	<0.001

Sample ID	F2	F2	F2	F4
Sampling Depth	S	M	B	S
Tide	Mid-Ebb	Mid-Ebb	Mid-Ebb	Mid-Ebb
Sample No.	29356-52	29356-53	29356-54	29356-55
Suspended Solids (mg/L)	10	6	7	5
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.05	<0.05	<0.05	<0.05
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	<0.05	<0.05	<0.05	<0.05
<i>E. coli</i> (cfu/100mL)	<1	<1	<1	<1
Chlorophyll-a (mg/m <sup>3</sup> )	14	18	11	6.6
Total Inorganic Nitrogen (mg N/L)	<0.1	<0.1	<0.1	<0.1

Remarks: 1) < = less than  
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3) N/A = Not applicable

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### TEST REPORT

Report No.:	29356
Date of Issue:	2018-08-02
Date Received:	2018-07-24
Date Tested:	2018-07-24
Date Completed:	2018-08-02

Page: 8 of 10

**Results:**

Sample ID	F4	F4	CR9	CR9
Sampling Depth	M	B	S	M
Tide	Mid-Ebb	Mid-Ebb	Mid-Ebb	Mid-Ebb
Sample No.	29356-56	29356-57	29356-58	29356-59
Suspended Solids (mg/L)	5	4	6	4
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.05	<0.05	<0.05	<0.05
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	<0.05	<0.05	<0.05	<0.05
<i>E. coli</i> (cfu/100mL)	<1	<1	<1	<1
Chlorophyll-a (mg/m <sup>3</sup> )	5.3	4.9	3.4	3.2
Total Inorganic Nitrogen (mg N/L)	<0.1	<0.1	<0.1	<0.1
Unionized Ammonia (mg/L)	<0.001	<0.001	<0.001	<0.001

Sample ID	CR9	F3	F3	F3
Sampling Depth	B	S	M	B
Tide	Mid-Ebb	Mid-Ebb	Mid-Ebb	Mid-Ebb
Sample No.	29356-60	29356-61	29356-62	29356-63
Suspended Solids (mg/L)	3	3	3	3
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.05	<0.05	0.14	<0.05
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	<0.05	<0.05	<0.05	<0.05
<i>E. coli</i> (cfu/100mL)	<1	2	1	<1
Chlorophyll-a (mg/m <sup>3</sup> )	2.7	7.9	7.6	11
Total Inorganic Nitrogen (mg N/L)	<0.1	<0.1	0.2	<0.1

Remarks: 1) < = less than  
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**TEST REPORT**

Report No.:	29356
Date of Issue:	2018-08-02
Date Received:	2018-07-24
Date Tested:	2018-07-24
Date Completed:	2018-08-02

Page: 9 of 10

**Results:**

Sample ID	G1	G1	G1	F2
Sampling Depth	S	M	B	S
Tide	Mid-Flood	Mid-Flood	Mid-Flood	Mid-Flood
Sample No.	29356-64	29356-65	29356-66	29356-67
Suspended Solids (mg/L)	<2.5	4	<2.5	3
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.05	<0.05	<0.05	<0.05
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	<0.05	<0.05	<0.05	<0.05
<i>E. coli</i> (cfu/100mL)	1	<1	<1	1
Chlorophyll-a (mg/m <sup>3</sup> )	7.8	9.9	8.7	7.1
Total Inorganic Nitrogen (mg N/L)	<0.1	<0.1	<0.1	<0.1
Unionized Ammonia (mg/L)	<0.001	<0.001	<0.001	<0.001

Sample ID	F2	F2	F4	F4
Sampling Depth	M	B	S	M
Tide	Mid-Flood	Mid-Flood	Mid-Flood	Mid-Flood
Sample No.	29356-68	29356-69	29356-70	29356-71
Suspended Solids (mg/L)	5	5	5	12
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.05	<0.05	<0.05	<0.05
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	<0.05	<0.05	<0.05	<0.05
<i>E. coli</i> (cfu/100mL)	1	5	<1	<1
Chlorophyll-a (mg/m <sup>3</sup> )	6.2	6.6	4.9	5.0
Total Inorganic Nitrogen (mg N/L)	<0.1	<0.1	<0.1	<0.1

Remarks: 1) < = less than  
2) S = Surface, M = Middle, B = Bottom  
3) N/A = Not applicable

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**TEST REPORT**

Report No.:	29356
Date of Issue:	2018-08-02
Date Received:	2018-07-24
Date Tested:	2018-07-24
Date Completed:	2018-08-02

Page: 10 of 10

**Results:**

Sample ID	F4	CR9	CR9	CR9
Sampling Depth	B	S	M	B
Tide	Mid-Flood	Mid-Flood	Mid-Flood	Mid-Flood
Sample No.	29356-72	29356-73	29356-74	29356-75
Suspended Solids (mg/L)	7	4	4	3
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.05	<0.05	<0.05	<0.05
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	<0.05	<0.05	<0.05	<0.05
<i>E. coli</i> (cfu/100mL)	<1	<1	<1	<1
Chlorophyll-a (mg/m <sup>3</sup> )	3.9	1.4	1.7	1.7
Total Inorganic Nitrogen (mg N/L)	<0.1	<0.1	<0.1	<0.1
Unionized Ammonia (mg/L)	0.002	<0.001	<0.001	<0.001

Sample ID	F3	F3	F3
Sampling Depth	S	M	B
Tide	Mid-Flood	Mid-Flood	Mid-Flood
Sample No.	29356-76	29356-77	29356-78
Suspended Solids (mg/L)	4	6	3
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.05	<0.05	<0.05
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	<0.05	<0.05	<0.05
<i>E. coli</i> (cfu/100mL)	1	4	<1
Chlorophyll-a (mg/m <sup>3</sup> )	9.6	9.2	9.1
Total Inorganic Nitrogen (mg N/L)	<0.1	<0.1	<0.1

- Remarks: 1) < = less than  
2) S = Surface, M = Middle, B = Bottom  
3) N/A = Not applicable

\*\*\*\*\*END OF REPORT\*\*\*\*\*

**TEST REPORT**

**APPLICANT:** Cinotech Consultants Limited  
Room 1710, Technology Park,  
18 On Lai Street,  
Shatin, N.T., Hong Kong

Report No.:	29489
Date of Issue:	2018-08-27
Date Received:	2018-08-16
Date Tested:	2018-08-16
Date Completed:	2018-08-27

**ATTN:** Ms. Mei Ling Tang

Page: 1 of 11

**Sample Description :** 74 liquid samples as received from client said to be water  
**Laboratory No. :** 29489  
**Project No. :** MA18061  
**Project Name :** Contract No. SPW 09 / 2018  
 Environmental Team Baseline Surveys for Sha Tin Cavern Sewage Treatment Works  
**Custody No. :** MA18061/180816  
**Sampling Date :** 2018-08-16

**Tests Requested & Methodology:**

Item	Parameters	Ref. Method	Limit of reporting
1	Suspended Solids	APHA 17ed 2540 D	2.5 mg/L
2	5-day Biochemical Oxygen Demand	APHA 19ed 5210 B	2 mg-O <sub>2</sub> /L
3	Ammonia Nitrogen	In-house method SOP057 (FIA)	0.05mg NH <sub>3</sub> -N/L
4	Nitrite-nitrogen	In-house method SOP068 (FIA)	0.01 mg NO <sub>2</sub> -N/L
5	Nitrate-nitrogen	In-house method SOP067 (FIA)	0.05 mg NO <sub>3</sub> -N/L
6	<i>E. coli</i>	In-house method SOP069 (Membrane Filtration Method by CHROMagar)	1 cfu/100mL
7	Chlorophyll-a	In-house method SOP009 (Fluorometer)	0.025 mg/m <sup>3</sup>
8	Total Inorganic Nitrogen	In-house method SOP061 (By calculation)	0.1 mg N/L
9	Unionized Ammonia	By Calculation	0.001 mg/L

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*PREPARED AND CHECKED BY:*  
For and On Behalf of **WELLAB Ltd.**

  
**PATRICK TSE**  
 Laboratory Manager

**TEST REPORT**

Report No.:	29489
Date of Issue:	2018-08-27
Date Received:	2018-08-16
Date Tested:	2018-08-16
Date Completed:	2018-08-27

Page: 2 of 11

**Results:**

Sample ID	F1	F1	F1	W2
Sampling Depth	S	M	B	S
Tide	Mid-Ebb	Mid-Ebb	Mid-Ebb	Mid-Ebb
Sample No.	29489-1	29489-2	29489-3	29489-4
Suspended Solids (mg/L)	3	4	<2.5	6
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.05	<0.05	<0.05	<0.05
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	<0.05	<0.05	<0.05	0.12
<i>E. coli</i> (cfu/100mL)	13	9	9	2400
Chlorophyll-a (mg/m <sup>3</sup> )	26	17	15	38
Total Inorganic Nitrogen (mg N/L)	<0.1	<0.1	<0.1	0.2
Unionized Ammonia (mg/L)	0.004	0.002	0.002	0.005

Sample ID	W2	CR1	CR1	CR1
Sampling Depth	B	S	M	B
Tide	Mid-Ebb	Mid-Ebb	Mid-Ebb	Mid-Ebb
Sample No.	29489-6	29489-7	29489-8	29489-9
Suspended Solids (mg/L)	4	6	4	4
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.05	0.06	0.07	<0.05
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	<0.05	0.07	<0.05	<0.05
<i>E. coli</i> (cfu/100mL)	120	500	200	27
Chlorophyll-a (mg/m <sup>3</sup> )	18	38	24	18
Total Inorganic Nitrogen (mg N/L)	<0.1	0.1	0.1	<0.1
Unionized Ammonia (mg/L)	0.002	0.009	0.004	<0.001

Remarks: 1) < = less than  
2) S = Surface, M = Middle, B = Bottom  
3) N/A = Not applicable

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### TEST REPORT

Report No.:	29489
Date of Issue:	2018-08-27
Date Received:	2018-08-16
Date Tested:	2018-08-16
Date Completed:	2018-08-27

Page: 3 of 11

**Results:**

Sample ID	CR15	CR15	CR15	C1
Sampling Depth	S	M	B	S
Tide	Mid-Ebb	Mid-Ebb	Mid-Ebb	Mid-Ebb
Sample No.	29489-10	29489-11	29489-12	29489-13
Suspended Solids (mg/L)	3	<2.5	3	5
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.05	0.06	0.11	0.07
Nitrite-nitrogen (NO <sub>2</sub> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> -N/L)	<0.05	<0.05	<0.05	0.22
<i>E. coli</i> (cfu/100mL)	50	82	3	17
Chlorophyll-a (mg/m <sup>3</sup> )	28	18	8.1	22
Total Inorganic Nitrogen (mg N/L)	<0.1	<0.1	0.1	0.3
Unionized Ammonia (mg/L)	0.005	0.002	0.003	0.008

Sample ID	C1	C1	CR16	CR16
Sampling Depth	M	B	S	M
Tide	Mid-Ebb	Mid-Ebb	Mid-Ebb	Mid-Ebb
Sample No.	29489-14	29489-15	29489-16	29489-17
Suspended Solids (mg/L)	4	3	3	<2.5
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.05	0.06	<0.05	0.07
Nitrite-nitrogen (NO <sub>2</sub> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> -N/L)	<0.05	<0.05	<0.05	<0.05
<i>E. coli</i> (cfu/100mL)	8	5	16	10
Chlorophyll-a (mg/m <sup>3</sup> )	23	17	30	27
Total Inorganic Nitrogen (mg N/L)	<0.1	<0.1	<0.1	<0.1
Unionized Ammonia (mg/L)	<0.001	0.003	0.007	0.004

Remarks: 1) < = less than  
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3) N/A = Not applicable

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**TEST REPORT**

Report No.:	29489
Date of Issue:	2018-08-27
Date Received:	2018-08-16
Date Tested:	2018-08-16
Date Completed:	2018-08-27

Page: 4 of 11

**Results:**

Sample ID	CR16	CR17	CR17	W1
Sampling Depth	B	S	B	S
Tide	Mid-Ebb	Mid-Ebb	Mid-Ebb	Mid-Ebb
Sample No.	29489-18	29489-19	29489-21	29489-22
Suspended Solids (mg/L)	<2.5	4	<2.5	3
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.05	<0.05	<0.05	0.06
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	<0.05	0.06	<0.05	<0.05
<i>E. coli</i> (cfu/100mL)	4	91	19	220
Chlorophyll-a (mg/m <sup>3</sup> )	24	26	25	24
Total Inorganic Nitrogen (mg N/L)	<0.1	<0.1	<0.1	<0.1
Un-ionized Ammonia (mg/L)	0.002	0.001	0.002	0.007

Sample ID	W1	W1	F1	F1
Sampling Depth	M	B	S	M
Tide	Mid-Ebb	Mid-Ebb	Mid-Flood	Mid-Flood
Sample No.	29489-23	29489-24	29489-25	29489-26
Suspended Solids (mg/L)	<2.5	4	3	3
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	0.05	<0.05	<0.05	0.06
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	<0.05	0.06	0.06	<0.05
<i>E. coli</i> (cfu/100mL)	98	27	17	5
Chlorophyll-a (mg/m <sup>3</sup> )	18	20	23	18
Total Inorganic Nitrogen (mg N/L)	<0.1	0.1	<0.1	<0.1

Remarks: 1) < = less than  
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3) N/A = Not applicable

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## TEST REPORT

Report No.:	29489
Date of Issue:	2018-08-27
Date Received:	2018-08-16
Date Tested:	2018-08-16
Date Completed:	2018-08-27

Page: 5 of 11

### Results:

Sample ID	F1	W2	W2	CR1
Sampling Depth	B	S	B	S
Tide	Mid-Flood	Mid-Flood	Mid-Flood	Mid-Flood
Sample No.	29489-27	29489-28	29489-30	29489-31
Suspended Solids (mg/L)	3	3	<2.5	3
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	0.21	0.10	0.29	<0.05
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	<0.05	0.16	0.08	0.10
<i>E. coli</i> (cfu/100mL)	64	240	180	200
Chlorophyll-a (mg/m <sup>3</sup> )	14	29	22	30
Total Inorganic Nitrogen (mg N/L)	0.2	0.3	0.4	0.1
Unionized Ammonia (mg/L)	0.010	0.011	0.014	0.007

Sample ID	CR1	CR1	CR15	CR15
Sampling Depth	M	B	S	M
Tide	Mid-Flood	Mid-Flood	Mid-Flood	Mid-Flood
Sample No.	29489-32	29489-33	29489-34	29489-35
Suspended Solids (mg/L)	<2.5	<2.5	3	<2.5
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.05	<0.05	0.05	0.06
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	0.05	<0.05	0.11	<0.05
<i>E. coli</i> (cfu/100mL)	120	28	180	14
Chlorophyll-a (mg/m <sup>3</sup> )	21	5.3	26	15
Total Inorganic Nitrogen (mg N/L)	0.1	<0.1	0.2	<0.1

Remarks: 1) < = less than  
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3) N/A = Not applicable

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**TEST REPORT**

Report No.:	29489
Date of Issue:	2018-08-27
Date Received:	2018-08-16
Date Tested:	2018-08-16
Date Completed:	2018-08-27

Page: 6 of 11

**Results:**

Sample ID	CR15	C1	C1	C1
Sampling Depth	B	S	M	B
Tide	Mid-Flood	Mid-Flood	Mid-Flood	Mid-Flood
Sample No.	29489-36	29489-37	29489-38	29489-39
Suspended Solids (mg/L)	<2.5	<2.5	<2.5	<2.5
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	0.11	<0.05	<0.05	<0.05
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	<0.05	<0.05	<0.05	<0.05
<i>E. coli</i> (cfu/100mL)	8	36	2	7
Chlorophyll-a (mg/m <sup>3</sup> )	7.2	21	16	10
Total Inorganic Nitrogen (mg N/L)	0.1	<0.1	<0.1	<0.1
Unionized Ammonia (mg/L)	0.003	0.003	0.001	0.002

Sample ID	CR16	CR16	CR16	CR17
Sampling Depth	S	M	B	S
Tide	Mid-Flood	Mid-Flood	Mid-Flood	Mid-Flood
Sample No.	29489-40	29489-41	29489-42	29489-43
Suspended Solids (mg/L)	<2.5	<2.5	<2.5	3
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.05	0.07	0.09	<0.05
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	0.07	<0.05	<0.05	0.11
<i>E. coli</i> (cfu/100mL)	92	3	2	160
Chlorophyll-a (mg/m <sup>3</sup> )	15	8.5	10	20
Total Inorganic Nitrogen (mg N/L)	0.1	<0.1	<0.1	0.2

Remarks: 1) < = less than  
2) S = Surface, M = Middle, B = Bottom  
3) N/A = Not applicable

\*\*\*\*\*

## TEST REPORT

Report No.:	29489
Date of Issue:	2018-08-27
Date Received:	2018-08-16
Date Tested:	2018-08-16
Date Completed:	2018-08-27

Page: 7 of 11

### Results:

Sample ID	CR17	W1	W1	W1
Sampling Depth	B	S	M	B
Tide	Mid-Flood	Mid-Flood	Mid-Flood	Mid-Flood
Sample No.	29489-45	29489-46	29489-47	29489-48
Suspended Solids (mg/L)	<2.5	5	<2.5	<2.5
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.05	<0.05	0.09	0.08
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	<0.05	<0.05	0.05	<0.05
<i>E. coli</i> (cfu/100mL)	46	33	2	3
Chlorophyll-a (mg/m <sup>3</sup> )	14	21	9.6	4.1
Total Inorganic Nitrogen (mg N/L)	<0.1	<0.1	0.1	<0.1
Unionized Ammonia (mg/L)	<0.001	0.003	0.005	0.003

Sample ID	G1	G1	G1	F2
Sampling Depth	S	M	B	S
Tide	Mid-Ebb	Mid-Ebb	Mid-Ebb	Mid-Ebb
Sample No.	29489-49	29489-50	29489-51	29489-52
Suspended Solids (mg/L)	3	<2.5	<2.5	4
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.05	<0.05	<0.05	0.08
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	<0.05	<0.05	<0.05	<0.05
<i>E. coli</i> (cfu/100mL)	<1	<1	<1	9
Chlorophyll-a (mg/m <sup>3</sup> )	18	7.7	2.7	14
Total Inorganic Nitrogen (mg N/L)	<0.1	<0.1	<0.1	<0.1

Remarks: 1) < = less than

2) S = Surface, M = Middle, B = Bottom

3) N/A = Not applicable

\*\*\*\*\*

**TEST REPORT**

Report No.:	29489
Date of Issue:	2018-08-27
Date Received:	2018-08-16
Date Tested:	2018-08-16
Date Completed:	2018-08-27

Page: 8 of 11

**Results:**

Sample ID	F2	F2	F4	F4
Sampling Depth	M	B	S	M
Tide	Mid-Ebb	Mid-Ebb	Mid-Ebb	Mid-Ebb
Sample No.	29489-53	29489-54	29489-55	29489-56
Suspended Solids (mg/L)	4	<2.5	3	<2.5
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.05	<0.05	<0.05	<0.05
Nitrite-nitrogen (NO <sub>2</sub> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> -N/L)	<0.05	<0.05	<0.05	<0.05
<i>E. coli</i> (cfu/100mL)	11	7	1	<1
Chlorophyll-a (mg/m <sup>3</sup> )	13	5.8	9.4	4.3
Total Inorganic Nitrogen (mg N/L)	<0.1	<0.1	<0.1	<0.1
Unionized Ammonia (mg/L)	0.003	<0.001	0.002	0.002

Sample ID	F4	CR9	CR9	CR9
Sampling Depth	B	S	M	B
Tide	Mid-Ebb	Mid-Ebb	Mid-Ebb	Mid-Ebb
Sample No.	29489-57	29489-58	29489-59	29489-60
Suspended Solids (mg/L)	<2.5	<2.5	<2.5	<2.5
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	0.15	0.17	0.10	0.08
Nitrite-nitrogen (NO <sub>2</sub> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> -N/L)	<0.05	<0.05	<0.05	<0.05
<i>E. coli</i> (cfu/100mL)	<1	<1	<1	<1
Chlorophyll-a (mg/m <sup>3</sup> )	2.0	1.3	0.86	1.6
Total Inorganic Nitrogen (mg N/L)	0.2	0.2	0.1	<0.1

Remarks: 1) < = less than  
2) S = Surface, M = Middle, B = Bottom  
3) N/A = Not applicable

\*\*\*\*\*

**TEST REPORT**

Report No.:	29489
Date of Issue:	2018-08-27
Date Received:	2018-08-16
Date Tested:	2018-08-16
Date Completed:	2018-08-27

Page: 9 of 11

**Results:**

Sample ID	F3	F3	F3	G1
Sampling Depth	S	M	B	S
Tide	Mid-Ebb	Mid-Ebb	Mid-Ebb	Mid-Flood
Sample No.	29489-61	29489-62	29489-63	29489-64
Suspended Solids (mg/L)	3	4	5	3
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.05	<0.05	<0.05	0.09
Nitrite-nitrogen (NO <sub>2</sub> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> -N/L)	<0.05	<0.05	<0.05	<0.05
<i>E. coli</i> (cfu/100mL)	2	2	<1	<1
Chlorophyll-a (mg/m <sup>3</sup> )	8.6	5.9	4.5	17
Total Inorganic Nitrogen (mg N/L)	<0.1	<0.1	<0.1	0.1
Unionized Ammonia (mg/L)	<0.001	0.001	0.001	0.010

Sample ID	G1	G1	F2	F2
Sampling Depth	M	B	S	M
Tide	Mid-Flood	Mid-Flood	Mid-Flood	Mid-Flood
Sample No.	29489-65	29489-66	29489-67	29489-68
Suspended Solids (mg/L)	<2.5	<2.5	5	3
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.05	0.07	<0.05	<0.05
Nitrite-nitrogen (NO <sub>2</sub> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> -N/L)	<0.05	<0.05	<0.05	<0.05
<i>E. coli</i> (cfu/100mL)	<1	<1	12	1
Chlorophyll-a (mg/m <sup>3</sup> )	6.2	1.7	21	8.2
Total Inorganic Nitrogen (mg N/L)	<0.1	<0.1	<0.1	<0.1

Remarks: 1) < = less than

2) S = Surface, M = Middle, B = Bottom

3) N/A = Not applicable

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**TEST REPORT**

Report No.:	29489
Date of Issue:	2018-08-27
Date Received:	2018-08-16
Date Tested:	2018-08-16
Date Completed:	2018-08-27

Page: 10 of 11

**Results:**

Sample ID	F2	F4	F4	F4
Sampling Depth	B	S	M	B
Tide	Mid-Flood	Mid-Flood	Mid-Flood	Mid-Flood
Sample No.	29489-69	29489-70	29489-71	29489-72
Suspended Solids (mg/L)	3	4	<2.5	4
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.05	<0.05	0.05	0.06
Nitrite-nitrogen (NO <sub>2</sub> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> -N/L)	<0.05	<0.05	<0.05	<0.05
<i>E. coli</i> (cfu/100mL)	1	<1	<1	<1
Chlorophyll-a (mg/m <sup>3</sup> )	6.2	6.2	4.3	6.0
Total Inorganic Nitrogen (mg N/L)	<0.1	<0.1	<0.1	<0.1
Unionized Ammonia (mg/L)	<0.001	<0.001	0.004	0.004

Sample ID	CR9	CR9	CR9	F3
Sampling Depth	S	M	B	S
Tide	Mid-Flood	Mid-Flood	Mid-Flood	Mid-Flood
Sample No.	29489-73	29489-74	29489-75	29489-76
Suspended Solids (mg/L)	4	4	5	5
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.05	0.10	<0.05	<0.05
Nitrite-nitrogen (NO <sub>2</sub> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> -N/L)	<0.05	<0.05	<0.05	<0.05
<i>E. coli</i> (cfu/100mL)	<1	<1	<1	<1
Chlorophyll-a (mg/m <sup>3</sup> )	0.77	0.55	0.6	4.2
Total Inorganic Nitrogen (mg N/L)	<0.1	0.1	<0.1	<0.1

Remarks: 1) < = less than

2) S = Surface, M = Middle, B = Bottom

3) N/A = Not applicable

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**TEST REPORT**

Report No.:	29489
Date of Issue:	2018-08-27
Date Received:	2018-08-16
Date Tested:	2018-08-16
Date Completed:	2018-08-27

Page: 11 of 11

**Results:**

Sample ID	F3	F3
Sampling Depth	M	B
Tide	Mid-Flood	Mid-Flood
Sample No.	29489-77	29489-78
Suspended Solids (mg/L)	<2.5	4
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.05	<0.05
Nitrite-nitrogen (NO <sub>2</sub> -N/L)	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> -N/L)	<0.05	<0.05
<i>E. coli</i> (cfu/100mL)	1	<1
Chlorophyll-a (mg/m <sup>3</sup> )	3.8	4.1
Total Inorganic Nitrogen (mg N/L)	<0.1	<0.1

Remarks: 1) < = less than  
2) S = Surface, M = Middle, B = Bottom  
3) N/A = Not applicable

\*\*\*\*\*END OF REPORT\*\*\*\*\*



## TEST REPORT

**APPLICANT:** Cinotech Consultants Limited  
Room 1710, Technology Park,  
18 On Lai Street,  
Shatin, N.T., Hong Kong

Report No.:	29551
Date of Issue:	2018-09-04
Date Received:	2018-08-25
Date Tested:	2018-08-25
Date Completed:	2018-09-04

**ATTN:** Ms. Mei Ling Tang

Page: 1 of 7

**Sample Description :** 41 liquid samples as received from client said to be water  
**Laboratory No. :** 29551  
**Project No. :** MA18061 (Route 1)  
**Project Name :** Contract No. SPW 09 / 2018  
 Environmental Team Baseline Surveys for Sha Tin Cavern Sewage Treatment Works  
**Custody No. :** MA18061/180825  
**Sampling Date :** 2018-08-25

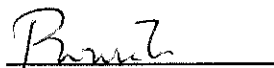
### Tests Requested & Methodology:

Item	Parameters	Ref. Method	Limit of reporting
1	Suspended Solids	APHA 17ed 2540 D	2.5 mg/L
2	5-day Biochemical Oxygen Demand	APHA 19ed 5210 B	2 mg-O <sub>2</sub> /L
3	Ammonia Nitrogen	In-house method SOP057 (FIA)	0.05mg NH <sub>3</sub> -N/L
4	Nitrite-nitrogen	In-house method SOP068 (FIA)	0.01 mg NO <sub>2</sub> <sup>-</sup> -N/L
5	Nitrate-nitrogen	In-house method SOP067 (FIA)	0.05 mg NO <sub>3</sub> -N/L
6	<i>E. coli</i>	In-house method SOP069 (Membrane Filtration Method by CHROMagar)	1 cfu/100mL
7	Chlorophyll-a	In-house method SOP009 (Fluorometer)	0.025 mg/m <sup>3</sup>
8	Total Inorganic Nitrogen	In-house method SOP061 (By calculation)	0.1 mg N/L
9	Unionized Ammonia	By Calculation	0.001 mg/L

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*PREPARED AND CHECKED BY:*

For and On Behalf of **WELLAB Ltd.**

  
**PATRICK TSE**  
 Laboratory Manager

## TEST REPORT

Report No.:	29551
Date of Issue:	2018-09-04
Date Received:	2018-08-25
Date Tested:	2018-08-25
Date Completed:	2018-09-04

Page: 2 of 7

### Results:

Sample ID	F1	F1	W2	W2
Sampling Depth	S	B	S	B
Tide	Mid-Ebb	Mid-Ebb	Mid-Ebb	Mid-Ebb
Sample No.	29551-1	29551-3	29551-4	29551-6
Suspended Solids (mg/L)	11	7	12	9
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.05	<0.05	<0.05	<0.05
Nitrite-nitrogen (NO <sub>2</sub> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> -N/L)	<0.05	<0.05	<0.05	<0.05
<i>E. coli</i> (cfu/100mL)	3	6	240	320
Chlorophyll-a (mg/m <sup>3</sup> )	15	21	23	28
Total Inorganic Nitrogen (mg N/L)	<0.1	<0.1	<0.1	<0.1
Unionized Ammonia (mg/L)	<0.001	<0.001	<0.001	0.001

Sample ID	CR1	CR1	CR15	CR15
Sampling Depth	S	B	S	M
Tide	Mid-Ebb	Mid-Ebb	Mid-Ebb	Mid-Ebb
Sample No.	29551-7	29551-9	29551-10	29551-11
Suspended Solids (mg/L)	8	11	8	5
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	0.07	<0.05	<0.05	<0.05
Nitrite-nitrogen (NO <sub>2</sub> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> -N/L)	<0.05	<0.05	<0.05	<0.05
<i>E. coli</i> (cfu/100mL)	110	18	130	6
Chlorophyll-a (mg/m <sup>3</sup> )	18	27	5.6	7.6
Total Inorganic Nitrogen (mg N/L)	<0.1	<0.1	<0.1	<0.1
Unionized Ammonia (mg/L)	0.004	<0.001	<0.001	<0.001

Remarks: 1) < = less than  
2) S = Surface, M = Middle, B = Bottom  
3) N/A = Not applicable

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## TEST REPORT

Report No.:	29551
Date of Issue:	2018-09-04
Date Received:	2018-08-25
Date Tested:	2018-08-25
Date Completed:	2018-09-04
Page:	3 of 7

**Results:**

Sample ID	CR15	C1	C1	C1
Sampling Depth	B	S	M	B
Tide	Mid-Ebb	Mid-Ebb	Mid-Ebb	Mid-Ebb
Sample No.	29551-12	29551-13	29551-14	29551-15
Suspended Solids (mg/L)	6	5	9	7
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	0.09	<0.05	<0.05	<0.05
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	<0.05	<0.05	<0.05	<0.05
<i>E. coli</i> (cfu/100mL)	5	7	2	3
Chlorophyll-a (mg/m <sup>3</sup> )	5.3	6	19	12
Total Inorganic Nitrogen (mg N/L)	0.1	<0.1	<0.1	<0.1
Unionized Ammonia (mg/L)	0.003	<0.001	<0.001	<0.001

Sample ID	CR16	CR16	CR16	CR17
Sampling Depth	S	M	B	S
Tide	Mid-Ebb	Mid-Ebb	Mid-Ebb	Mid-Ebb
Sample No.	29551-16	29551-17	29551-18	29551-19
Suspended Solids (mg/L)	3	9	12	3
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.05	<0.05	0.09	<0.05
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	<0.05	<0.05	<0.05	<0.05
<i>E. coli</i> (cfu/100mL)	2	<1	2	7
Chlorophyll-a (mg/m <sup>3</sup> )	7.4	6.4	5.2	13
Total Inorganic Nitrogen (mg N/L)	<0.1	<0.1	<0.1	<0.1
Unionized Ammonia (mg/L)	<0.001	<0.001	0.002	<0.001

Remarks: 1) <= less than  
2) S = Surface, M = Middle, B = Bottom  
3) N/A = Not applicable

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## TEST REPORT

Report No.:	29551
Date of Issue:	2018-09-04
Date Received:	2018-08-25
Date Tested:	2018-08-25
Date Completed:	2018-09-04
Page:	4 of 7

### Results:

Sample ID	CR17	CR17	W1	W1
Sampling Depth	M	B	S	M
Tide	Mid-Ebb	Mid-Ebb	Mid-Ebb	Mid-Ebb
Sample No.	29551-20	29551-21	29551-22	29551-23
Suspended Solids (mg/L)	5	14	9	8
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.05	<0.05	<0.05	0.05
Nitrite-nitrogen (NO <sub>2</sub> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> -N/L)	<0.05	<0.05	<0.05	<0.05
<i>E. coli</i> (cfu/100mL)	4	3	25	8
Chlorophyll-a (mg/m <sup>3</sup> )	28	14	15	25
Total Inorganic Nitrogen (mg N/L)	<0.1	<0.1	<0.1	<0.1
Unionized Ammonia (mg/L)	<0.001	<0.001	0.002	0.002

Sample ID	W1	F1	F1	W2
Sampling Depth	B	S	B	S
Tide	Mid-Ebb	Mid-Flood	Mid-Flood	Mid-Flood
Sample No.	29551-24	29551-25	29551-27	29551-28
Suspended Solids (mg/L)	5	13	13	8
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	0.17	<0.05	<0.05	0.13
Nitrite-nitrogen (NO <sub>2</sub> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> -N/L)	<0.05	<0.05	<0.05	<0.05
<i>E. coli</i> (cfu/100mL)	6	2	4	94
Chlorophyll-a (mg/m <sup>3</sup> )	7.3	13	18	25
Total Inorganic Nitrogen (mg N/L)	0.2	<0.1	<0.1	0.1
Unionized Ammonia (mg/L)	0.005	<0.001	<0.001	0.008

Remarks: 1) < = less than  
2) S = Surface, M = Middle, B = Bottom  
3) N/A = Not applicable

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## TEST REPORT

Report No.:	29551
Date of Issue:	2018-09-04
Date Received:	2018-08-25
Date Tested:	2018-08-25
Date Completed:	2018-09-04

Page: 5 of 7

### Results:

Sample ID	W2	CR1	CR1	CR15
Sampling Depth	B	S	B	S
Tide	Mid-Flood	Mid-Flood	Mid-Flood	Mid-Flood
Sample No.	29551-30	29551-31	29551-33	29551-34
Suspended Solids (mg/L)	10	5	11	6
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	0.06	<0.05	<0.05	<0.05
Nitrite-nitrogen (NO <sub>2</sub> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> -N/L)	<0.05	<0.05	<0.05	<0.05
<i>E. coli</i> (cfu/100mL)	67	6	36	2
Chlorophyll-a (mg/m <sup>3</sup> )	24	22	23	5.8
Total Inorganic Nitrogen (mg N/L)	<0.1	<0.1	<0.1	<0.1
Unionized Ammonia (mg/L)	0.003	0.002	<0.001	<0.001

Sample ID	CR15	CR15	C1	C1
Sampling Depth	M	B	S	M
Tide	Mid-Flood	Mid-Flood	Mid-Flood	Mid-Flood
Sample No.	29551-35	29551-36	29551-37	29551-38
Suspended Solids (mg/L)	7	6	6	13
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.05	<0.05	0.06	<0.05
Nitrite-nitrogen (NO <sub>2</sub> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> -N/L)	<0.05	<0.05	<0.05	<0.05
<i>E. coli</i> (cfu/100mL)	9	1	1	<1
Chlorophyll-a (mg/m <sup>3</sup> )	9.6	13	5.7	12
Total Inorganic Nitrogen (mg N/L)	<0.1	<0.1	<0.1	<0.1
Unionized Ammonia (mg/L)	<0.001	0.002	0.006	<0.001

Remarks: 1) < = less than

2) S = Surface, M = Middle, B = Bottom

3) N/A = Not applicable

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## TEST REPORT

Report No.:	29551
Date of Issue:	2018-09-04
Date Received:	2018-08-25
Date Tested:	2018-08-25
Date Completed:	2018-09-04

Page: 6 of 7

### Results:

Sample ID	C1	CR16	CR16	CR16
Sampling Depth	B	S	M	B
Tide	Mid-Flood	Mid-Flood	Mid-Flood	Mid-Flood
Sample No.	29551-39	29551-40	29551-41	29551-42
Suspended Solids (mg/L)	12	23	6	4
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.05	<0.05	<0.05	<0.05
Nitrite-nitrogen (NO <sub>2</sub> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> -N/L)	<0.05	<0.05	<0.05	<0.05
<i>E. coli</i> (cfu/100mL)	<1	1	2	<1
Chlorophyll-a (mg/m <sup>3</sup> )	14	6.7	9.6	8.7
Total Inorganic Nitrogen (mg N/L)	<0.1	<0.1	<0.1	<0.1
Unionized Ammonia (mg/L)	<0.001	<0.001	<0.001	<0.001

Sample ID	CR17	CR17	W1	W1
Sampling Depth	S	B	S	M
Tide	Mid-Flood	Mid-Flood	Mid-Flood	Mid-Flood
Sample No.	29551-43	29551-45	29551-46	29551-47
Suspended Solids (mg/L)	7	8	5	8
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	0.06	0.06	<0.05	<0.05
Nitrite-nitrogen (NO <sub>2</sub> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> -N/L)	<0.05	<0.05	<0.05	<0.05
<i>E. coli</i> (cfu/100mL)	11	9	<1	2
Chlorophyll-a (mg/m <sup>3</sup> )	9.5	12	6.8	8.6
Total Inorganic Nitrogen (mg N/L)	<0.1	<0.1	<0.1	<0.1
Unionized Ammonia (mg/L)	0.007	0.003	<0.001	0.001

Remarks: 1) < = less than

2) S = Surface, M = Middle, B = Bottom

3) N/A = Not applicable

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## TEST REPORT

Report No.:	29551
Date of Issue:	2018-09-04
Date Received:	2018-08-25
Date Tested:	2018-08-25
Date Completed:	2018-09-04

Page: 7 of 7

### Results:

Sample ID	W1
Sampling Depth	B
Tide	Mid-Flood
Sample No.	29551-48
Suspended Solids (mg/L)	10
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.05
Nitrite-nitrogen (NO <sub>2</sub> -N/L)	<0.01
Nitrate-nitrogen (NO <sub>3</sub> -N/L)	<0.05
<i>E. coli</i> (cfu/100mL)	<1
Chlorophyll-a (mg/m <sup>3</sup> )	15
Total Inorganic Nitrogen (mg N/L)	<0.1
Unionized Ammonia (mg/L)	<0.001

Remarks: 1) < = less than  
2) S = Surface, M = Middle, B = Bottom  
3) N/A = Not applicable

\*\*\*\*\*END OF REPORT\*\*\*\*\*

## TEST REPORT

**APPLICANT:** Cinotech Consultants Limited  
Room 1710, Technology Park,  
18 On Lai Street,  
Shatin, N.T., Hong Kong

Report No.:	29552
Date of Issue:	2018-09-04
Date Received:	2018-08-25
Date Tested:	2018-08-25
Date Completed:	2018-09-04

**ATTN:** Ms. Mei Ling Tang

Page: 1 of 5

**Sample Description :** 30 liquid samples as received from client said to be water  
**Laboratory No. :** 29552  
**Project No. :** MA18061 (Route 2)  
**Project Name :** Contract No. SPW 09 / 2018  
 Environmental Team Baseline Surveys for Sha Tin Cavern Sewage Treatment Works  
**Custody No. :** MA18061/180825  
**Sampling Date :** 2018-08-25

**Tests Requested & Methodology:**

Item	Parameters	Ref. Method	Limit of reporting
1	Suspended Solids	APHA 17ed 2540 D	2.5 mg/L
2	5-day Biochemical Oxygen Demand	APHA 19ed 5210 B	2 mg-O <sub>2</sub> /L
3	Ammonia Nitrogen	In-house method SOP057 (FIA)	0.05mg NH <sub>3</sub> -N/L
4	Nitrite-nitrogen	In-house method SOP068 (FIA)	0.01 mg NO <sub>2</sub> <sup>-</sup> -N/L
5	Nitrate-nitrogen	In-house method SOP067 (FIA)	0.05 mg NO <sub>3</sub> -N/L
6	<i>E. coli</i>	In-house method SOP069 (Membrane Filtration Method by CHROMagar)	1 cfu/100mL
7	Chlorophyll-a	In-house method SOP009 (Fluorometer)	0.025 mg/m <sup>3</sup>
8	Total Inorganic Nitrogen	In-house method SOP061 (By calculation)	0.1 mg N/L
9	Unionized Ammonia	By Calculation	0.001 mg/L

\*\*\*\*\*

PREPARED AND CHECKED BY:

For and On Behalf of **WELLAB Ltd.**

  
 PATRICK TSE  
 Laboratory Manager



## TEST REPORT

Report No.:	29552
Date of Issue:	2018-09-04
Date Received:	2018-08-25
Date Tested:	2018-08-25
Date Completed:	2018-09-04

Page: 2 of 5

**Results:**

Sample ID	G1	G1	G1	F2
Sampling Depth	S	M	B	S
Tide	Mid-Ebb	Mid-Ebb	Mid-Ebb	Mid-Ebb
Sample No.	29551-1	29551-2	29551-3	29551-4
Suspended Solids (mg/L)	3	3	<2.5	12
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.05	0.06	<0.05	0.06
Nitrite-nitrogen (NO <sub>2</sub> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> -N/L)	<0.05	<0.05	0.14	<0.05
<i>E. coli</i> (cfu/100mL)	<1	2	<1	6
Chlorophyll-a (mg/m <sup>3</sup> )	12	12	2.6	3.7
Total Inorganic Nitrogen (mg N/L)	<0.1	<0.1	0.2	<0.1
Unionized Ammonia (mg/L)	<0.001	0.002	<0.001	0.003

Sample ID	F2	F2	F4	F4
Sampling Depth	M	B	S	M
Tide	Mid-Ebb	Mid-Ebb	Mid-Ebb	Mid-Ebb
Sample No.	29551-5	29551-6	29551-7	29551-8
Suspended Solids (mg/L)	14	6	6	6
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.05	<0.05	<0.05	<0.05
Nitrite-nitrogen (NO <sub>2</sub> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> -N/L)	<0.05	<0.05	<0.05	<0.05
<i>E. coli</i> (cfu/100mL)	1	7	<1	<1
Chlorophyll-a (mg/m <sup>3</sup> )	19	14	7	15
Total Inorganic Nitrogen (mg N/L)	<0.1	<0.1	<0.1	<0.1
Unionized Ammonia (mg/L)	<0.001	<0.001	<0.001	<0.001

Remarks: 1) < = less than  
2) S = Surface, M = Middle, B = Bottom  
3) N/A = Not applicable

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## TEST REPORT

Report No.:	29552
Date of Issue:	2018-09-04
Date Received:	2018-08-25
Date Tested:	2018-08-25
Date Completed:	2018-09-04

Page: 3 of 5

**Results:**

Sample ID	F4	CR9	CR9	CR9
Sampling Depth	B	S	M	B
Tide	Mid-Ebb	Mid-Ebb	Mid-Ebb	Mid-Ebb
Sample No.	29551-9	29551-10	29551-11	29551-12
Suspended Solids (mg/L)	<2.5	4	7	6
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.05	<0.05	0.06	<0.05
Nitrite-nitrogen (NO <sub>2</sub> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> -N/L)	<0.05	<0.05	0.09	0.10
<i>E. coli</i> (cfu/100mL)	<1	<1	<1	<1
Chlorophyll-a (mg/m <sup>3</sup> )	8.6	4.1	5.7	3.3
Total Inorganic Nitrogen (mg N/L)	<0.1	<0.1	0.1	0.1
Unionized Ammonia (mg/L)	<0.001	<0.001	0.001	<0.001

Sample ID	F3	F3	F3	G1
Sampling Depth	S	M	B	S
Tide	Mid-Ebb	Mid-Ebb	Mid-Ebb	Mid-Flood
Sample No.	29551-13	29551-14	29551-15	29551-16
Suspended Solids (mg/L)	4	7	4	4
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.05	<0.05	<0.05	<0.05
Nitrite-nitrogen (NO <sub>2</sub> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> -N/L)	<0.05	<0.05	0.05	<0.05
<i>E. coli</i> (cfu/100mL)	2	4	1	<1
Chlorophyll-a (mg/m <sup>3</sup> )	4.6	9.1	6	6.7
Total Inorganic Nitrogen (mg N/L)	<0.1	<0.1	<0.1	<0.1
Unionized Ammonia (mg/L)	0.003	<0.001	<0.001	0.003

Remarks: 1) < = less than  
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3) N/A = Not applicable

\*\*\*\*\*

## TEST REPORT

Report No.:	29552
Date of Issue:	2018-09-04
Date Received:	2018-08-25
Date Tested:	2018-08-25
Date Completed:	2018-09-04

Page: 4 of 5

### Results:

Sample ID	G1	G1	F2	F2
Sampling Depth	M	B	S	M
Tide	Mid-Flood	Mid-Flood	Mid-Flood	Mid-Flood
Sample No.	29551-17	29551-18	29551-19	29551-20
Suspended Solids (mg/L)	21	3	<2.5	8
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	0.06	<0.05	<0.05	<0.05
Nitrite-nitrogen (NO <sub>2</sub> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> -N/L)	<0.05	<0.05	<0.05	<0.05
<i>E. coli</i> (cfu/100mL)	<1	2	16	1
Chlorophyll-a (mg/m <sup>3</sup> )	21	19	4.8	7.7
Total Inorganic Nitrogen (mg N/L)	<0.1	<0.1	<0.1	<0.1
Unionized Ammonia (mg/L)	0.001	<0.001	<0.001	<0.001

Sample ID	F2	F4	F4	F4
Sampling Depth	B	S	M	B
Tide	Mid-Flood	Mid-Flood	Mid-Flood	Mid-Flood
Sample No.	29551-21	29551-22	29551-23	29551-24
Suspended Solids (mg/L)	11	9	5	3
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.05	0.06	<0.05	<0.05
Nitrite-nitrogen (NO <sub>2</sub> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> -N/L)	<0.05	<0.05	<0.05	<0.05
<i>E. coli</i> (cfu/100mL)	7	1	<1	<1
Chlorophyll-a (mg/m <sup>3</sup> )	20	3.8	19	16
Total Inorganic Nitrogen (mg N/L)	<0.1	<0.1	<0.1	<0.1
Unionized Ammonia (mg/L)	<0.001	0.006	0.002	<0.001

Remarks: 1) < = less than  
2) S = Surface, M = Middle, B = Bottom  
3) N/A = Not applicable

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## TEST REPORT

Report No.:	29552
Date of Issue:	2018-09-04
Date Received:	2018-08-25
Date Tested:	2018-08-25
Date Completed:	2018-09-04

Page: 5 of 5

### Results:

Sample ID	CR9	CR9	CR9	F3
Sampling Depth	S	M	B	S
Tide	Mid-Flood	Mid-Flood	Mid-Flood	Mid-Flood
Sample No.	29551-25	29551-26	29551-27	29551-28
Suspended Solids (mg/L)	8	11	13	3
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.05	<0.05	0.06	<0.05
Nitrite-nitrogen (NO <sub>2</sub> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> -N/L)	<0.05	0.08	0.10	<0.05
<i>E. coli</i> (cfu/100mL)	<1	1	1	6
Chlorophyll-a (mg/m <sup>3</sup> )	3.9	6.4	2.8	2.6
Total Inorganic Nitrogen (mg N/L)	<0.1	<0.1	0.2	<0.1
Unionized Ammonia (mg/L)	0.003	<0.001	0.002	0.005

Sample ID	F3	F3
Sampling Depth	M	B
Tide	Mid-Flood	Mid-Flood
Sample No.	29551-29	29551-30
Suspended Solids (mg/L)	5	8
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.05	0.08
Nitrite-nitrogen (NO <sub>2</sub> -N/L)	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> -N/L)	<0.05	<0.05
<i>E. coli</i> (cfu/100mL)	5	17
Chlorophyll-a (mg/m <sup>3</sup> )	4.9	20
Total Inorganic Nitrogen (mg N/L)	<0.1	<0.1
Unionized Ammonia (mg/L)	0.001	0.002

Remarks: 1) < = less than  
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3) N/A = Not applicable

\*\*\*\*\*END OF REPORT\*\*\*\*\*

## TEST REPORT

**APPLICANT:** Cinotech Consultants Limited  
Room 1710, Technology Park,  
18 On Lai Street,  
Shatin, N.T., Hong Kong

Report No.:	29748-V1
Date of Issue:	2019-03-07
Date Received:	2018-09-20
Date Tested:	2018-09-20
Date Completed:	2018-10-03

**ATTN:** Ms. Mei Ling Tang

Page: 1 of 10

**Sample Description :** 72 liquid samples as received from client said to be water  
**Laboratory No. :** 29748  
**Project No. :** MA18061 (Route 1 & Route 2)  
**Project Name :** Contract No. SPW 09 / 2018  
 Environmental Team Baseline Surveys for Sha Tin Cavern Sewage Treatment Works  
**Custody No. :** MA18061/180920  
**Sampling Date :** 2018-09-20

**Tests Requested & Methodology:**

Item	Parameters	Ref. Method	Limit of reporting
1	Suspended Solids	APHA 17ed 2540 D	2.5 mg/L
2	5-day Biochemical Oxygen Demand	APHA 19ed 5210 B	2 mg-O <sub>2</sub> /L
3	Ammonia Nitrogen	In-house method SOP057 (FIA)	0.05mg NH <sub>3</sub> -N/L
4	Nitrite-nitrogen	In-house method SOP068 (FIA)	0.01 mg NO <sub>2</sub> <sup>-</sup> -N/L
5	Nitrate-nitrogen	In-house method SOP067 (FIA)	0.05 mg NO <sub>3</sub> -N/L
6	<i>E. coli</i>	In-house method SOP069 (Membrane Filtration Method by CHROMagar)	1 cfu/100mL
7	Chlorophyll-a	In-house method SOP009 (Fluorometer)	0.025 mg/m <sup>3</sup>
8	Total Inorganic Nitrogen	In-house method SOP061 (By calculation)	0.1 mg N/L
9	Unionized Ammonia	By Calculation	0.001 mg/L

\*\*\*\*\*

PREPARED AND CHECKED BY:

For and On Behalf of **WELLAB Ltd.**

  
**PATRICK TSE**  
 General Manager

## TEST REPORT

Report No.:	29748-V1
Date of Issue:	2019-03-07
Date Received:	2018-09-20
Date Tested:	2018-09-20
Date Completed:	2018-10-03

Page: 2 of 10

**Results:**

Sample ID	F1	F1	W2	W2
Sampling Depth	S	B	S	B
Tide	Mid-Ebb	Mid-Ebb	Mid-Ebb	Mid-Ebb
Sample No.	29748-1	29748-3	29748-4	29748-6
Suspended Solids (mg/L)	3	5	6	7
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	0.35	0.12	0.09	0.10
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	0.28	<0.05	<0.05	<0.05
<i>E. coli</i> (cfu/100mL)	860	26	200	57
Chlorophyll-a (mg/m <sup>3</sup> )	6.8	12	23	21
Total Inorganic Nitrogen (mg N/L)	0.6	0.1	0.1	0.1
Unionized Ammonia (mg/L)	0.036	0.006	0.009	0.005

Sample ID	CR1	CR1	CR15	CR15
Sampling Depth	S	B	S	M
Tide	Mid-Ebb	Mid-Ebb	Mid-Ebb	Mid-Ebb
Sample No.	29748-7	29748-9	29748-10	29748-11
Suspended Solids (mg/L)	9	9	13	5
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	0.56	0.09	<0.05	<0.05
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	0.17	<0.05	0.14	0.06
<i>E. coli</i> (cfu/100mL)	820	17	820	200
Chlorophyll-a (mg/m <sup>3</sup> )	19	14	18	15
Total Inorganic Nitrogen (mg N/L)	0.7	0.1	0.2	0.1
Unionized Ammonia (mg/L)	0.059	0.005	0.004	0.002

Remarks: 1) < = less than  
 2) S = Surface, M = Middle, B = Bottom  
 3) N/A = Not applicable  
 4) This report supersedes the one dated 2018/10/03 with certificate number 29748

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## TEST REPORT

Report No.:	29748-V1
Date of Issue:	2019-03-07
Date Received:	2018-09-20
Date Tested:	2018-09-20
Date Completed:	2018-10-03

Page: 3 of 10

**Results:**

Sample ID	CR15	C1	C1	C1
Sampling Depth	B	S	M	B
Tide	Mid-Ebb	Mid-Ebb	Mid-Ebb	Mid-Ebb
Sample No.	29748-12	29748-13	29748-14	29748-15
Suspended Solids (mg/L)	6	5	4	4
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	0.14	0.06	<0.05	0.08
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	<0.05	0.19	0.18	0.16
<i>E. coli</i> (cfu/100mL)	25	220	140	99
Chlorophyll-a (mg/m <sup>3</sup> )	9.6	18	20	18
Total Inorganic Nitrogen (mg N/L)	0.2	0.2	0.2	0.2
Unionized Ammonia (mg/L)	0.007	0.006	0.002	0.004

Sample ID	CR16	CR16	CR16	CR17
Sampling Depth	S	M	B	S
Tide	Mid-Ebb	Mid-Ebb	Mid-Ebb	Mid-Ebb
Sample No.	29748-16	29748-17	29748-18	29748-19
Suspended Solids (mg/L)	8	9	4	5
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.05	<0.05	0.07	0.10
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	0.05	0.08	0.26	0.26
<i>E. coli</i> (cfu/100mL)	40	69	160	820
Chlorophyll-a (mg/m <sup>3</sup> )	21	18	16	21
Total Inorganic Nitrogen (mg N/L)	<0.1	<0.1	0.3	0.4
Unionized Ammonia (mg/L)	0.003	<0.001	0.003	0.013

- Remarks: 1) < = less than  
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 3) N/A = Not applicable  
 4) This report supersedes the one dated 2018/10/03 with certificate number 29748

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## TEST REPORT

Report No.:	29748-V1
Date of Issue:	2019-03-07
Date Received:	2018-09-20
Date Tested:	2018-09-20
Date Completed:	2018-10-03

Page: 4 of 10

### Results:

Sample ID	CR17	CR17	W1	W1
Sampling Depth	M	B	S	M
Tide	Mid-Ebb	Mid-Ebb	Mid-Ebb	Mid-Ebb
Sample No.	29748-20	29748-21	29748-22	29748-23
Suspended Solids (mg/L)	3	4	4	3
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.05	<0.05	<0.05	<0.05
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	<0.05	<0.05	0.14	<0.05
<i>E. coli</i> (cfu/100mL)	360	22	180	32
Chlorophyll-a (mg/m <sup>3</sup> )	17	17	16	18
Total Inorganic Nitrogen (mg N/L)	<0.1	<0.1	0.2	<0.1
Unionized Ammonia (mg/L)	0.002	0.002	0.001	0.002

Sample ID	W1	F1	F1	W2
Sampling Depth	B	S	B	S
Tide	Mid-Ebb	Mid-Flood	Mid-Flood	Mid-Flood
Sample No.	29748-24	29748-25	29748-27	29748-28
Suspended Solids (mg/L)	4	<2.5	6	10
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	0.09	0.05	<0.05	0.12
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	<0.05	0.10	<0.05	0.14
<i>E. coli</i> (cfu/100mL)	34	4	23	2300
Chlorophyll-a (mg/m <sup>3</sup> )	9.9	14	11	28
Total Inorganic Nitrogen (mg N/L)	<0.1	0.1	<0.1	0.3
Unionized Ammonia (mg/L)	0.005	0.006	<0.001	0.022

Remarks: 1) < = less than  
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## TEST REPORT

Report No.:	29748-V1
Date of Issue:	2019-03-07
Date Received:	2018-09-20
Date Tested:	2018-09-20
Date Completed:	2018-10-03

Page: 5 of 10

**Results:**

Sample ID	W2	CR1	CR1	CR15
Sampling Depth	B	S	B	S
Tide	Mid-Flood	Mid-Flood	Mid-Flood	Mid-Flood
Sample No.	29748-30	29748-31	29748-33	29748-34
Suspended Solids (mg/L)	7	12	7	8
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.05	0.17	0.14	<0.05
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	<0.05	0.13	<0.05	<0.05
<i>E. coli</i> (cfu/100mL)	100	780	13	8
Chlorophyll-a (mg/m <sup>3</sup> )	28	27	17	14
Total Inorganic Nitrogen (mg N/L)	<0.1	0.3	0.1	<0.1
Unionized Ammonia (mg/L)	0.001	0.030	0.007	<0.001

Sample ID	CR15	CR15	C1	C1
Sampling Depth	M	B	S	M
Tide	Mid-Flood	Mid-Flood	Mid-Flood	Mid-Flood
Sample No.	29748-35	29748-36	29748-37	29748-38
Suspended Solids (mg/L)	8	7	4	9
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.05	<0.05	<0.05	<0.05
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	<0.05	<0.05	0.06	0.35
<i>E. coli</i> (cfu/100mL)	<1	8	5	6
Chlorophyll-a (mg/m <sup>3</sup> )	25	19	10	14
Total Inorganic Nitrogen (mg N/L)	<0.1	<0.1	<0.1	0.4
Unionized Ammonia (mg/L)	0.003	0.002	0.003	0.003

Remarks: 1) < = less than  
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3) N/A = Not applicable

4) This report supersedes the one dated 2018/10/03 with certificate number 29748

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## TEST REPORT

Report No.:	29748-V1
Date of Issue:	2019-03-07
Date Received:	2018-09-20
Date Tested:	2018-09-20
Date Completed:	2018-10-03

Page: 6 of 10

### Results:

Sample ID	C1	CR16	CR16	CR16
Sampling Depth	B	S	M	B
Tide	Mid-Flood	Mid-Flood	Mid-Flood	Mid-Flood
Sample No.	29748-39	29748-40	29748-41	29748-42
Suspended Solids (mg/L)	14	12	8	11
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.05	<0.05	<0.05	<0.05
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	<0.05	<0.05	<0.05	<0.05
<i>E. coli</i> (cfu/100mL)	4	10	160	19
Chlorophyll-a (mg/m <sup>3</sup> )	10	15	20	5
Total Inorganic Nitrogen (mg N/L)	<0.1	<0.1	<0.1	<0.1
Unionized Ammonia (mg/L)	<0.001	0.004	0.001	<0.001

Sample ID	CR17	CR17	CR17	W1
Sampling Depth	S	M	B	S
Tide	Mid-Flood	Mid-Flood	Mid-Flood	Mid-Flood
Sample No.	29748-43	29748-44	29748-45	29748-46
Suspended Solids (mg/L)	7	10	6	7
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.05	0.06	0.13	<0.05
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	<0.05	<0.05	<0.05	<0.05
<i>E. coli</i> (cfu/100mL)	6	12	19	9
Chlorophyll-a (mg/m <sup>3</sup> )	18	7.5	8.8	16
Total Inorganic Nitrogen (mg N/L)	<0.1	<0.1	0.1	<0.1
Unionized Ammonia (mg/L)	0.002	0.004	0.006	0.002

Remarks: 1) <= less than  
2) S = Surface, M = Middle, B = Bottom  
3) N/A = Not applicable  
4) This report supersedes the one dated 2018/10/03 with certificate number 29748

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## TEST REPORT

Report No.:	29748-V1
Date of Issue:	2019-03-07
Date Received:	2018-09-20
Date Tested:	2018-09-20
Date Completed:	2018-10-03

Page: 7 of 10

**Results:**

Sample ID	W1	W1	G1	G1
Sampling Depth	M	B	S	M
Tide	Mid-Flood	Mid-Flood	Mid-Ebb	Mid-Ebb
Sample No.	29748-47	29748-48	29748-49	29748-50
Suspended Solids (mg/L)	5	9	8	9
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	0.08	<0.05	<0.05	0.11
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	<0.05	<0.05	0.09	0.30
<i>E. coli</i> (cfu/100mL)	19	75	380	1600
Chlorophyll-a (mg/m <sup>3</sup> )	20	4.6	20	17
Total Inorganic Nitrogen (mg N/L)	<0.1	<0.1	0.1	0.4
Unionized Ammonia (mg/L)	0.004	<0.001	0.004	0.005

Sample ID	G1	F2	F2	F2
Sampling Depth	B	S	M	B
Tide	Mid-Ebb	Mid-Ebb	Mid-Ebb	Mid-Ebb
Sample No.	29748-51	29748-52	29748-53	29748-54
Suspended Solids (mg/L)	5	6	8	5
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	0.07	<0.05	<0.05	<0.05
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	<0.05	<0.05	<0.05	<0.05
<i>E. coli</i> (cfu/100mL)	2	3	4	7
Chlorophyll-a (mg/m <sup>3</sup> )	8.5	8	13	15
Total Inorganic Nitrogen (mg N/L)	<0.1	<0.1	<0.1	<0.1
Unionized Ammonia (mg/L)	0.004	0.003	0.002	0.001

Remarks: 1) <= less than  
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 3) N/A = Not applicable  
 4) This report supersedes the one dated 2018/10/03 with certificate number 29748

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## TEST REPORT

Report No.:	29748-V1
Date of Issue:	2019-03-07
Date Received:	2018-09-20
Date Tested:	2018-09-20
Date Completed:	2018-10-03

Page: 8 of 10

**Results:**

Sample ID	F4	F4	F4	CR9
Sampling Depth	S	M	B	S
Tide	Mid-Ebb	Mid-Ebb	Mid-Ebb	Mid-Ebb
Sample No.	29748-55	29748-56	29748-57	29748-58
Suspended Solids (mg/L)	5	3	5	8
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.05	<0.05	<0.05	<0.05
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	<0.05	<0.05	<0.05	<0.05
<i>E. coli</i> (cfu/100mL)	1	<1	<1	<1
Chlorophyll-a (mg/m <sup>3</sup> )	10	6.8	4.6	5
Total Inorganic Nitrogen (mg N/L)	<0.1	<0.1	<0.1	<0.1
Unionized Ammonia (mg/L)	0.002	0.003	0.001	0.001

Sample ID	CR9	CR9	F3	F3
Sampling Depth	M	B	S	M
Tide	Mid-Ebb	Mid-Ebb	Mid-Ebb	Mid-Ebb
Sample No.	29748-59	29748-60	29748-61	29748-62
Suspended Solids (mg/L)	<2.5	5	4	4
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.05	0.07	<0.05	<0.05
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	<0.05	<0.05	<0.05	<0.05
<i>E. coli</i> (cfu/100mL)	<1	<1	9	2
Chlorophyll-a (mg/m <sup>3</sup> )	3.2	1.1	7.5	7.3
Total Inorganic Nitrogen (mg N/L)	<0.1	<0.1	<0.1	<0.1
Unionized Ammonia (mg/L)	<0.001	0.003	0.002	0.002

Remarks: 1) <= less than  
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3) N/A = Not applicable

4) This report supersedes the one dated 2018/10/03 with certificate number 29748

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## TEST REPORT

Report No.:	29748-V1
Date of Issue:	2019-03-07
Date Received:	2018-09-20
Date Tested:	2018-09-20
Date Completed:	2018-10-03

Page: 9 of 10

**Results:**

Sample ID	F3	G1	G1	G1
Sampling Depth	B	S	M	B
Tide	Mid-Ebb	Mid-Flood	Mid-Flood	Mid-Flood
Sample No.	29748-63	29748-64	29748-65	29748-66
Suspended Solids (mg/L)	6	8	4	3
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.05	<0.05	<0.05	0.07
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	<0.05	<0.05	<0.05	<0.05
<i>E. coli</i> (cfu/100mL)	6	<1	<1	<1
Chlorophyll-a (mg/m <sup>3</sup> )	7.6	12	9.7	12
Total Inorganic Nitrogen (mg N/L)	<0.1	<0.1	<0.1	0.1
Unionized Ammonia (mg/L)	0.002	0.003	<0.001	0.004

Sample ID	F2	F2	F2	F4
Sampling Depth	S	M	B	S
Tide	Mid-Flood	Mid-Flood	Mid-Flood	Mid-Flood
Sample No.	29748-67	29748-68	29748-69	29748-70
Suspended Solids (mg/L)	4	8	7	8
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.05	<0.05	<0.05	<0.05
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	0.06	<0.05	<0.05	<0.05
<i>E. coli</i> (cfu/100mL)	12	14	10	<1
Chlorophyll-a (mg/m <sup>3</sup> )	8.3	18	27	9.2
Total Inorganic Nitrogen (mg N/L)	<0.1	<0.1	<0.1	<0.1
Unionized Ammonia (mg/L)	0.002	0.001	<0.001	0.005

Remarks: 1) < = less than  
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## TEST REPORT

Report No.:	29748-V1
Date of Issue:	2019-03-07
Date Received:	2018-09-20
Date Tested:	2018-09-20
Date Completed:	2018-10-03

Page: 10 of 10

### Results:

Sample ID	F4	F4	CR9	CR9
Sampling Depth	M	B	S	M
Tide	Mid-Flood	Mid-Flood	Mid-Flood	Mid-Flood
Sample No.	29748-71	29748-72	29748-73	29748-74
Suspended Solids (mg/L)	5	9	11	17
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.05	<0.05	<0.05	<0.05
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	<0.05	<0.05	<0.05	<0.05
<i>E. coli</i> (cfu/100mL)	1	<1	<1	<1
Chlorophyll-a (mg/m <sup>3</sup> )	7.2	8.7	4.6	5.9
Total Inorganic Nitrogen (mg N/L)	<0.1	<0.1	<0.1	<0.1
Unionized Ammonia (mg/L)	<0.001	0.001	0.004	<0.001

Sample ID	CR9	F3	F3	F3
Sampling Depth	B	S	M	B
Tide	Mid-Flood	Mid-Flood	Mid-Flood	Mid-Flood
Sample No.	29748-75	29748-76	29748-77	29748-78
Suspended Solids (mg/L)	6	3	8	8
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.05	<0.05	<0.05	0.12
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	<0.05	<0.05	0.05	<0.05
<i>E. coli</i> (cfu/100mL)	<1	<1	<1	6
Chlorophyll-a (mg/m <sup>3</sup> )	4.4	5.3	6.3	14
Total Inorganic Nitrogen (mg N/L)	<0.1	<0.1	<0.1	0.1
Unionized Ammonia (mg/L)	0.001	0.004	0.002	0.005

Remarks: 1) < = less than  
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\*\*\*\*\*END OF REPORT\*\*\*\*\*

## TEST REPORT

**APPLICANT:** Cinotech Consultants Limited  
Room 1710, Technology Park,  
18 On Lai Street,  
Shatin, N.T., Hong Kong

Report No.:	29769
Date of Issue:	2018-10-04
Date Received:	2018-09-23
Date Tested:	2018-09-23
Date Completed:	2018-10-04

**ATTN:** Ms. Mei Ling Tang

Page: 1 of 10

**Sample Description** : 72 liquid samples as received from client said to be water  
**Laboratory No.** : 29769  
**Project No.** : MA18061 (Route 1 & Route 2)  
**Project Name** : Contract No. SPW 09 / 2018  
 Environmental Team Baseline Surveys for Sha Tin Cavern Sewage Treatment Works  
**Custody No.** : MA18061/180923  
**Sampling Date** : 2018-09-23

**Tests Requested & Methodology:**

Item	Parameters	Ref. Method	Limit of reporting
1	Suspended Solids	APHA 17ed 2540 D	2.5 mg/L
2	5-day Biochemical Oxygen Demand	APHA 19ed 5210 B	2 mg-O <sub>2</sub> /L
3	Ammonia Nitrogen	In-house method SOP057 (FIA)	0.05mg NH <sub>3</sub> -N/L
4	Nitrite-nitrogen	In-house method SOP068 (FIA)	0.01 mg NO <sub>2</sub> -N/L
5	Nitrate-nitrogen	In-house method SOP067 (FIA)	0.05 mg NO <sub>3</sub> -N/L
6	<i>E. coli</i>	In-house method SOP069 (Membrane Filtration Method by CHROMagar)	1 cfu/100mL
7	Chlorophyll-a	In-house method SOP009 (Fluorometer)	0.025 mg/m <sup>3</sup>
8	Total Inorganic Nitrogen	In-house method SOP061 (By calculation)	0.1 mg N/L
9	Unionized Ammonia	By Calculation	0.001 mg/L

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*PREPARED AND CHECKED BY:*  
For and On Behalf of **WELLAB Ltd.**

  
**PATRICK TSE**  
Laboratory Manager

## TEST REPORT

Report No.:	29769
Date of Issue:	2018-10-04
Date Received:	2018-09-23
Date Tested:	2018-09-23
Date Completed:	2018-10-04

Page: 2 of 10

### Results:

Sample ID	F1	F1	W2	W2
Sampling Depth	S	B	S	B
Tide	Mid-Ebb	Mid-Ebb	Mid-Ebb	Mid-Ebb
Sample No.	29769-1	29769-3	29769-4	29769-6
Suspended Solids (mg/L)	3	5	5	8
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	0.12	<0.05	0.32	0.20
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	<0.05	<0.05	<0.05	<0.05
<i>E. coli</i> (cfu/100mL)	1	6	67	92
Chlorophyll-a (mg/m <sup>3</sup> )	6.6	4.2	9.7	13
Total Inorganic Nitrogen (mg N/L)	0.1	<0.1	0.3	0.2
Unionized Ammonia (mg/L)	0.018	0.002	0.098	0.011

Sample ID	CR1	CR1	CR15	CR15
Sampling Depth	S	B	S	M
Tide	Mid-Ebb	Mid-Ebb	Mid-Ebb	Mid-Ebb
Sample No.	29769-7	29769-9	29769-10	29769-11
Suspended Solids (mg/L)	5	7	5	14
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	0.11	<0.05	<0.05	<0.05
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	<0.05	<0.05	<0.05	<0.05
<i>E. coli</i> (cfu/100mL)	13	19	61	1
Chlorophyll-a (mg/m <sup>3</sup> )	12	12	8.5	8.3
Total Inorganic Nitrogen (mg N/L)	0.1	<0.1	<0.1	<0.1
Unionized Ammonia (mg/L)	0.02	0.002	0.004	0.002

Remarks: 1) < = less than  
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3) N/A = Not applicable

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## TEST REPORT

Report No.:	29769
Date of Issue:	2018-10-04
Date Received:	2018-09-23
Date Tested:	2018-09-23
Date Completed:	2018-10-04

Page: 3 of 10

### Results:

Sample ID	CR15	C1	C1	C1
Sampling Depth	B	S	M	B
Tide	Mid-Ebb	Mid-Ebb	Mid-Ebb	Mid-Ebb
Sample No.	29769-12	29769-13	29769-14	29769-15
Suspended Solids (mg/L)	5	4	7	10
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.05	<0.05	0.09	0.05
Nitrite-nitrogen (NO <sub>2</sub> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> -N/L)	<0.05	<0.05	<0.05	<0.05
<i>E. coli</i> (cfu/100mL)	220	5	4	3
Chlorophyll-a (mg/m <sup>3</sup> )	7.9	8.4	10	8.2
Total Inorganic Nitrogen (mg N/L)	<0.1	<0.1	<0.1	<0.1
Unionized Ammonia (mg/L)	0.002	<0.001	0.007	0.002

Sample ID	CR16	CR16	CR16	CR17
Sampling Depth	S	M	B	S
Tide	Mid-Ebb	Mid-Ebb	Mid-Ebb	Mid-Ebb
Sample No.	29769-16	29769-17	29769-18	29769-19
Suspended Solids (mg/L)	7	12	14	15
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.05	0.06	<0.05	0.05
Nitrite-nitrogen (NO <sub>2</sub> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> -N/L)	<0.05	<0.05	<0.05	<0.05
<i>E. coli</i> (cfu/100mL)	3	5	11	5
Chlorophyll-a (mg/m <sup>3</sup> )	7.6	13	14	11
Total Inorganic Nitrogen (mg N/L)	<0.1	<0.1	<0.1	<0.1
Unionized Ammonia (mg/L)	0.004	0.005	0.001	0.01

Remarks: 1) < = less than  
2) S = Surface, M = Middle, B = Bottom  
3) N/A = Not applicable

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## TEST REPORT

Report No.:	29769
Date of Issue:	2018-10-04
Date Received:	2018-09-23
Date Tested:	2018-09-23
Date Completed:	2018-10-04

Page: 4 of 10

### Results:

Sample ID	CR17	CR17	W1	W1
Sampling Depth	M	B	S	M
Tide	Mid-Ebb	Mid-Ebb	Mid-Ebb	Mid-Ebb
Sample No.	29769-20	29769-21	29769-22	29769-23
Suspended Solids (mg/L)	22	4	3	7
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.05	0.07	<0.05	<0.05
Nitrite-nitrogen (NO <sub>2</sub> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> -N/L)	<0.05	<0.05	<0.05	<0.05
<i>E. coli</i> (cfu/100mL)	17	2	13	5
Chlorophyll-a (mg/m <sup>3</sup> )	11	10	9.5	9.7
Total Inorganic Nitrogen (mg N/L)	<0.1	<0.1	<0.1	<0.1
Unionized Ammonia (mg/L)	0.002	0.003	0.003	0.002

Sample ID	W1	F1	F1	W2
Sampling Depth	B	S	B	S
Tide	Mid-Ebb	Mid-Flood	Mid-Flood	Mid-Flood
Sample No.	29769-24	29769-25	29769-27	29769-28
Suspended Solids (mg/L)	5	6	6	11
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	0.05	0.07	0.07	0.26
Nitrite-nitrogen (NO <sub>2</sub> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> -N/L)	<0.05	<0.05	<0.05	0.06
<i>E. coli</i> (cfu/100mL)	3	45	22	1200
Chlorophyll-a (mg/m <sup>3</sup> )	13	12	12	21
Total Inorganic Nitrogen (mg N/L)	<0.1	<0.1	<0.1	0.3
Unionized Ammonia (mg/L)	0.002	0.008	0.003	0.04

Remarks: 1) < = less than  
2) S = Surface, M = Middle, B = Bottom  
3) N/A = Not applicable

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**TEST REPORT**

Report No.:	29769
Date of Issue:	2018-10-04
Date Received:	2018-09-23
Date Tested:	2018-09-23
Date Completed:	2018-10-04

Page: 5 of 10

**Results:**

Sample ID	W2	CR1	CR1	CR15
Sampling Depth	B	S	B	S
Tide	Mid-Flood	Mid-Flood	Mid-Flood	Mid-Flood
Sample No.	29769-30	29769-31	29769-33	29769-34
Suspended Solids (mg/L)	5	12	7	8
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	0.36	0.34	0.07	0.05
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	<0.05	0.07	<0.05	<0.05
<i>E. coli</i> (cfu/100mL)	180	800	32	5
Chlorophyll-a (mg/m <sup>3</sup> )	16	26	11	9.3
Total Inorganic Nitrogen (mg N/L)	0.4	0.4	<0.1	<0.1
Unionized Ammonia (mg/L)	0.024	0.052	0.005	0.009

Sample ID	CR15	CR15	C1	C1
Sampling Depth	M	B	S	M
Tide	Mid-Flood	Mid-Flood	Mid-Flood	Mid-Flood
Sample No.	29769-35	29769-36	29769-37	29769-38
Suspended Solids (mg/L)	5	6	9	8
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.05	<0.05	<0.05	<0.05
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	<0.05	<0.05	<0.05	<0.05
<i>E. coli</i> (cfu/100mL)	1	<1	<1	<1
Chlorophyll-a (mg/m <sup>3</sup> )	6.7	7.1	7.3	7.2
Total Inorganic Nitrogen (mg N/L)	<0.1	<0.1	<0.1	<0.1
Unionized Ammonia (mg/L)	0.002	0.002	0.004	0.001

Remarks: 1) < = less than  
2) S = Surface, M = Middle, B = Bottom  
3) N/A = Not applicable

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## TEST REPORT

Report No.:	29769
Date of Issue:	2018-10-04
Date Received:	2018-09-23
Date Tested:	2018-09-23
Date Completed:	2018-10-04

Page: 6 of 10

### Results:

Sample ID	C1	CR16	CR16	CR16
Sampling Depth	B	S	M	B
Tide	Mid-Flood	Mid-Flood	Mid-Flood	Mid-Flood
Sample No.	29769-39	29769-40	29769-41	29769-42
Suspended Solids (mg/L)	<2.5	10	4	4
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.05	0.07	<0.05	<0.05
Nitrite-nitrogen (NO <sub>2</sub> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> -N/L)	<0.05	<0.05	<0.05	<0.05
<i>E. coli</i> (cfu/100mL)	<1	<1	<1	<1
Chlorophyll-a (mg/m <sup>3</sup> )	7.5	6.7	7.9	8.4
Total Inorganic Nitrogen (mg N/L)	<0.1	<0.1	<0.1	<0.1
Unionized Ammonia (mg/L)	0.001	0.013	0.003	0.002

Sample ID	CR17	CR17	CR17	W1
Sampling Depth	S	M	B	S
Tide	Mid-Flood	Mid-Flood	Mid-Flood	Mid-Flood
Sample No.	29769-43	29769-44	29769-45	29769-46
Suspended Solids (mg/L)	10	7	9	4
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.05	<0.05	0.07	<0.05
Nitrite-nitrogen (NO <sub>2</sub> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> -N/L)	0.07	<0.05	<0.05	<0.05
<i>E. coli</i> (cfu/100mL)	5	2	4	10
Chlorophyll-a (mg/m <sup>3</sup> )	8.9	9.6	12	8.8
Total Inorganic Nitrogen (mg N/L)	0.1	<0.1	<0.1	<0.1
Unionized Ammonia (mg/L)	0.008	0.001	0.004	0.005

Remarks: 1) < = less than

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3) N/A = Not applicable

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## TEST REPORT

Report No.:	29769
Date of Issue:	2018-10-04
Date Received:	2018-09-23
Date Tested:	2018-09-23
Date Completed:	2018-10-04

Page: 7 of 10

### Results:

Sample ID	W1	W1	G1	G1
Sampling Depth	M	B	S	M
Tide	Mid-Flood	Mid-Flood	Mid-Ebb	Mid-Ebb
Sample No.	29769-47	29769-48	29769-49	29769-50
Suspended Solids (mg/L)	4	3	6	4
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.05	<0.05	<0.05	0.09
Nitrite-nitrogen (NO <sub>2</sub> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> -N/L)	<0.05	<0.05	<0.05	<0.05
<i>E. coli</i> (cfu/100mL)	2	31	1	1
Chlorophyll-a (mg/m <sup>3</sup> )	10	9.1	8	5.1
Total Inorganic Nitrogen (mg N/L)	<0.1	<0.1	<0.1	0.1
Unionized Ammonia (mg/L)	<0.001	0.002	0.004	0.006

Sample ID	G1	F2	F2	F2
Sampling Depth	B	S	M	B
Tide	Mid-Ebb	Mid-Ebb	Mid-Ebb	Mid-Ebb
Sample No.	29769-51	29769-52	29769-53	29769-54
Suspended Solids (mg/L)	6	4	6	12
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	0.06	0.06	0.06	<0.05
Nitrite-nitrogen (NO <sub>2</sub> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> -N/L)	<0.05	<0.05	<0.05	<0.05
<i>E. coli</i> (cfu/100mL)	<1	6	4	1
Chlorophyll-a (mg/m <sup>3</sup> )	8.6	8.3	8.5	8.8
Total Inorganic Nitrogen (mg N/L)	<0.1	<0.1	<0.1	<0.1
Unionized Ammonia (mg/L)	0.003	0.007	0.004	0.001

Remarks: 1) < = less than

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3) N/A = Not applicable

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## TEST REPORT

Report No.:	29769
Date of Issue:	2018-10-04
Date Received:	2018-09-23
Date Tested:	2018-09-23
Date Completed:	2018-10-04

Page: 8 of 10

### Results:

Sample ID	F4	F4	F4	CR9
Sampling Depth	S	M	B	S
Tide	Mid-Ebb	Mid-Ebb	Mid-Ebb	Mid-Ebb
Sample No.	29769-55	29769-56	29769-57	29769-58
Suspended Solids (mg/L)	3	<2.5	3	4
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.05	<0.05	<0.05	<0.05
Nitrite-nitrogen (NO <sub>2</sub> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> -N/L)	<0.05	<0.05	<0.05	<0.05
<i>E. coli</i> (cfu/100mL)	<1	1	<1	<1
Chlorophyll-a (mg/m <sup>3</sup> )	3	3	6	1.9
Total Inorganic Nitrogen (mg N/L)	<0.1	<0.1	<0.1	<0.1
Unionized Ammonia (mg/L)	0.004	<0.001	<0.001	<0.001

Sample ID	CR9	CR9	F3	F3
Sampling Depth	M	B	S	M
Tide	Mid-Ebb	Mid-Ebb	Mid-Ebb	Mid-Ebb
Sample No.	29769-59	29769-60	29769-61	29769-62
Suspended Solids (mg/L)	<2.5	7	<2.5	7
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.05	<0.05	<0.05	<0.05
Nitrite-nitrogen (NO <sub>2</sub> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> -N/L)	<0.05	<0.05	<0.05	<0.05
<i>E. coli</i> (cfu/100mL)	<1	<1	3	8
Chlorophyll-a (mg/m <sup>3</sup> )	4.1	5.1	3.3	2.9
Total Inorganic Nitrogen (mg N/L)	<0.1	<0.1	<0.1	<0.1
Unionized Ammonia (mg/L)	<0.001	0.002	0.001	<0.001

Remarks: 1) < = less than

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## TEST REPORT

Report No.:	29769
Date of Issue:	2018-10-04
Date Received:	2018-09-23
Date Tested:	2018-09-23
Date Completed:	2018-10-04

Page: 9 of 10

### Results:

Sample ID	F3	G1	G1	G1
Sampling Depth	B	S	M	B
Tide	Mid-Ebb	Mid-Flood	Mid-Flood	Mid-Flood
Sample No.	29769-63	29769-64	29769-65	29769-66
Suspended Solids (mg/L)	7	7	6	3
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.05	<0.05	0.06	<0.05
Nitrite-nitrogen (NO <sub>2</sub> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> -N/L)	<0.05	<0.05	<0.05	<0.05
<i>E. coli</i> (cfu/100mL)	3	<1	<1	<1
Chlorophyll-a (mg/m <sup>3</sup> )	3.3	6.2	4.3	5.3
Total Inorganic Nitrogen (mg N/L)	<0.1	<0.1	<0.1	<0.1
Unionized Ammonia (mg/L)	<0.001	0.003	0.004	<0.001

Sample ID	F2	F2	F2	F4
Sampling Depth	S	M	B	S
Tide	Mid-Flood	Mid-Flood	Mid-Flood	Mid-Flood
Sample No.	29769-67	29769-68	29769-69	29769-70
Suspended Solids (mg/L)	5	3	5	4
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.05	0.08	<0.05	<0.05
Nitrite-nitrogen (NO <sub>2</sub> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> -N/L)	<0.05	<0.05	<0.05	<0.05
<i>E. coli</i> (cfu/100mL)	<1	1	8	84
Chlorophyll-a (mg/m <sup>3</sup> )	4	3.7	4.9	2.3
Total Inorganic Nitrogen (mg N/L)	<0.1	<0.1	<0.1	<0.1
Unionized Ammonia (mg/L)	0.006	0.008	<0.001	<0.001

Remarks: 1) < = less than

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3) N/A = Not applicable

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## TEST REPORT

Report No.:	29769
Date of Issue:	2018-10-04
Date Received:	2018-09-23
Date Tested:	2018-09-23
Date Completed:	2018-10-04

Page: 10 of 10

### Results:

Sample ID	F4	F4	CR9	CR9
Sampling Depth	M	B	S	M
Tide	Mid-Flood	Mid-Flood	Mid-Flood	Mid-Flood
Sample No.	29769-71	29769-72	29769-73	29769-74
Suspended Solids (mg/L)	16	13	4	7
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.05	<0.05	<0.05	0.10
Nitrite-nitrogen (NO <sub>2</sub> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> -N/L)	<0.05	<0.05	<0.05	<0.05
<i>E. coli</i> (cfu/100mL)	1	4	<1	<1
Chlorophyll-a (mg/m <sup>3</sup> )	2.5	5	1.5	1.6
Total Inorganic Nitrogen (mg N/L)	<0.1	<0.1	<0.1	0.1
Unionized Ammonia (mg/L)	<0.001	<0.001	0.001	0.006

Sample ID	CR9	F3	F3	F3
Sampling Depth	B	S	M	B
Tide	Mid-Flood	Mid-Flood	Mid-Flood	Mid-Flood
Sample No.	29769-75	29769-76	29769-77	29769-78
Suspended Solids (mg/L)	5	5	5	6
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	0.08	<0.05	<0.05	<0.05
Nitrite-nitrogen (NO <sub>2</sub> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> -N/L)	<0.05	<0.05	<0.05	<0.05
<i>E. coli</i> (cfu/100mL)	<1	<1	<1	<1
Chlorophyll-a (mg/m <sup>3</sup> )	2.2	3.4	3.3	4.9
Total Inorganic Nitrogen (mg N/L)	0.1	<0.1	<0.1	<0.1
Unionized Ammonia (mg/L)	0.005	<0.001	0.002	<0.001

Remarks: 1) < = less than  
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3) N/A = Not applicable

\*\*\*\*\*END OF REPORT\*\*\*\*\*



## TEST REPORT

**APPLICANT:** Cinotech Consultants Limited  
Room 1710, Technology Park,  
18 On Lai Street,  
Shatin, N.T., Hong Kong

Report No.:	29913-V1
Date of Issue:	2019-03-07
Date Received:	2018-10-13
Date Tested:	2018-10-13
Date Completed:	2018-10-24

**ATTN:** Ms. Mei Ling Tang

Page: 1 of 11

**Sample Description :** 74 liquid samples as received from client said to be water  
**Laboratory No. :** 29913  
**Project No. :** MA18061  
**Project Name :** Contract No. SPW 09 / 2018  
 Environmental Team Baseline Surveys for Sha Tin Cavern Sewage Treatment Works  
**Custody No. :** MA18061/180923  
**Sampling Date :** 2018-10-13

**Tests Requested & Methodology:**

Item	Parameters	Ref. Method	Limit of reporting
1	Suspended Solids	APHA 17ed 2540 D	2.5 mg/L
2	5-day Biochemical Oxygen Demand	APHA 19ed 5210 B	2 mg-O <sub>2</sub> /L
3	Ammonia Nitrogen	In-house method SOP057 (FIA)	0.05mg NH <sub>3</sub> -N/L
4	Nitrite-nitrogen	In-house method SOP068 (FIA)	0.01 mg NO <sub>2</sub> <sup>-</sup> -N/L
5	Nitrate-nitrogen	In-house method SOP067 (FIA)	0.05 mg NO <sub>3</sub> <sup>-</sup> -N/L
6	<i>E. coli</i>	In-house method SOP069 (Membrane Filtration Method by CHROMagar)	1 cfu/100mL
7	Chlorophyll-a	In-house method SOP009 (Fluorometer)	0.025 mg/m <sup>3</sup>
8	Total Inorganic Nitrogen	In-house method SOP061 (By calculation)	0.1 mg N/L
9	Unionized Ammonia	By Calculation	0.001 mg/L

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PREPARED AND CHECKED BY:  
For and On Behalf of **WELLAB Ltd.**

  
**PATRICK TSE**  
 General Manager

## TEST REPORT

Report No.:	29913-V1
Date of Issue:	2019-03-07
Date Received:	2018-10-13
Date Tested:	2018-10-13
Date Completed:	2018-10-24

Page: 2 of 11

### Results:

Sample ID	F1	F1	F1	W2
Sampling Depth	S	M	B	S
Tide	Mid-Ebb	Mid-Ebb	Mid-Ebb	Mid-Ebb
Sample No.	29913-1	29913-2	29913-3	29913-4
Suspended Solids (mg/L)	<2.5	<2.5	<2.5	3
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.05	<0.05	<0.05	0.20
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	<0.05	<0.05	<0.05	<0.05
<i>E. coli</i> (cfu/100mL)	6	5	13	86
Chlorophyll-a (mg/m <sup>3</sup> )	7.7	21	10	15
Total Inorganic Nitrogen (mg N/L)	<0.1	<0.1	<0.1	0.2
Unionized Ammonia (mg/L)	0.003	0.004	0.003	0.019

Sample ID	W2	CR1	CR1	CR1
Sampling Depth	B	S	M	B
Tide	Mid-Ebb	Mid-Ebb	Mid-Ebb	Mid-Ebb
Sample No.	29913-6	29913-7	29913-8	29913-9
Suspended Solids (mg/L)	3	3	3	3
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	0.38	<0.05	<0.05	0.08
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	<0.05	<0.05	<0.05	<0.05
<i>E. coli</i> (cfu/100mL)	89	6	16	11
Chlorophyll-a (mg/m <sup>3</sup> )	10	13	13	13
Total Inorganic Nitrogen (mg N/L)	0.4	<0.1	<0.1	0.1
Unionized Ammonia (mg/L)	0.036	0.005	<0.001	0.008

Remarks: 1) < = less than  
2) S = Surface, M = Middle, B = Bottom  
3) N/A = Not applicable  
4) This report supersedes the one dated 2018/10/24 with certificate number 29913

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## TEST REPORT

Report No.:	29913-V1
Date of Issue:	2019-03-07
Date Received:	2018-10-13
Date Tested:	2018-10-13
Date Completed:	2018-10-24

Page: 3 of 11

### Results:

Sample ID	CR15	CR15	CR15	C1
Sampling Depth	S	M	B	S
Tide	Mid-Ebb	Mid-Ebb	Mid-Ebb	Mid-Ebb
Sample No.	29913-10	29913-11	29913-12	29913-13
Suspended Solids (mg/L)	4	3	7	5
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	0.08	0.09	0.08	<0.05
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	0.19	0.09	0.30	<0.05
<i>E. coli</i> (cfu/100mL)	160	170	300	13
Chlorophyll-a (mg/m <sup>3</sup> )	7.4	9.6	7.4	12
Total Inorganic Nitrogen (mg N/L)	0.3	0.2	0.4	<0.1
Unionized Ammonia (mg/L)	0.008	0.006	0.003	0.002

Sample ID	C1	C1	CR16	CR16
Sampling Depth	M	B	S	M
Tide	Mid-Ebb	Mid-Ebb	Mid-Ebb	Mid-Ebb
Sample No.	29913-14	29913-15	29913-16	29913-17
Suspended Solids (mg/L)	6	3	<2.5	6
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.05	0.36	<0.05	0.05
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	<0.05	<0.05	<0.05	<0.05
<i>E. coli</i> (cfu/100mL)	1	2	6	1
Chlorophyll-a (mg/m <sup>3</sup> )	14	14	14	14
Total Inorganic Nitrogen (mg N/L)	<0.1	0.4	<0.1	<0.1
Unionized Ammonia (mg/L)	0.002	0.015	0.004	0.003

Remarks: 1) < = less than  
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3) N/A = Not applicable  
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## TEST REPORT

Report No.:	29913-V1
Date of Issue:	2019-03-07
Date Received:	2018-10-13
Date Tested:	2018-10-13
Date Completed:	2018-10-24

Page: 4 of 11

### Results:

Sample ID	CR16	CR17	CR17	CR17
Sampling Depth	B	S	M	B
Tide	Mid-Ebb	Mid-Ebb	Mid-Ebb	Mid-Ebb
Sample No.	29913-18	29913-19	29913-20	29913-21
Suspended Solids (mg/L)	3	<2.5	4	5
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	0.05	0.10	<0.05	0.06
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	<0.05	0.30	0.12	0.10
<i>E. coli</i> (cfu/100mL)	<1	3	11	14
Chlorophyll-a (mg/m <sup>3</sup> )	14	16	16	16
Total Inorganic Nitrogen (mg N/L)	<0.1	0.4	0.1	0.2
Unionized Ammonia (mg/L)	0.002	0.011	0.001	0.003

Sample ID	W1	W1	W1	F1
Sampling Depth	S	M	B	S
Tide	Mid-Ebb	Mid-Ebb	Mid-Ebb	Mid-Flood
Sample No.	29913-22	29913-23	29913-24	29913-25
Suspended Solids (mg/L)	3	8	3	3
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	0.05	<0.05	<0.05	0.08
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	0.06	<0.05	<0.05	<0.05
<i>E. coli</i> (cfu/100mL)	4	3	3	76
Chlorophyll-a (mg/m <sup>3</sup> )	17	15	14	8.5
Total Inorganic Nitrogen (mg N/L)	0.1	<0.1	<0.1	<0.1
Unionized Ammonia (mg/L)	0.006	0.002	0.001	0.007

Remarks: 1) < = less than  
2) S = Surface, M = Middle, B = Bottom  
3) N/A = Not applicable  
4) This report supersedes the one dated 2018/10/24 with certificate number 29913

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## TEST REPORT

Report No.:	29913-V1
Date of Issue:	2019-03-07
Date Received:	2018-10-13
Date Tested:	2018-10-13
Date Completed:	2018-10-24

Page: 5 of 11

**Results:**

Sample ID	F1	W2	W2	CR1
Sampling Depth	B	S	B	S
Tide	Mid-Flood	Mid-Flood	Mid-Flood	Mid-Flood
Sample No.	29913-27	29913-28	29913-30	29913-31
Suspended Solids (mg/L)	<2.5	4	3	7
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.05	0.09	0.17	0.06
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	<0.05	<0.05	<0.05	<0.05
<i>E. coli</i> (cfu/100mL)	53	520	640	380
Chlorophyll-a (mg/m <sup>3</sup> )	8	10	11	11
Total Inorganic Nitrogen (mg N/L)	<0.1	<0.1	0.2	<0.1
Unionized Ammonia (mg/L)	0.002	0.009	0.016	0.006

Sample ID	CR1	CR15	CR15	CR15
Sampling Depth	B	S	M	B
Tide	Mid-Flood	Mid-Flood	Mid-Flood	Mid-Flood
Sample No.	29913-33	29913-34	29913-35	29913-36
Suspended Solids (mg/L)	6	5	<2.5	5
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.05	<0.05	<0.05	0.06
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	<0.05	<0.05	<0.05	<0.05
<i>E. coli</i> (cfu/100mL)	300	280	160	220
Chlorophyll-a (mg/m <sup>3</sup> )	11	10	9.4	9.3
Total Inorganic Nitrogen (mg N/L)	<0.1	<0.1	<0.1	<0.1
Unionized Ammonia (mg/L)	<0.001	0.002	<0.001	0.002

Remarks: 1) < = less than  
 2) S = Surface, M = Middle, B = Bottom  
 3) N/A = Not applicable  
 4) This report supersedes the one dated 2018/10/24 with certificate number 29913

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## TEST REPORT

Report No.:	29913-V1
Date of Issue:	2019-03-07
Date Received:	2018-10-13
Date Tested:	2018-10-13
Date Completed:	2018-10-24

Page: 6 of 11

**Results:**

Sample ID	C1	C1	C1	CR16
Sampling Depth	S	M	B	S
Tide	Mid-Flood	Mid-Flood	Mid-Flood	Mid-Flood
Sample No.	29913-37	29913-38	29913-39	29913-40
Suspended Solids (mg/L)	<2.5	3	5	4
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	0.11	0.07	0.06	0.08
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	0.08	0.13	<0.05	0.10
<i>E. coli</i> (cfu/100mL)	360	210	18	300
Chlorophyll-a (mg/m <sup>3</sup> )	8.3	10	11	10
Total Inorganic Nitrogen (mg N/L)	0.2	0.2	0.1	0.2
Unionized Ammonia (mg/L)	0.010	0.004	0.003	0.007

Sample ID	CR16	CR16	CR17	CR17
Sampling Depth	M	B	S	M
Tide	Mid-Flood	Mid-Flood	Mid-Flood	Mid-Flood
Sample No.	29913-41	29913-42	29913-43	29913-44
Suspended Solids (mg/L)	3	3	<2.5	8
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	0.07	0.05	0.07	0.07
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	0.07	0.06	0.07	0.06
<i>E. coli</i> (cfu/100mL)	320	220	150	120
Chlorophyll-a (mg/m <sup>3</sup> )	11	11	11	9.9
Total Inorganic Nitrogen (mg N/L)	0.1	0.1	0.1	0.1
Unionized Ammonia (mg/L)	0.004	0.002	0.007	0.005

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## TEST REPORT

Report No.:	29913-V1
Date of Issue:	2019-03-07
Date Received:	2018-10-13
Date Tested:	2018-10-13
Date Completed:	2018-10-24

Page: 7 of 11

**Results:**

Sample ID	CR17	W1	W1	W1
Sampling Depth	B	S	M	B
Tide	Mid-Flood	Mid-Flood	Mid-Flood	Mid-Flood
Sample No.	29913-45	29913-46	29913-47	29913-48
Suspended Solids (mg/L)	<2.5	6	<2.5	3
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.05	0.06	0.15	0.15
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	<0.05	<0.05	0.19	0.19
<i>E. coli</i> (cfu/100mL)	110	220	940	560
Chlorophyll-a (mg/m <sup>3</sup> )	9	10	11	7.8
Total Inorganic Nitrogen (mg N/L)	<0.1	<0.1	0.3	0.3
Unionized Ammonia (mg/L)	0.003	0.004	0.009	0.008

Sample ID	G1	G1	G1	F2
Sampling Depth	S	M	B	S
Tide	Mid-Ebb	Mid-Ebb	Mid-Ebb	Mid-Ebb
Sample No.	29913-49	29913-50	29913-51	29913-52
Suspended Solids (mg/L)	28	7	3	<2.5
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.05	<0.05	<0.05	0.09
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	<0.05	<0.05	<0.05	<0.05
<i>E. coli</i> (cfu/100mL)	1	4	<1	4
Chlorophyll-a (mg/m <sup>3</sup> )	7.3	10	9.3	11
Total Inorganic Nitrogen (mg N/L)	<0.1	<0.1	<0.1	<0.1
Unionized Ammonia (mg/L)	0.005	0.002	0.002	0.007

Remarks: 1) < = less than  
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**TEST REPORT**

Report No.:	29913-V1
Date of Issue:	2019-03-07
Date Received:	2018-10-13
Date Tested:	2018-10-13
Date Completed:	2018-10-24

Page: 8 of 11

**Results:**

Sample ID	F2	F2	F4	F4
Sampling Depth	M	B	S	M
Tide	Mid-Ebb	Mid-Ebb	Mid-Ebb	Mid-Ebb
Sample No.	29913-53	29913-54	29913-55	29913-56
Suspended Solids (mg/L)	4	3	18	3
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	0.05	<0.05	<0.05	<0.05
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	<0.05	<0.05	<0.05	<0.05
<i>E. coli</i> (cfu/100mL)	<1	<1	<1	2
Chlorophyll-a (mg/m <sup>3</sup> )	12	7.5	6.9	5.4
Total Inorganic Nitrogen (mg N/L)	<0.1	<0.1	<0.1	<0.1
Unionized Ammonia (mg/L)	0.005	0.001	0.004	0.002

Sample ID	F4	CR9	CR9	CR9
Sampling Depth	B	S	M	B
Tide	Mid-Ebb	Mid-Ebb	Mid-Ebb	Mid-Ebb
Sample No.	29913-57	29913-58	29913-59	29913-60
Suspended Solids (mg/L)	5	5	5	9
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.05	0.05	<0.05	0.07
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	<0.05	<0.05	<0.05	<0.05
<i>E. coli</i> (cfu/100mL)	<1	<1	<1	<1
Chlorophyll-a (mg/m <sup>3</sup> )	6.7	3.2	7.1	2.3
Total Inorganic Nitrogen (mg N/L)	<0.1	<0.1	<0.1	<0.1
Unionized Ammonia (mg/L)	0.002	0.004	0.002	0.004

- Remarks: 1) <= less than  
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## TEST REPORT

Report No.:	29913-V1
Date of Issue:	2019-03-07
Date Received:	2018-10-13
Date Tested:	2018-10-13
Date Completed:	2018-10-24

Page: 9 of 11

**Results:**

Sample ID	F3	F3	F3	G1
Sampling Depth	S	M	B	S
Tide	Mid-Ebb	Mid-Ebb	Mid-Ebb	Mid-Flood
Sample No.	29913-61	29913-62	29913-63	29913-64
Suspended Solids (mg/L)	6	<2.5	5	6
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.05	0.06	0.11	0.20
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	<0.05	<0.05	<0.05	<0.05
<i>E. coli</i> (cfu/100mL)	<1	8	10	110
Chlorophyll-a (mg/m <sup>3</sup> )	3.0	6.3	7.5	6.8
Total Inorganic Nitrogen (mg N/L)	<0.1	<0.1	0.1	0.2
Unionized Ammonia (mg/L)	<0.001	0.004	0.005	0.018

Sample ID	G1	G1	F2	F2
Sampling Depth	M	B	S	M
Tide	Mid-Flood	Mid-Flood	Mid-Flood	Mid-Flood
Sample No.	29913-65	29913-66	29913-67	29913-68
Suspended Solids (mg/L)	<2.5	<2.5	<2.5	3
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	0.05	<0.05	<0.05	<0.05
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	0.08	<0.05	<0.05	<0.05
<i>E. coli</i> (cfu/100mL)	22	1	8	2
Chlorophyll-a (mg/m <sup>3</sup> )	12	8.6	7.2	4.6
Total Inorganic Nitrogen (mg N/L)	0.1	<0.1	<0.1	<0.1
Unionized Ammonia (mg/L)	0.003	0.002	0.003	0.002

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## TEST REPORT

Report No.:	29913-V1
Date of Issue:	2019-03-07
Date Received:	2018-10-13
Date Tested:	2018-10-13
Date Completed:	2018-10-24

Page: 10 of 11

**Results:**

Sample ID	F2	F4	F4	F4
Sampling Depth	B	S	M	B
Tide	Mid-Flood	Mid-Flood	Mid-Flood	Mid-Flood
Sample No.	29913-69	29913-70	29913-71	29913-72
Suspended Solids (mg/L)	3	4	4	<2.5
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	0.07	<0.05	<0.05	<0.05
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	<0.05	<0.05	<0.05	<0.05
<i>E. coli</i> (cfu/100mL)	1	<1	2	<1
Chlorophyll-a (mg/m <sup>3</sup> )	6.8	5.8	6.4	6.4
Total Inorganic Nitrogen (mg N/L)	<0.1	<0.1	<0.1	<0.1
Unionized Ammonia (mg/L)	0.004	<0.001	0.001	<0.001

Sample ID	CR9	CR9	CR9	F3
Sampling Depth	S	M	B	S
Tide	Mid-Flood	Mid-Flood	Mid-Flood	Mid-Flood
Sample No.	29913-73	29913-74	29913-75	29913-76
Suspended Solids (mg/L)	<2.5	3	14	4
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.05	0.19	<0.05	<0.05
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	<0.05	<0.05	<0.05	<0.05
<i>E. coli</i> (cfu/100mL)	<1	<1	<1	<1
Chlorophyll-a (mg/m <sup>3</sup> )	6.0	1.7	3.5	3.0
Total Inorganic Nitrogen (mg N/L)	<0.1	0.2	<0.1	<0.1
Unionized Ammonia (mg/L)	<0.001	0.014	0.001	0.004

Remarks: 1) < = less than  
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3) N/A = Not applicable  
4) This report supersedes the one dated 2018/10/24 with certificate number 29913

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## TEST REPORT

Report No.:	29913-V1
Date of Issue:	2019-03-07
Date Received:	2018-10-13
Date Tested:	2018-10-13
Date Completed:	2018-10-24

Page: 11 of 11

**Results:**

Sample ID	F3	F3
Sampling Depth	M	B
Tide	Mid-Flood	Mid-Flood
Sample No.	29913-77	29913-78
Suspended Solids (mg/L)	5	<2.5
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.05	<0.05
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	<0.05	<0.05
<i>E. coli</i> (cfu/100mL)	2	3
Chlorophyll-a (mg/m <sup>3</sup> )	2.2	6.4
Total Inorganic Nitrogen (mg N/L)	<0.1	<0.1
Unionized Ammonia (mg/L)	0.003	0.002

Remarks: 1) < = less than  
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3) N/A = Not applicable  
4) This report supersedes the one dated 2018/10/24 with certificate number 29913

\*\*\*\*\*END OF REPORT\*\*\*\*\*

**TEST REPORT**

**APPLICANT:** Cinotech Consultants Limited  
Room 1710, Technology Park,  
18 On Lai Street,  
Shatin, N.T., Hong Kong

Report No.:	29947
Date of Issue:	2018-10-31
Date Received:	2018-10-22
Date Tested:	2018-10-22
Date Completed:	2018-10-31

**ATTN:** Ms. Mei Ling Tang

Page: 1 of 11

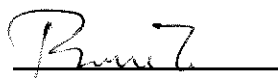
**Sample Description :** 73 liquid samples as received from client said to be water  
**Laboratory No. :** 29947  
**Project No. :** MA18061  
**Project Name :** Contract No. SPW 09 / 2018  
 Environmental Team Baseline Surveys for Sha Tin Cavern Sewage Treatment Works  
**Custody No. :** MA18061/181022  
**Sampling Date :** 2018-10-22

**Tests Requested & Methodology:**

Item	Parameters	Ref. Method	Limit of reporting
1	Suspended Solids	APHA 17ed 2540 D	2.5 mg/L
2	5-day Biochemical Oxygen Demand	APHA 19ed 5210 B	2 mg-O <sub>2</sub> /L
3	Ammonia Nitrogen	In-house method SOP057 (FIA)	0.05mg NH <sub>3</sub> -N/L
4	Nitrite-nitrogen	In-house method SOP068 (FIA)	0.01 mg NO <sub>2</sub> <sup>-</sup> -N/L
5	Nitrate-nitrogen	In-house method SOP067 (FIA)	0.05 mg NO <sub>3</sub> <sup>-</sup> -N/L
6	<i>E. coli</i>	In-house method SOP069 (Membrane Filtration Method by CHROMagar)	1 cfu/100mL
7	Chlorophyll-a	In-house method SOP009 (Fluorometer)	0.025 mg/m <sup>3</sup>
8	Total Inorganic Nitrogen	In-house method SOP061 (By calculation)	0.1 mg N/L
9	Unionized Ammonia	By Calculation	0.001 mg/L

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*PREPARED AND CHECKED BY:*  
For and On Behalf of **WELLAB Ltd.**

  
**PATRICK TSE**  
*Laboratory Manager*

## TEST REPORT

Report No.:	29947
Date of Issue:	2018-10-31
Date Received:	2018-10-22
Date Tested:	2018-10-22
Date Completed:	2018-10-31
Page:	2 of 11

**Results:**

Sample ID	F1	F1	W2	W2
Sampling Depth	S	B	S	B
Tide	Mid-Ebb	Mid-Ebb	Mid-Ebb	Mid-Ebb
Sample No.	29947-1	29947-3	29947-4	29947-6
Suspended Solids (mg/L)	5	9	7	9
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.05	0.06	0.27	<0.05
Nitrite-nitrogen (NO <sub>2</sub> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> -N/L)	<0.05	0.10	0.08	<0.05
<i>E. coli</i> (cfu/100mL)	2	580	2	1
Chlorophyll-a (mg/m <sup>3</sup> )	9.7	16	8.2	14
Total Inorganic Nitrogen (mg N/L)	<0.1	0.2	0.3	<0.1
Unionized Ammonia (mg/L)	0.001	0.002	0.020	<0.001

Sample ID	CR1	CR1	CR15	CR15
Sampling Depth	S	B	S	M
Tide	Mid-Ebb	Mid-Ebb	Mid-Ebb	Mid-Ebb
Sample No.	29947-7	29947-9	29947-10	29947-11
Suspended Solids (mg/L)	7	9	7	12
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	0.24	<0.05	0.05	<0.05
Nitrite-nitrogen (NO <sub>2</sub> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> -N/L)	0.11	<0.05	<0.05	0.09
<i>E. coli</i> (cfu/100mL)	<1	<1	19	<1
Chlorophyll-a (mg/m <sup>3</sup> )	9.5	9.8	6.5	12
Total Inorganic Nitrogen (mg N/L)	0.3	<0.1	<0.1	0.1
Unionized Ammonia (mg/L)	0.018	<0.001	0.003	<0.001

Remarks: 1) <= less than  
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3) N/A = Not applicable

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## TEST REPORT

Report No.:	29947
Date of Issue:	2018-10-31
Date Received:	2018-10-22
Date Tested:	2018-10-22
Date Completed:	2018-10-31

Page: 3 of 11

### Results:

Sample ID	CR15	C1	C1	C1
Sampling Depth	B	S	M	B
Tide	Mid-Ebb	Mid-Ebb	Mid-Ebb	Mid-Ebb
Sample No.	29947-12	29947-13	29947-14	29947-15
Suspended Solids (mg/L)	8	6	3	10
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	0.11	0.06	<0.05	<0.05
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	<0.05	0.09	<0.05	<0.05
<i>E. coli</i> (cfu/100mL)	1	2	<1	1
Chlorophyll-a (mg/m <sup>3</sup> )	13	6.5	9.6	9.9
Total Inorganic Nitrogen (mg N/L)	0.2	0.2	<0.1	<0.1
Unionized Ammonia (mg/L)	0.003	0.005	<0.001	<0.001

Sample ID	CR16	CR16	CR16	CR17
Sampling Depth	S	M	B	S
Tide	Mid-Ebb	Mid-Ebb	Mid-Ebb	Mid-Ebb
Sample No.	29947-16	29947-17	29947-18	29947-19
Suspended Solids (mg/L)	9	4	6	4
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.05	<0.05	<0.05	0.06
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	0.09	<0.05	<0.05	<0.05
<i>E. coli</i> (cfu/100mL)	9	1	<1	4
Chlorophyll-a (mg/m <sup>3</sup> )	10	6.7	29	7.8
Total Inorganic Nitrogen (mg N/L)	0.1	<0.1	<0.1	0.1
Unionized Ammonia (mg/L)	0.003	<0.001	<0.001	0.003

Remarks: 1) < = less than  
2) S = Surface, M = Middle, B = Bottom  
3) N/A = Not applicable

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**TEST REPORT**

Report No.:	29947
Date of Issue:	2018-10-31
Date Received:	2018-10-22
Date Tested:	2018-10-22
Date Completed:	2018-10-31

Page: 4 of 11

**Results:**

Sample ID	CR17	CR17	W1	W1
Sampling Depth	M	B	S	M
Tide	Mid-Ebb	Mid-Ebb	Mid-Ebb	Mid-Ebb
Sample No.	29947-20	29947-21	29947-22	29947-23
Suspended Solids (mg/L)	9	7	3	6
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.05	0.07	<0.05	<0.05
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	<0.05	<0.05	0.06	<0.05
<i>E. coli</i> (cfu/100mL)	3	1	18	6
Chlorophyll-a (mg/m <sup>3</sup> )	8.8	10	6.8	11
Total Inorganic Nitrogen (mg N/L)	<0.1	<0.1	<0.1	<0.1
Unionized Ammonia (mg/L)	0.002	0.002	0.002	<0.001

Sample ID	W1	F1	F1	W2
Sampling Depth	B	S	B	S
Tide	Mid-Ebb	Mid-Flood	Mid-Flood	Mid-Flood
Sample No.	29947-24	29947-25	29947-27	29947-28
Suspended Solids (mg/L)	3	5	6	9
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.05	<0.05	<0.05	<0.05
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	<0.05	<0.05	<0.05	<0.05
<i>E. coli</i> (cfu/100mL)	2	<1	4	8
Chlorophyll-a (mg/m <sup>3</sup> )	14	9.2	9.7	10
Total Inorganic Nitrogen (mg N/L)	<0.1	<0.1	<0.1	<0.1
Unionized Ammonia (mg/L)	<0.001	0.002	<0.001	0.003

Remarks: 1) < = less than  
2) S = Surface, M = Middle, B = Bottom  
3) N/A = Not applicable

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## TEST REPORT

Report No.:	29947
Date of Issue:	2018-10-31
Date Received:	2018-10-22
Date Tested:	2018-10-22
Date Completed:	2018-10-31

Page: 5 of 11

### Results:

Sample ID	W2	CR1	CR1	CR1
Sampling Depth	B	S	M	B
Tide	Mid-Flood	Mid-Flood	Mid-Flood	Mid-Flood
Sample No.	29947-30	29947-31	29947-32	29947-33
Suspended Solids (mg/L)	13	11	9	7
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	0.20	0.17	0.09	<0.05
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	0.08	0.07	<0.05	0.07
<i>E. coli</i> (cfu/100mL)	30	66	8	4
Chlorophyll-a (mg/m <sup>3</sup> )	12	11	12	7.5
Total Inorganic Nitrogen (mg N/L)	0.3	0.2	0.1	0.1
Unionized Ammonia (mg/L)	0.005	0.013	0.004	0.001

Sample ID	CR15	CR15	CR15	C1
Sampling Depth	S	M	B	S
Tide	Mid-Flood	Mid-Flood	Mid-Flood	Mid-Flood
Sample No.	29947-34	29947-35	29947-36	29947-37
Suspended Solids (mg/L)	7	9	8	6
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.05	<0.05	<0.05	<0.05
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	<0.05	<0.05	<0.05	0.10
<i>E. coli</i> (cfu/100mL)	1	1	2	8
Chlorophyll-a (mg/m <sup>3</sup> )	8.6	16	8.5	6.6
Total Inorganic Nitrogen (mg N/L)	<0.1	<0.1	<0.1	0.1
Unionized Ammonia (mg/L)	<0.001	0.002	0.001	0.002

Remarks: 1) < = less than

2) S = Surface, M = Middle, B = Bottom

3) N/A = Not applicable

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## TEST REPORT

Report No.:	29947
Date of Issue:	2018-10-31
Date Received:	2018-10-22
Date Tested:	2018-10-22
Date Completed:	2018-10-31

Page: 6 of 11

**Results:**

Sample ID	C1	C1	CR16	CR16
Sampling Depth	M	B	S	M
Tide	Mid-Flood	Mid-Flood	Mid-Flood	Mid-Flood
Sample No.	29947-38	29947-39	29947-40	29947-41
Suspended Solids (mg/L)	8	9	10	7
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.05	<0.05	<0.05	<0.05
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	<0.05	<0.05	0.05	<0.05
<i>E. coli</i> (cfu/100mL)	<1	<1	<1	1
Chlorophyll-a (mg/m <sup>3</sup> )	30	10	8.4	12
Total Inorganic Nitrogen (mg N/L)	<0.1	<0.1	<0.1	<0.1
Unionized Ammonia (mg/L)	<0.001	<0.001	0.001	0.002

Sample ID	CR16	CR17	CR17	CR17
Sampling Depth	B	S	M	B
Tide	Mid-Flood	Mid-Flood	Mid-Flood	Mid-Flood
Sample No.	29947-42	29947-43	29947-44	29947-45
Suspended Solids (mg/L)	21	7	5	4
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.05	<0.05	<0.05	0.09
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	<0.05	0.05	<0.05	<0.05
<i>E. coli</i> (cfu/100mL)	<1	6	8	<1
Chlorophyll-a (mg/m <sup>3</sup> )	10	13	11	8
Total Inorganic Nitrogen (mg N/L)	<0.1	<0.1	<0.1	0.1
Unionized Ammonia (mg/L)	<0.001	0.003	0.001	0.002

Remarks: 1) < = less than  
2) S = Surface, M = Middle, B = Bottom  
3) N/A = Not applicable

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**TEST REPORT**

Report No.:	29947
Date of Issue:	2018-10-31
Date Received:	2018-10-22
Date Tested:	2018-10-22
Date Completed:	2018-10-31

Page: 7 of 11

**Results:**

Sample ID	W1	W1	W1	G1
Sampling Depth	S	M	B	S
Tide	Mid-Flood	Mid-Flood	Mid-Flood	Mid-Ebb
Sample No.	29947-46	29947-47	29947-48	29947-49
Suspended Solids (mg/L)	5	9	4	9
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	0.07	0.07	0.13	0.08
Nitrite-nitrogen (NO <sub>2</sub> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> -N/L)	0.05	<0.05	0.08	0.06
<i>E. coli</i> (cfu/100mL)	3	6	<1	35
Chlorophyll-a (mg/m <sup>3</sup> )	13	6.3	7.7	14
Total Inorganic Nitrogen (mg N/L)	0.1	0.1	0.2	0.1
Unionized Ammonia (mg/L)	0.005	0.002	0.003	0.006

Sample ID	G1	G1	F2	F2
Sampling Depth	M	B	S	M
Tide	Mid-Ebb	Mid-Ebb	Mid-Ebb	Mid-Ebb
Sample No.	29947-50	29947-51	29947-52	29947-53
Suspended Solids (mg/L)	3	10	8	15
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	0.07	<0.05	0.10	<0.05
Nitrite-nitrogen (NO <sub>2</sub> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> -N/L)	<0.05	0.05	<0.05	<0.05
<i>E. coli</i> (cfu/100mL)	1	<1	1	3
Chlorophyll-a (mg/m <sup>3</sup> )	14	5.3	5.6	5.6
Total Inorganic Nitrogen (mg N/L)	0.1	<0.1	0.1	<0.1
Unionized Ammonia (mg/L)	0.004	0.001	0.009	0.001

Remarks: 1) < = less than

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3) N/A = Not applicable

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## TEST REPORT

Report No.:	29947
Date of Issue:	2018-10-31
Date Received:	2018-10-22
Date Tested:	2018-10-22
Date Completed:	2018-10-31

Page: 8 of 11

### Results:

Sample ID	F2	F4	F4	F4
Sampling Depth	B	S	M	B
Tide	Mid-Ebb	Mid-Ebb	Mid-Ebb	Mid-Ebb
Sample No.	29947-54	29947-55	29947-56	29947-57
Suspended Solids (mg/L)	5	5	7	14
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.05	<0.05	<0.05	<0.05
Nitrite-nitrogen (NO <sub>2</sub> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> -N/L)	<0.05	<0.05	<0.05	<0.05
<i>E. coli</i> (cfu/100mL)	<1	<1	1	3
Chlorophyll-a (mg/m <sup>3</sup> )	4.8	6	9.1	6.1
Total Inorganic Nitrogen (mg N/L)	<0.1	<0.1	<0.1	<0.1
Unionized Ammonia (mg/L)	0.002	<0.001	<0.001	<0.001

Sample ID	CR9	CR9	CR9	F3
Sampling Depth	S	M	B	S
Tide	Mid-Ebb	Mid-Ebb	Mid-Ebb	Mid-Ebb
Sample No.	29947-58	29947-59	29947-60	29947-61
Suspended Solids (mg/L)	9	14	4	8
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.05	<0.05	<0.05	<0.05
Nitrite-nitrogen (NO <sub>2</sub> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> -N/L)	<0.05	0.06	0.07	0.05
<i>E. coli</i> (cfu/100mL)	1	<1	<1	<1
Chlorophyll-a (mg/m <sup>3</sup> )	6.9	5	4.5	4.6
Total Inorganic Nitrogen (mg N/L)	<0.1	<0.1	<0.1	<0.1
Unionized Ammonia (mg/L)	<0.001	0.001	0.002	<0.001

Remarks: 1) < = less than  
2) S = Surface, M = Middle, B = Bottom  
3) N/A = Not applicable

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## TEST REPORT

Report No.:	29947
Date of Issue:	2018-10-31
Date Received:	2018-10-22
Date Tested:	2018-10-22
Date Completed:	2018-10-31

Page: 9 of 11

### Results:

Sample ID	F3	F3	G1	G1
Sampling Depth	M	B	S	M
Tide	Mid-Ebb	Mid-Ebb	Mid-Flood	Mid-Flood
Sample No.	29947-62	29947-63	29947-64	29947-65
Suspended Solids (mg/L)	12	11	9	9
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.05	<0.05	<0.05	0.05
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	<0.05	0.05	<0.05	<0.05
<i>E. coli</i> (cfu/100mL)	<1	<1	<1	<1
Chlorophyll-a (mg/m <sup>3</sup> )	8.3	6.5	13	24
Total Inorganic Nitrogen (mg N/L)	<0.1	<0.1	<0.1	<0.1
Unionized Ammonia (mg/L)	<0.001	<0.001	0.003	0.004

Sample ID	G1	F2	F2	F2
Sampling Depth	B	S	M	B
Tide	Mid-Flood	Mid-Flood	Mid-Flood	Mid-Flood
Sample No.	29947-66	29947-67	29947-68	29947-69
Suspended Solids (mg/L)	<2.5	5	4	13
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.05	0.18	<0.05	<0.05
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	0.11	<0.05	<0.05	<0.05
<i>E. coli</i> (cfu/100mL)	<1	16	3	7
Chlorophyll-a (mg/m <sup>3</sup> )	5.5	4.9	5.9	4.9
Total Inorganic Nitrogen (mg N/L)	0.1	0.2	<0.1	<0.1
Unionized Ammonia (mg/L)	<0.001	0.016	<0.001	0.002

Remarks: 1) < = less than

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3) N/A = Not applicable

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## TEST REPORT

Report No.:	29947
Date of Issue:	2018-10-31
Date Received:	2018-10-22
Date Tested:	2018-10-22
Date Completed:	2018-10-31

Page: 10 of 11

### Results:

Sample ID	F4	F4	F4	CR9
Sampling Depth	S	M	B	S
Tide	Mid-Flood	Mid-Flood	Mid-Flood	Mid-Flood
Sample No.	29947-70	29947-71	29947-72	29947-73
Suspended Solids (mg/L)	9	14	6	7
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.05	<0.05	<0.05	0.06
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	0.05	<0.05	<0.05	<0.05
<i>E. coli</i> (cfu/100mL)	<1	<1	<1	<1
Chlorophyll-a (mg/m <sup>3</sup> )	4.3	6.6	6.2	6.7
Total Inorganic Nitrogen (mg N/L)	<0.1	<0.1	<0.1	<0.1
Unionized Ammonia (mg/L)	0.002	<0.001	<0.001	0.004

Sample ID	CR9	CR9	F3	F3
Sampling Depth	M	B	S	M
Tide	Mid-Flood	Mid-Flood	Mid-Flood	Mid-Flood
Sample No.	29947-74	29947-75	29947-76	29947-77
Suspended Solids (mg/L)	3	8	8	8
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.05	<0.05	<0.05	<0.05
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	<0.05	0.07	<0.05	<0.05
<i>E. coli</i> (cfu/100mL)	<1	<1	1	<1
Chlorophyll-a (mg/m <sup>3</sup> )	3	5.1	5.4	6.2
Total Inorganic Nitrogen (mg N/L)	<0.1	<0.1	<0.1	<0.1
Unionized Ammonia (mg/L)	0.003	<0.001	0.003	0.002

Remarks: 1) < = less than

2) S = Surface, M = Middle, B = Bottom

3) N/A = Not applicable

\*\*\*\*\*END OF REPORT\*\*\*\*\*

## TEST REPORT

Report No.:	29947
Date of Issue:	2018-10-31
Date Received:	2018-10-22
Date Tested:	2018-10-22
Date Completed:	2018-10-31
Page:	11 of 11

**Results:**

Sample ID	F3
Sampling Depth	B
Tide	Mid-Flood
Sample No.	29947-78
Suspended Solids (mg/L)	3
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.05
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.01
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	<0.05
<i>E. coli</i> (cfu/100mL)	<1
Chlorophyll-a (mg/m <sup>3</sup> )	12
Total Inorganic Nitrogen (mg N/L)	<0.1
Unionized Ammonia (mg/L)	<0.001

Remarks: 1) < = less than  
2) S = Surface, M = Middle, B = Bottom  
3) N/A = Not applicable

\*\*\*\*\*END OF REPORT\*\*\*\*\*

## TEST REPORT

**APPLICANT:** Cinotech Consultants Limited  
Room 1710, Technology Park,  
18 On Lai Street,  
Shatin, N.T., Hong Kong

Report No.:	30093
Date of Issue:	2018-11-16
Date Received:	2018-11-08
Date Tested:	2018-11-08
Date Completed:	2018-11-16

**ATTN:** Ms. Mei Ling Tang

Page: 1 of 10

**Sample Description** : 72 liquid samples as received from client said to be water  
 Laboratory No. : 30093  
 Project No. : MA18061 (Route 1 & Route 2)  
 Project Name : Contract No. SPW 09 / 2018  
 Environmental Team Baseline Surveys for Sha Tin Cavern Sewage Treatment Works  
 Custody No. : MA18061/181108  
 Sampling Date : 2018-11-08

**Tests Requested & Methodology:**

Item	Parameters	Ref. Method	Limit of reporting
1	Suspended Solids	APHA 17ed 2540 D	2.5 mg/L
2	5-day Biochemical Oxygen Demand	APHA 19ed 5210 B	2 mg-O <sub>2</sub> /L
3	Ammonia Nitrogen	In-house method SOP057 (FIA)	0.05mg NH <sub>3</sub> -N/L
4	Nitrite-nitrogen	In-house method SOP068 (FIA)	0.01 mg NO <sub>2</sub> <sup>-</sup> -N/L
5	Nitrate-nitrogen	In-house method SOP067 (FIA)	0.05 mg NO <sub>3</sub> <sup>-</sup> -N/L
6	<i>E. coli</i>	In-house method SOP069 (Membrane Filtration Method by CHROMagar)	1 cfu/100mL
7	Chlorophyll-a	In-house method SOP009 (Fluorometer)	0.025 mg/m <sup>3</sup>
8	Total Inorganic Nitrogen	In-house method SOP061 (By calculation)	0.1 mg N/L
9	Unionized Ammonia	By Calculation	0.001 mg/L

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PREPARED AND CHECKED BY:  
For and On Behalf of **WELLAB Ltd.**

  
**PATRICK TSE**  
Laboratory Manager

## TEST REPORT

Report No.:	30093
Date of Issue:	2018-11-16
Date Received:	2018-11-08
Date Tested:	2018-11-08
Date Completed:	2018-11-16

Page: 2 of 10

### Results:

Sample ID	F1	F1	W2	W2
Sampling Depth	S	B	S	B
Tide	Mid-Ebb	Mid-Ebb	Mid-Ebb	Mid-Ebb
Sample No.	30093-1	30093-3	30093-4	30093-6
Suspended Solids (mg/L)	4	4	5	4
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.05	<0.05	<0.05	<0.05
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> -N/L)	<0.05	<0.05	<0.05	<0.05
<i>E. coli</i> (cfu/100mL)	7	2	3	5
Chlorophyll-a (mg/m <sup>3</sup> )	12	11	20	16
Total Inorganic Nitrogen (mg N/L)	<0.1	<0.1	<0.1	<0.1
Unionized Ammonia (mg/L)	<0.001	<0.001	<0.001	<0.001

Sample ID	CR1	CR1	CR15	CR15
Sampling Depth	S	B	S	M
Tide	Mid-Ebb	Mid-Ebb	Mid-Ebb	Mid-Ebb
Sample No.	30093-7	30093-9	30093-10	30093-11
Suspended Solids (mg/L)	5	8	6	4
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.05	<0.05	<0.05	<0.05
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> -N/L)	<0.05	<0.05	<0.05	<0.05
<i>E. coli</i> (cfu/100mL)	1	4	8	1
Chlorophyll-a (mg/m <sup>3</sup> )	18	22	19	16
Total Inorganic Nitrogen (mg N/L)	<0.1	<0.1	<0.1	<0.1
Unionized Ammonia (mg/L)	<0.001	<0.001	<0.001	<0.001

Remarks: 1) < = less than  
2) S = Surface, M = Middle, B = Bottom  
3) N/A = Not applicable

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## TEST REPORT

Report No.:	30093
Date of Issue:	2018-11-16
Date Received:	2018-11-08
Date Tested:	2018-11-08
Date Completed:	2018-11-16

Page: 3 of 10

### Results:

Sample ID	CR15	C1	C1	C1
Sampling Depth	B	S	M	B
Tide	Mid-Ebb	Mid-Ebb	Mid-Ebb	Mid-Ebb
Sample No.	30093-12	30093-13	30093-14	30093-15
Suspended Solids (mg/L)	5	9	4	7
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.05	<0.05	<0.05	<0.05
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	<0.05	<0.05	<0.05	<0.05
<i>E. coli</i> (cfu/100mL)	<1	7	<1	<1
Chlorophyll-a (mg/m <sup>3</sup> )	11	15	14	13
Total Inorganic Nitrogen (mg N/L)	<0.1	<0.1	<0.1	<0.1
Unionized Ammonia (mg/L)	<0.001	<0.001	<0.001	<0.001

Sample ID	CR16	CR16	CR16	CR17
Sampling Depth	S	M	B	S
Tide	Mid-Ebb	Mid-Ebb	Mid-Ebb	Mid-Ebb
Sample No.	30093-16	30093-17	30093-18	30093-19
Suspended Solids (mg/L)	5	6	5	3
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.05	<0.05	<0.05	<0.05
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	<0.05	<0.05	<0.05	<0.05
<i>E. coli</i> (cfu/100mL)	1	<1	<1	1
Chlorophyll-a (mg/m <sup>3</sup> )	14	15	13	10
Total Inorganic Nitrogen (mg N/L)	<0.1	<0.1	<0.1	<0.1
Unionized Ammonia (mg/L)	<0.001	<0.001	<0.001	<0.001

Remarks: 1) < = less than  
2) S = Surface, M = Middle, B = Bottom  
3) N/A = Not applicable

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## TEST REPORT

Report No.: 30093  
Date of Issue: 2018-11-16  
Date Received: 2018-11-08  
Date Tested: 2018-11-08  
Date Completed: 2018-11-16

Page: 4 of 10

**Results:**

Sample ID	CR17	CR17	W1	W1
Sampling Depth	M	B	S	M
Tide	Mid-Ebb	Mid-Ebb	Mid-Ebb	Mid-Ebb
Sample No.	30093-20	30093-21	30093-22	30093-23
Suspended Solids (mg/L)	13	6	5	5
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.05	<0.05	<0.05	<0.05
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> -N/L)	<0.05	<0.05	<0.05	<0.05
<i>E. coli</i> (cfu/100mL)	1	<1	<1	1
Chlorophyll-a (mg/m <sup>3</sup> )	13	15	7.9	13
Total Inorganic Nitrogen (mg N/L)	<0.1	<0.1	<0.1	<0.1
Unionized Ammonia (mg/L)	<0.001	<0.001	<0.001	<0.001

Sample ID	W1	F1	F1	W2
Sampling Depth	B	S	B	S
Tide	Mid-Ebb	Mid-Flood	Mid-Flood	Mid-Flood
Sample No.	30093-24	30093-25	30093-27	30093-28
Suspended Solids (mg/L)	4	6	5	7
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.05	<0.05	<0.05	<0.05
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> -N/L)	<0.05	<0.05	<0.05	0.07
<i>E. coli</i> (cfu/100mL)	<1	15	2	4
Chlorophyll-a (mg/m <sup>3</sup> )	11	22	15	17
Total Inorganic Nitrogen (mg N/L)	<0.1	<0.1	<0.1	<0.1
Unionized Ammonia (mg/L)	<0.001	<0.001	<0.001	<0.001

Remarks: 1) < = less than  
2) S = Surface, M = Middle, B = Bottom  
3) N/A = Not applicable

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## TEST REPORT

Report No.:	30093
Date of Issue:	2018-11-16
Date Received:	2018-11-08
Date Tested:	2018-11-08
Date Completed:	2018-11-16

Page: 5 of 10

### Results:

Sample ID	W2	CR1	CR1	CR15
Sampling Depth	B	S	B	S
Tide	Mid-Flood	Mid-Flood	Mid-Flood	Mid-Flood
Sample No.	30093-30	30093-31	30093-33	30093-34
Suspended Solids (mg/L)	4	7	5	4
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.05	<0.05	<0.05	<0.05
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	<0.05	<0.05	<0.05	<0.05
<i>E. coli</i> (cfu/100mL)	2	<1	1	<1
Chlorophyll-a (mg/m <sup>3</sup> )	16	20	20	15
Total Inorganic Nitrogen (mg N/L)	<0.1	<0.1	<0.1	<0.1
Unionized Ammonia (mg/L)	<0.001	<0.001	<0.001	<0.001

Sample ID	CR15	CR15	C1	C1
Sampling Depth	M	B	S	M
Tide	Mid-Flood	Mid-Flood	Mid-Flood	Mid-Flood
Sample No.	30093-35	30093-36	30093-37	30093-38
Suspended Solids (mg/L)	4	6	5	5
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.05	<0.05	<0.05	<0.05
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	<0.05	<0.05	<0.05	<0.05
<i>E. coli</i> (cfu/100mL)	<1	<1	<1	<1
Chlorophyll-a (mg/m <sup>3</sup> )	8.5	13	9.2	8.7
Total Inorganic Nitrogen (mg N/L)	<0.1	<0.1	<0.1	<0.1
Unionized Ammonia (mg/L)	<0.001	<0.001	<0.001	<0.001

Remarks: 1) < = less than

2) S = Surface, M = Middle, B = Bottom

3) N/A = Not applicable

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## TEST REPORT

Report No.:	30093
Date of Issue:	2018-11-16
Date Received:	2018-11-08
Date Tested:	2018-11-08
Date Completed:	2018-11-16

Page: 6 of 10

### Results:

Sample ID	C1	CR16	CR16	CR16
Sampling Depth	B	S	M	B
Tide	Mid-Flood	Mid-Flood	Mid-Flood	Mid-Flood
Sample No.	30093-39	30093-40	30093-41	30093-42
Suspended Solids (mg/L)	13	7	7	4
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.05	<0.05	<0.05	<0.05
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	<0.05	<0.05	<0.05	<0.05
<i>E. coli</i> (cfu/100mL)	<1	<1	1	<1
Chlorophyll-a (mg/m <sup>3</sup> )	9.9	9.7	8.8	9.4
Total Inorganic Nitrogen (mg N/L)	<0.1	<0.1	<0.1	<0.1
Unionized Ammonia (mg/L)	<0.001	<0.001	<0.001	<0.001

Sample ID	CR17	CR17	CR17	W1
Sampling Depth	S	M	B	S
Tide	Mid-Flood	Mid-Flood	Mid-Flood	Mid-Flood
Sample No.	30093-43	30093-44	30093-45	30093-46
Suspended Solids (mg/L)	4	3	3	6
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.05	<0.05	<0.05	<0.05
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	<0.05	<0.05	<0.05	<0.05
<i>E. coli</i> (cfu/100mL)	<1	2	<1	<1
Chlorophyll-a (mg/m <sup>3</sup> )	13	9.2	13	16
Total Inorganic Nitrogen (mg N/L)	<0.1	<0.1	<0.1	<0.1
Unionized Ammonia (mg/L)	<0.001	<0.001	<0.001	<0.001

Remarks: 1) < = less than

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3) N/A = Not applicable

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## TEST REPORT

Report No.:	30093
Date of Issue:	2018-11-16
Date Received:	2018-11-08
Date Tested:	2018-11-08
Date Completed:	2018-11-16

Page: 7 of 10

### Results:

Sample ID	W1	W1	G1	G1
Sampling Depth	M	B	S	M
Tide	Mid-Flood	Mid-Flood	Mid-Ebb	Mid-Ebb
Sample No.	30093-47	30093-48	30093-49	30093-50
Suspended Solids (mg/L)	3	7	4	7
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.05	<0.05	<0.05	<0.05
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	<0.05	<0.05	<0.05	<0.05
<i>E. coli</i> (cfu/100mL)	1	<1	1	<1
Chlorophyll-a (mg/m <sup>3</sup> )	13	16	13	9.7
Total Inorganic Nitrogen (mg N/L)	<0.1	<0.1	<0.1	<0.1
Unionized Ammonia (mg/L)	<0.001	<0.001	<0.001	<0.001

Sample ID	G1	F2	F2	F2
Sampling Depth	B	S	M	B
Tide	Mid-Ebb	Mid-Ebb	Mid-Ebb	Mid-Ebb
Sample No.	30093-51	30093-52	30093-53	30093-54
Suspended Solids (mg/L)	7	5	11	5
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.05	<0.05	<0.05	<0.05
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	<0.05	<0.05	<0.05	<0.05
<i>E. coli</i> (cfu/100mL)	<1	<1	1	5
Chlorophyll-a (mg/m <sup>3</sup> )	12	5.5	5.9	5.9
Total Inorganic Nitrogen (mg N/L)	<0.1	<0.1	<0.1	<0.1
Unionized Ammonia (mg/L)	<0.001	<0.001	<0.001	<0.001

Remarks: 1) < = less than

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3) N/A = Not applicable

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## TEST REPORT

Report No.:	30093
Date of Issue:	2018-11-16
Date Received:	2018-11-08
Date Tested:	2018-11-08
Date Completed:	2018-11-16

Page: 8 of 10

### Results:

Sample ID	F4	F4	F4	CR9
Sampling Depth	S	M	B	S
Tide	Mid-Ebb	Mid-Ebb	Mid-Ebb	Mid-Ebb
Sample No.	30093-55	30093-56	30093-57	30093-58
Suspended Solids (mg/L)	7	15	7	5
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.05	<0.05	<0.05	<0.05
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	<0.05	<0.05	<0.05	<0.05
<i>E. coli</i> (cfu/100mL)	<1	<1	<1	<1
Chlorophyll-a (mg/m <sup>3</sup> )	3.2	2.6	2.4	3.2
Total Inorganic Nitrogen (mg N/L)	<0.1	<0.1	<0.1	<0.1
Unionized Ammonia (mg/L)	<0.001	<0.001	<0.001	<0.001

Sample ID	CR9	CR9	F3	F3
Sampling Depth	M	B	S	M
Tide	Mid-Ebb	Mid-Ebb	Mid-Ebb	Mid-Ebb
Sample No.	30093-59	30093-60	30093-61	30093-62
Suspended Solids (mg/L)	11	8	15	6
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.05	<0.05	<0.05	<0.05
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	<0.05	<0.05	<0.05	<0.05
<i>E. coli</i> (cfu/100mL)	<1	<1	<1	<1
Chlorophyll-a (mg/m <sup>3</sup> )	3.3	3.1	4.8	4.1
Total Inorganic Nitrogen (mg N/L)	<0.1	<0.1	<0.1	<0.1
Unionized Ammonia (mg/L)	<0.001	<0.001	<0.001	<0.001

Remarks: 1) < = less than

2) S = Surface, M = Middle, B = Bottom

3) N/A = Not applicable

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## TEST REPORT

Report No.:	30093
Date of Issue:	2018-11-16
Date Received:	2018-11-08
Date Tested:	2018-11-08
Date Completed:	2018-11-16

Page: 9 of 10

### Results:

Sample ID	F3	G1	G1	G1
Sampling Depth	B	S	M	B
Tide	Mid-Ebb	Mid-Flood	Mid-Flood	Mid-Flood
Sample No.	30093-63	30093-64	30093-65	30093-66
Suspended Solids (mg/L)	5	12	6	5
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.05	<0.05	<0.05	<0.05
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	<0.05	<0.05	<0.05	<0.05
<i>E. coli</i> (cfu/100mL)	<1	<1	<1	<1
Chlorophyll-a (mg/m <sup>3</sup> )	3.5	6.5	6.8	7.2
Total Inorganic Nitrogen (mg N/L)	<0.1	<0.1	<0.1	<0.1
Unionized Ammonia (mg/L)	<0.001	<0.001	<0.001	<0.001

Sample ID	F2	F2	F2	F4
Sampling Depth	S	M	B	S
Tide	Mid-Flood	Mid-Flood	Mid-Flood	Mid-Flood
Sample No.	30093-67	30093-68	30093-69	30093-70
Suspended Solids (mg/L)	12	4	5	4
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.05	<0.05	<0.05	<0.05
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	<0.05	<0.05	<0.05	<0.05
<i>E. coli</i> (cfu/100mL)	200	300	150	<1
Chlorophyll-a (mg/m <sup>3</sup> )	5.0	5.0	4.6	3.1
Total Inorganic Nitrogen (mg N/L)	<0.1	<0.1	<0.1	<0.1
Unionized Ammonia (mg/L)	<0.001	<0.001	<0.001	<0.001

Remarks: 1) < = less than

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3) N/A = Not applicable

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## TEST REPORT

Report No.:	30093
Date of Issue:	2018-11-16
Date Received:	2018-11-08
Date Tested:	2018-11-08
Date Completed:	2018-11-16

Page: 10 of 10

### Results:

Sample ID	F4	F4	CR9	CR9
Sampling Depth	M	B	S	M
Tide	Mid-Flood	Mid-Flood	Mid-Flood	Mid-Flood
Sample No.	30093-71	30093-72	30093-73	30093-74
Suspended Solids (mg/L)	6	4	4	<2.5
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.05	<0.05	<0.05	<0.05
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	<0.05	<0.05	<0.05	<0.05
<i>E. coli</i> (cfu/100mL)	<1	1	<1	<1
Chlorophyll-a (mg/m <sup>3</sup> )	2.6	2.5	2.1	2.4
Total Inorganic Nitrogen (mg N/L)	<0.1	<0.1	<0.1	<0.1
Unionized Ammonia (mg/L)	<0.001	<0.001	<0.001	<0.001

Sample ID	CR9	F3	F3	F3
Sampling Depth	B	S	M	B
Tide	Mid-Flood	Mid-Flood	Mid-Flood	Mid-Flood
Sample No.	30093-75	30093-76	30093-77	30093-78
Suspended Solids (mg/L)	3	11	11	4
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.05	<0.05	<0.05	<0.05
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	<0.05	<0.05	<0.05	<0.05
<i>E. coli</i> (cfu/100mL)	<1	<1	<1	<1
Chlorophyll-a (mg/m <sup>3</sup> )	2.5	3.6	3.4	3.5
Total Inorganic Nitrogen (mg N/L)	<0.1	<0.1	<0.1	<0.1
Unionized Ammonia (mg/L)	<0.001	<0.001	<0.001	<0.001

Remarks: 1) < = less than

2) S = Surface, M = Middle, B = Bottom

3) N/A = Not applicable

\*\*\*\*\*END OF REPORT\*\*\*\*\*



## TEST REPORT

**APPLICANT:** Cinotech Consultants Limited  
Room 1710, Technology Park,  
18 On Lai Street,  
Shatin, N.T., Hong Kong

Report No.:	30139
Date of Issue:	2018-11-20
Date Received:	2018-11-10
Date Tested:	2018-11-10
Date Completed:	2018-11-20

**ATTN:** Ms. Mei Ling Tang

Page: 1 of 11

**Sample Description** : 75 liquid samples as received from client said to be water  
 Laboratory No. : 30139  
 Project No. : MA18061  
 Project Name : Contract No. SPW 09 / 2018  
 Environmental Team Baseline Surveys for Sha Tin Cavern Sewage Treatment Works  
 Custody No. : MA18061/181110  
 Sampling Date : 2018-11-10

**Tests Requested & Methodology:**

Item	Parameters	Ref. Method	Limit of reporting
1	Suspended Solids	APHA 17ed 2540 D	2.5 mg/L
2	5-day Biochemical Oxygen Demand	APHA 19ed 5210 B	2 mg-O <sub>2</sub> /L
3	Ammonia Nitrogen	In-house method SOP057 (FIA)	0.05mg NH <sub>3</sub> -N/L
4	Nitrite-nitrogen	In-house method SOP068 (FIA)	0.01 mg NO <sub>2</sub> <sup>-</sup> -N/L
5	Nitrate-nitrogen	In-house method SOP067 (FIA)	0.05 mg NO <sub>3</sub> <sup>-</sup> -N/L
6	<i>E. coli</i>	In-house method SOP069 (Membrane Filtration Method by CHROMagar)	1 cfu/100mL
7	Chlorophyll-a	In-house method SOP009 (Fluorometer)	0.025 mg/m <sup>3</sup>
8	Total Inorganic Nitrogen	In-house method SOP061 (By calculation)	0.1 mg N/L
9	Unionized Ammonia	By Calculation	0.001 mg/L

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PREPARED AND CHECKED BY:

For and On Behalf of **WELLAB Ltd.**



**PATRICK TSE**  
Laboratory Manager

## TEST REPORT

Report No.: 30139  
Date of Issue: 2018-11-20  
Date Received: 2018-11-10  
Date Tested: 2018-11-10  
Date Completed: 2018-11-20

Page: 2 of 11

**Results:**

Sample ID	F1	F1	F1	W2
Sampling Depth	S	M	B	S
Tide	Mid-Ebb	Mid-Ebb	Mid-Ebb	Mid-Ebb
Sample No.	30139-1	30139-2	30139-3	30139-4
Suspended Solids (mg/L)	3	5	5	9
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.05	<0.05	<0.05	0.06
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> -N/L)	<0.05	<0.05	<0.05	<0.05
<i>E. coli</i> (cfu/100mL)	4	6	5	90
Chlorophyll-a (mg/m <sup>3</sup> )	8.3	8.5	7.7	9.5
Total Inorganic Nitrogen (mg N/L)	<0.1	<0.1	<0.1	<0.1
Unionized Ammonia (mg/L)	0.001	<0.001	<0.001	0.005

Sample ID	W2	CR1	CR1	CR1
Sampling Depth	B	S	M	B
Tide	Mid-Ebb	Mid-Ebb	Mid-Ebb	Mid-Ebb
Sample No.	30139-6	30139-7	30139-8	30139-9
Suspended Solids (mg/L)	6	5	6	12
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	0.07	<0.05	<0.05	<0.05
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> -N/L)	<0.05	<0.05	<0.05	<0.05
<i>E. coli</i> (cfu/100mL)	33	<1	39	<1
Chlorophyll-a (mg/m <sup>3</sup> )	8.4	9.3	9.1	8.8
Total Inorganic Nitrogen (mg N/L)	<0.1	<0.1	<0.1	<0.1
Unionized Ammonia (mg/L)	0.006	0.001	0.002	<0.001

Remarks: 1) < = less than  
2) S = Surface, M = Middle, B = Bottom  
3) N/A = Not applicable

\*\*\*\*\*

## TEST REPORT

Report No.:	30139
Date of Issue:	2018-11-20
Date Received:	2018-11-10
Date Tested:	2018-11-10
Date Completed:	2018-11-20

Page: 3 of 11

### Results:

Sample ID	CR15	CR15	CR15	C1
Sampling Depth	S	M	B	S
Tide	Mid-Ebb	Mid-Ebb	Mid-Ebb	Mid-Ebb
Sample No.	30139-10	30139-11	30139-12	30139-13
Suspended Solids (mg/L)	5	7	4	5
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.05	<0.05	<0.05	<0.05
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> -N/L)	<0.05	<0.05	<0.05	<0.05
<i>E. coli</i> (cfu/100mL)	6	5	4	14
Chlorophyll-a (mg/m <sup>3</sup> )	10	10	8.7	11
Total Inorganic Nitrogen (mg N/L)	<0.1	<0.1	<0.1	<0.1
Unionized Ammonia (mg/L)	<0.001	<0.001	<0.001	0.002

Sample ID	C1	C1	CR16	CR16
Sampling Depth	M	B	S	M
Tide	Mid-Ebb	Mid-Ebb	Mid-Ebb	Mid-Ebb
Sample No.	30139-14	30139-15	30139-16	30139-17
Suspended Solids (mg/L)	10	7	3	4
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.05	<0.05	<0.05	<0.05
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> -N/L)	<0.05	<0.05	<0.05	<0.05
<i>E. coli</i> (cfu/100mL)	1	6	1	9
Chlorophyll-a (mg/m <sup>3</sup> )	8.8	9.5	10	9.5
Total Inorganic Nitrogen (mg N/L)	<0.1	<0.1	<0.1	<0.1
Unionized Ammonia (mg/L)	<0.001	<0.001	<0.001	<0.001

Remarks: 1) < = less than  
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3) N/A = Not applicable

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## TEST REPORT

Report No.:	30139
Date of Issue:	2018-11-20
Date Received:	2018-11-10
Date Tested:	2018-11-10
Date Completed:	2018-11-20

Page: 4 of 11

### Results:

Sample ID	CR16	CR17	CR17	CR17
Sampling Depth	B	S	M	B
Tide	Mid-Ebb	Mid-Ebb	Mid-Ebb	Mid-Ebb
Sample No.	30139-18	30139-19	30139-20	30139-21
Suspended Solids (mg/L)	7	4	5	10
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.05	<0.05	<0.05	<0.05
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> -N/L)	<0.05	<0.05	<0.05	<0.05
<i>E. coli</i> (cfu/100mL)	3	2	1	1
Chlorophyll-a (mg/m <sup>3</sup> )	12	15	14	15
Total Inorganic Nitrogen (mg N/L)	<0.1	<0.1	<0.1	<0.1
Unionized Ammonia (mg/L)	<0.001	<0.001	<0.001	<0.001

Sample ID	W1	W1	W1	F1
Sampling Depth	S	M	B	S
Tide	Mid-Ebb	Mid-Ebb	Mid-Ebb	Mid-Flood
Sample No.	30139-22	30139-23	30139-24	30139-25
Suspended Solids (mg/L)	8	11	7	8
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.05	<0.05	<0.05	<0.05
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> -N/L)	<0.05	<0.05	<0.05	<0.05
<i>E. coli</i> (cfu/100mL)	6	<1	<1	<1
Chlorophyll-a (mg/m <sup>3</sup> )	9.4	12	9.4	11
Total Inorganic Nitrogen (mg N/L)	<0.1	<0.1	<0.1	<0.1

Remarks: 1) < = less than  
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3) N/A = Not applicable

\*\*\*\*\*

## TEST REPORT

Report No.:	30139
Date of Issue:	2018-11-20
Date Received:	2018-11-10
Date Tested:	2018-11-10
Date Completed:	2018-11-20

Page: 5 of 11

**Results:**

Sample ID	F1	F1	W2	W2
Sampling Depth	M	B	S	B
Tide	Mid-Flood	Mid-Flood	Mid-Flood	Mid-Flood
Sample No.	30139-26	30139-27	30139-28	30139-30
Suspended Solids (mg/L)	3	7	9	13
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.05	<0.05	<0.05	<0.05
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	<0.05	<0.05	<0.05	<0.05
<i>E. coli</i> (cfu/100mL)	1	2	29	34
Chlorophyll-a (mg/m <sup>3</sup> )	8.5	10	10	9.9
Total Inorganic Nitrogen (mg N/L)	<0.1	<0.1	<0.1	<0.1
Unionized Ammonia (mg/L)	<0.001	<0.001	0.002	<0.001

Sample ID	CR1	CR1	CR15	CR15
Sampling Depth	S	B	S	M
Tide	Mid-Flood	Mid-Flood	Mid-Flood	Mid-Flood
Sample No.	30139-31	30139-33	30139-34	30139-35
Suspended Solids (mg/L)	9	11	4	9
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.05	<0.05	<0.05	<0.05
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	<0.05	<0.05	<0.05	<0.05
<i>E. coli</i> (cfu/100mL)	23	27	340	20
Chlorophyll-a (mg/m <sup>3</sup> )	9.0	9.2	14	14
Total Inorganic Nitrogen (mg N/L)	<0.1	<0.1	<0.1	<0.1

Remarks: 1) < = less than  
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3) N/A = Not applicable

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## TEST REPORT

Report No.:	30139
Date of Issue:	2018-11-20
Date Received:	2018-11-10
Date Tested:	2018-11-10
Date Completed:	2018-11-20

Page: 6 of 11

### Results:

Sample ID	CR15	C1	C1	C1
Sampling Depth	B	S	M	B
Tide	Mid-Flood	Mid-Flood	Mid-Flood	Mid-Flood
Sample No.	30139-36	30139-37	30139-38	30139-39
Suspended Solids (mg/L)	5	9	3	8
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.05	<0.05	<0.05	<0.05
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	<0.05	<0.05	<0.05	<0.05
<i>E. coli</i> (cfu/100mL)	55	1	3	2
Chlorophyll-a (mg/m <sup>3</sup> )	14	12	11	8.8
Total Inorganic Nitrogen (mg N/L)	<0.1	<0.1	<0.1	<0.1
Unionized Ammonia (mg/L)	<0.001	0.001	0.002	<0.001

Sample ID	CR16	CR16	CR16	CR17
Sampling Depth	S	M	B	S
Tide	Mid-Flood	Mid-Flood	Mid-Flood	Mid-Flood
Sample No.	30139-40	30139-41	30139-42	30139-43
Suspended Solids (mg/L)	12	5	5	5
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.05	<0.05	<0.05	<0.05
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	<0.05	<0.05	<0.05	<0.05
<i>E. coli</i> (cfu/100mL)	2	2	1	16
Chlorophyll-a (mg/m <sup>3</sup> )	11	9.4	12	14
Total Inorganic Nitrogen (mg N/L)	<0.1	<0.1	<0.1	<0.1

Remarks: 1) < = less than

2) S = Surface, M = Middle, B = Bottom

3) N/A = Not applicable

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## TEST REPORT

Report No.:	30139
Date of Issue:	2018-11-20
Date Received:	2018-11-10
Date Tested:	2018-11-10
Date Completed:	2018-11-20

Page: 7 of 11

### Results:

Sample ID	CR17	CR17	W1	W1
Sampling Depth	M	B	S	M
Tide	Mid-Flood	Mid-Flood	Mid-Flood	Mid-Flood
Sample No.	30139-44	30139-45	30139-46	30139-47
Suspended Solids (mg/L)	<2.5	4	4	7
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.05	<0.05	<0.05	<0.05
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	<0.05	<0.05	<0.05	<0.05
<i>E. coli</i> (cfu/100mL)	1	<1	4	3
Chlorophyll-a (mg/m <sup>3</sup> )	12	12	20	17
Total Inorganic Nitrogen (mg N/L)	<0.1	<0.1	<0.1	<0.1
Unionized Ammonia (mg/L)	<0.001	0.001	<0.001	<0.001

Sample ID	W1	G1	G1	G1
Sampling Depth	B	S	M	B
Tide	Mid-Flood	Mid-Ebb	Mid-Ebb	Mid-Ebb
Sample No.	30139-48	30139-49	30139-50	30139-51
Suspended Solids (mg/L)	5	12	15	14
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.05	<0.05	<0.05	<0.05
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	<0.05	<0.05	<0.05	<0.05
<i>E. coli</i> (cfu/100mL)	1	2	2	2
Chlorophyll-a (mg/m <sup>3</sup> )	18	18	15	16
Total Inorganic Nitrogen (mg N/L)	<0.1	<0.1	<0.1	<0.1

Remarks: 1) < = less than

2) S = Surface, M = Middle, B = Bottom

3) N/A = Not applicable

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## TEST REPORT

Report No.:	30139
Date of Issue:	2018-11-20
Date Received:	2018-11-10
Date Tested:	2018-11-10
Date Completed:	2018-11-20

Page: 8 of 11

**Results:**

Sample ID	F2	F2	F2	F4
Sampling Depth	S	M	B	S
Tide	Mid-Ebb	Mid-Ebb	Mid-Ebb	Mid-Ebb
Sample No.	30139-52	30139-53	30139-54	30139-55
Suspended Solids (mg/L)	9	8	7	8
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.05	<0.05	<0.05	<0.05
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	<0.05	<0.05	<0.05	<0.05
<i>E. coli</i> (cfu/100mL)	6	11	3	<1
Chlorophyll-a (mg/m <sup>3</sup> )	6.1	6.1	5.5	3.3
Total Inorganic Nitrogen (mg N/L)	<0.1	<0.1	<0.1	<0.1
Unionized Ammonia (mg/L)	<0.001	<0.001	<0.001	<0.001

Sample ID	F4	F4	CR9	CR9
Sampling Depth	M	B	S	M
Tide	Mid-Ebb	Mid-Ebb	Mid-Ebb	Mid-Ebb
Sample No.	30139-56	30139-57	30139-58	30139-59
Suspended Solids (mg/L)	7	5	12	10
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.05	<0.05	<0.05	<0.05
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	<0.05	<0.05	<0.05	<0.05
<i>E. coli</i> (cfu/100mL)	1	<1	<1	<1
Chlorophyll-a (mg/m <sup>3</sup> )	2.8	3.2	2.6	2.5
Total Inorganic Nitrogen (mg N/L)	<0.1	<0.1	<0.1	<0.1

Remarks: 1) < = less than  
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3) N/A = Not applicable

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## TEST REPORT

Report No.:	30139
Date of Issue:	2018-11-20
Date Received:	2018-11-10
Date Tested:	2018-11-10
Date Completed:	2018-11-20

Page: 9 of 11

### Results:

Sample ID	CR9	F3	F3	F3
Sampling Depth	B	S	M	B
Tide	Mid-Ebb	Mid-Ebb	Mid-Ebb	Mid-Ebb
Sample No.	30139-60	30139-61	30139-62	30139-63
Suspended Solids (mg/L)	21	8	5	11
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.05	<0.05	<0.05	<0.05
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	<0.05	<0.05	<0.05	<0.05
<i>E. coli</i> (cfu/100mL)	<1	1	2	3
Chlorophyll-a (mg/m <sup>3</sup> )	2.4	7.3	7.1	7.0
Total Inorganic Nitrogen (mg N/L)	<0.1	<0.1	<0.1	<0.1
Unionized Ammonia (mg/L)	0.001	0.001	0.001	<0.001

Sample ID	G1	G1	G1	F2
Sampling Depth	S	M	B	S
Tide	Mid-Flood	Mid-Flood	Mid-Flood	Mid-Flood
Sample No.	30139-64	30139-65	30139-66	30139-67
Suspended Solids (mg/L)	6	5	7	6
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.05	<0.05	<0.05	<0.05
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	<0.05	<0.05	<0.05	<0.05
<i>E. coli</i> (cfu/100mL)	<1	3	5	<1
Chlorophyll-a (mg/m <sup>3</sup> )	8.0	8.3	7.6	4.6
Total Inorganic Nitrogen (mg N/L)	<0.1	<0.1	<0.1	<0.1

Remarks: 1) < = less than

2) S = Surface, M = Middle, B = Bottom

3) N/A = Not applicable

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## TEST REPORT

Report No.:	30139
Date of Issue:	2018-11-20
Date Received:	2018-11-10
Date Tested:	2018-11-10
Date Completed:	2018-11-20

Page: 10 of 11

**Results:**

Sample ID	F2	F2	F4	F4
Sampling Depth	M	B	S	M
Tide	Mid-Flood	Mid-Flood	Mid-Flood	Mid-Flood
Sample No.	30139-68	30139-69	30139-70	30139-71
Suspended Solids (mg/L)	5	6	15	9
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.05	<0.05	<0.05	<0.05
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	<0.05	<0.05	<0.05	<0.05
<i>E. coli</i> (cfu/100mL)	3	4	<1	1
Chlorophyll-a (mg/m <sup>3</sup> )	4.8	4.7	3.1	2.6
Total Inorganic Nitrogen (mg N/L)	<0.1	<0.1	<0.1	<0.1
Unionized Ammonia (mg/L)	<0.001	<0.001	<0.001	<0.001

Sample ID	F4	CR9	CR9	CR9
Sampling Depth	B	S	M	B
Tide	Mid-Flood	Mid-Flood	Mid-Flood	Mid-Flood
Sample No.	30139-72	30139-73	30139-74	30139-75
Suspended Solids (mg/L)	4	6	7	9
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.05	<0.05	<0.05	<0.05
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	<0.05	<0.05	<0.05	<0.05
<i>E. coli</i> (cfu/100mL)	2	<1	<1	<1
Chlorophyll-a (mg/m <sup>3</sup> )	2.8	0.78	2.4	2.7
Total Inorganic Nitrogen (mg N/L)	<0.1	<0.1	<0.1	<0.1

Remarks: 1) < = less than  
2) S = Surface, M = Middle, B = Bottom  
3) N/A = Not applicable

\*\*\*\*\*

## TEST REPORT

Report No.:	30139
Date of Issue:	2018-11-20
Date Received:	2018-11-10
Date Tested:	2018-11-10
Date Completed:	2018-11-20

Page: 11 of 11

### Results:

Sample ID	F3	F3	F3
Sampling Depth	S	M	B
Tide	Mid-Flood	Mid-Flood	Mid-Flood
Sample No.	30139-76	30139-77	30139-78
Suspended Solids (mg/L)	8	12	4
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.05	<0.05	<0.05
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	<0.05	<0.05	<0.05
<i>E. coli</i> (cfu/100mL)	2	1	1
Chlorophyll-a (mg/m <sup>3</sup> )	4.4	5.0	4.7
Total Inorganic Nitrogen (mg N/L)	<0.1	<0.1	<0.1
Unionized Ammonia (mg/L)	<0.001	<0.001	<0.001

Remarks: 1) < = less than

2) S = Surface, M = Middle, B = Bottom

3) N/A = Not applicable

\*\*\*\*\*END OF REPORT\*\*\*\*\*

## TEST REPORT

**APPLICANT:** Cinotech Consultants Limited  
Room 1710, Technology Park,  
18 On Lai Street,  
Shatin, N.T., Hong Kong

Report No.:	30425
Date of Issue:	2018-12-28
Date Received:	2018-12-17
Date Tested:	2018-12-17
Date Completed:	2018-12-28

**ATTN:** Ms. Mei Ling Tang

Page: 1 of 10

**Sample Description** : 72 liquid samples as received from client said to be water  
 Laboratory No. : 30425  
 Project No. : MA18061  
 Project Name : Contract No. SPW 09 / 2018  
 Environmental Team Baseline Surveys for Sha Tin Cavern Sewage Treatment Works  
 Custody No. : MA18061/181217  
 Sampling Date : 2018-12-17

**Tests Requested & Methodology:**

Item	Parameters	Ref. Method	Limit of reporting
1	Suspended Solids	APHA 17ed 2540 D	2.5 mg/L
2	5-day Biochemical Oxygen Demand	APHA 19ed 5210 B	2 mg-O <sub>2</sub> /L
3	Ammonia Nitrogen	In-house method SOP057 (FIA)	0.05mg NH <sub>3</sub> -N/L
4	Nitrite-nitrogen	In-house method SOP068 (FIA)	0.01 mg NO <sub>2</sub> <sup>-</sup> -N/L
5	Nitrate-nitrogen	In-house method SOP067 (FIA)	0.05 mg NO <sub>3</sub> <sup>-</sup> -N/L
6	<i>E. coli</i>	In-house method SOP069 (Membrane Filtration Method by CHROMagar)	1 cfu/100mL
7	Chlorophyll-a	In-house method SOP009 (Fluorometer)	0.025 mg/m <sup>3</sup>
8	Total Inorganic Nitrogen	In-house method SOP061 (By calculation)	0.1 mg N/L
9	Unionized Ammonia	By Calculation	0.001 mg/L

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PREPARED AND CHECKED BY:  
For and On Behalf of **WELLAB Ltd.**



**PATRICK TSE**  
Laboratory Manager

## TEST REPORT

Report No.:	30425
Date of Issue:	2018-12-28
Date Received:	2018-12-17
Date Tested:	2018-12-17
Date Completed:	2018-12-28

Page: 2 of 10

### Results:

Sample ID	F1	F1	W2	W2
Sampling Depth	S	B	S	B
Tide	Mid-Ebb	Mid-Ebb	Mid-Ebb	Mid-Ebb
Sample No.	30425-1	30425-3	30425-4	30425-6
Suspended Solids (mg/L)	7	8	5	9
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.05	<0.05	0.15	0.07
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> -N/L)	<0.05	<0.05	<0.05	<0.05
<i>E. coli</i> (cfu/100mL)	5	7	160	55
Chlorophyll-a (mg/m <sup>3</sup> )	6	6.7	5.2	4.9
Total Inorganic Nitrogen (mg N/L)	<0.1	0.18	<0.1	0.34
Unionized Ammonia (mg/L)	<0.001	<0.001	0.005	0.003

Sample ID	CR1	CR1	CR15	CR15
Sampling Depth	S	B	S	M
Tide	Mid-Ebb	Mid-Ebb	Mid-Ebb	Mid-Ebb
Sample No.	30425-7	30425-9	30425-10	30425-11
Suspended Solids (mg/L)	7	8	12	8
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	0.31	0.17	<0.05	0.19
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> -N/L)	<0.05	0.16	<0.05	<0.05
<i>E. coli</i> (cfu/100mL)	35	42	48	29
Chlorophyll-a (mg/m <sup>3</sup> )	4.6	4.6	4.8	9.3
Total Inorganic Nitrogen (mg N/L)	<0.1	0.17	<0.1	<0.1
Unionized Ammonia (mg/L)	0.010	0.007	0.002	0.007

Remarks: 1) < = less than  
2) S = Surface, M = Middle, B = Bottom  
3) N/A = Not applicable

\*\*\*\*\*

## TEST REPORT

Report No.: 30425  
Date of Issue: 2018-12-28  
Date Received: 2018-12-17  
Date Tested: 2018-12-17  
Date Completed: 2018-12-28

Page: 3 of 10

**Results:**

Sample ID	CR15	C1	C1	C1
Sampling Depth	B	S	M	B
Tide	Mid-Ebb	Mid-Ebb	Mid-Ebb	Mid-Ebb
Sample No.	30425-12	30425-13	30425-14	30425-15
Suspended Solids (mg/L)	12	8	6	9
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	0.18	<0.05	<0.05	<0.05
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> -N/L)	<0.05	<0.05	<0.05	<0.05
<i>E. coli</i> (cfu/100mL)	67	7	7	2
Chlorophyll-a (mg/m <sup>3</sup> )	9.3	8.5	9.4	9.3
Total Inorganic Nitrogen (mg N/L)	<0.1	<0.1	<0.1	<0.1
Unionized Ammonia (mg/L)	0.007	<0.001	<0.001	<0.001

Sample ID	CR16	CR16	CR16	CR17
Sampling Depth	S	M	B	S
Tide	Mid-Ebb	Mid-Ebb	Mid-Ebb	Mid-Ebb
Sample No.	30425-16	30425-17	30425-18	30425-19
Suspended Solids (mg/L)	10	18	6	5
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.05	<0.05	<0.05	<0.05
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> -N/L)	<0.05	<0.05	<0.05	<0.05
<i>E. coli</i> (cfu/100mL)	6	4	1	<1
Chlorophyll-a (mg/m <sup>3</sup> )	9.7	9.8	10	9.8
Total Inorganic Nitrogen (mg N/L)	<0.1	<0.1	<0.1	<0.1
Unionized Ammonia (mg/L)	<0.001	<0.001	<0.001	<0.001

Remarks: 1) < = less than  
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3) N/A = Not applicable

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## TEST REPORT

Report No.:	30425
Date of Issue:	2018-12-28
Date Received:	2018-12-17
Date Tested:	2018-12-17
Date Completed:	2018-12-28

Page: 4 of 10

### Results:

Sample ID	CR17	CR17	W1	W1
Sampling Depth	M	B	S	M
Tide	Mid-Ebb	Mid-Ebb	Mid-Ebb	Mid-Ebb
Sample No.	30425-20	30425-21	30425-22	30425-23
Suspended Solids (mg/L)	8	10	10	8
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.05	<0.05	<0.05	0.08
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> -N/L)	<0.05	<0.05	<0.05	<0.05
<i>E. coli</i> (cfu/100mL)	4	3	8	4
Chlorophyll-a (mg/m <sup>3</sup> )	9.6	10	8.6	8.6
Total Inorganic Nitrogen (mg N/L)	<0.1	0.11	<0.1	<0.1
Unionized Ammonia (mg/L)	<0.001	<0.001	<0.001	0.003

Sample ID	W1	F1	F1	W2
Sampling Depth	B	S	B	S
Tide	Mid-Ebb	Mid-Flood	Mid-Flood	Mid-Flood
Sample No.	30425-24	30425-25	30425-27	30425-28
Suspended Solids (mg/L)	5	8	7	8
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	0.10	<0.05	<0.05	0.30
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> -N/L)	<0.05	<0.05	<0.05	0.05
<i>E. coli</i> (cfu/100mL)	3	2	<1	1
Chlorophyll-a (mg/m <sup>3</sup> )	8.6	6.9	6.8	3
Total Inorganic Nitrogen (mg N/L)	0.35	0.11	<0.1	<0.1
Unionized Ammonia (mg/L)	0.003	0.002	<0.001	0.010

Remarks: 1) < = less than  
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3) N/A = Not applicable

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## TEST REPORT

Report No.:	30425
Date of Issue:	2018-12-28
Date Received:	2018-12-17
Date Tested:	2018-12-17
Date Completed:	2018-12-28

Page: 5 of 10

### Results:

Sample ID	W2	CR1	CR1	CR15
Sampling Depth	B	S	B	S
Tide	Mid-Flood	Mid-Flood	Mid-Flood	Mid-Flood
Sample No.	30425-30	30425-31	30425-33	30425-34
Suspended Solids (mg/L)	<2.5	3	7	5
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	0.10	0.06	0.06	0.06
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	<0.05	<0.05	<0.05	<0.05
<i>E. coli</i> (cfu/100mL)	1	<1	<1	4
Chlorophyll-a (mg/m <sup>3</sup> )	6.9	7.2	7.3	8.5
Total Inorganic Nitrogen (mg N/L)	<0.1	<0.1	<0.1	<0.1
Unionized Ammonia (mg/L)	0.003	0.003	0.002	0.002

Sample ID	CR15	CR15	C1	C1
Sampling Depth	M	B	S	M
Tide	Mid-Flood	Mid-Flood	Mid-Flood	Mid-Flood
Sample No.	30425-35	30425-36	30425-37	30425-38
Suspended Solids (mg/L)	12	10	7	6
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	0.06	0.05	<0.05	0.06
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	<0.05	<0.05	<0.05	<0.05
<i>E. coli</i> (cfu/100mL)	59	99	8	14
Chlorophyll-a (mg/m <sup>3</sup> )	8.6	9.3	10	10
Total Inorganic Nitrogen (mg N/L)	<0.1	<0.1	<0.1	<0.1
Unionized Ammonia (mg/L)	0.002	0.002	0.001	0.002

Remarks: 1) < = less than

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## TEST REPORT

Report No.:	30425
Date of Issue:	2018-12-28
Date Received:	2018-12-17
Date Tested:	2018-12-17
Date Completed:	2018-12-28

Page: 6 of 10

**Results:**

Sample ID	C1	CR16	CR16	CR16
Sampling Depth	B	S	M	B
Tide	Mid-Flood	Mid-Flood	Mid-Flood	Mid-Flood
Sample No.	30425-39	30425-40	30425-41	30425-42
Suspended Solids (mg/L)	11	14	15	13
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	0.06	0.07	0.08	0.10
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	<0.05	<0.05	<0.05	<0.05
<i>E. coli</i> (cfu/100mL)	29	4	9	8
Chlorophyll-a (mg/m <sup>3</sup> )	9.2	10	9.3	9.6
Total Inorganic Nitrogen (mg N/L)	<0.1	<0.1	<0.1	<0.1
Unionized Ammonia (mg/L)	0.002	0.003	0.003	0.003

Sample ID	CR17	CR17	CR17	W1
Sampling Depth	S	M	B	S
Tide	Mid-Flood	Mid-Flood	Mid-Flood	Mid-Flood
Sample No.	30425-43	30425-44	30425-45	30425-46
Suspended Solids (mg/L)	5	8	10	10
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.05	<0.05	0.08	0.07
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	<0.05	<0.05	<0.05	<0.05
<i>E. coli</i> (cfu/100mL)	2	1	580	<1
Chlorophyll-a (mg/m <sup>3</sup> )	9	8.9	8.8	12
Total Inorganic Nitrogen (mg N/L)	<0.1	<0.1	<0.1	<0.1
Unionized Ammonia (mg/L)	0.002	0.002	0.003	0.003

Remarks: 1) < = less than  
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3) N/A = Not applicable

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## TEST REPORT

Report No.:	30425
Date of Issue:	2018-12-28
Date Received:	2018-12-17
Date Tested:	2018-12-17
Date Completed:	2018-12-28

Page: 7 of 10

### Results:

Sample ID	W1	W1	G1	G1
Sampling Depth	M	B	S	M
Tide	Mid-Flood	Mid-Flood	Mid-Ebb	Mid-Ebb
Sample No.	30425-47	30425-48	30425-49	30425-50
Suspended Solids (mg/L)	15	12	11	5
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	0.09	0.06	0.05	0.07
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	<0.05	<0.05	<0.05	<0.05
<i>E. coli</i> (cfu/100mL)	1	7	<1	<1
Chlorophyll-a (mg/m <sup>3</sup> )	11	7.2	7.2	7.2
Total Inorganic Nitrogen (mg N/L)	<0.1	0.18	<0.1	<0.1
Unionized Ammonia (mg/L)	0.003	0.002	0.003	0.003

Sample ID	G1	F2	F2	F2
Sampling Depth	B	S	M	B
Tide	Mid-Ebb	Mid-Ebb	Mid-Ebb	Mid-Ebb
Sample No.	30425-51	30425-52	30425-53	30425-54
Suspended Solids (mg/L)	5	12	23	8
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.05	0.05	0.07	0.17
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	<0.05	<0.05	<0.05	<0.05
<i>E. coli</i> (cfu/100mL)	<1	3	8	<1
Chlorophyll-a (mg/m <sup>3</sup> )	7.3	2.5	2.3	2.4
Total Inorganic Nitrogen (mg N/L)	<0.1	<0.1	<0.1	<0.1
Unionized Ammonia (mg/L)	0.001	0.002	0.002	0.004

Remarks: 1) < = less than

2) S = Surface, M = Middle, B = Bottom

3) N/A = Not applicable

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## TEST REPORT

Report No.:	30425
Date of Issue:	2018-12-28
Date Received:	2018-12-17
Date Tested:	2018-12-17
Date Completed:	2018-12-28

Page: 8 of 10

### Results:

Sample ID	F4	F4	F4	CR9
Sampling Depth	S	M	B	S
Tide	Mid-Ebb	Mid-Ebb	Mid-Ebb	Mid-Ebb
Sample No.	30425-55	30425-56	30425-57	30425-58
Suspended Solids (mg/L)	11	7	7	4
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.05	<0.05	<0.05	<0.05
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	<0.05	<0.05	<0.05	<0.05
<i>E. coli</i> (cfu/100mL)	<1	<1	11	<1
Chlorophyll-a (mg/m <sup>3</sup> )	3.5	3.6	3.5	3.4
Total Inorganic Nitrogen (mg N/L)	<0.1	<0.1	<0.1	<0.1
Unionized Ammonia (mg/L)	<0.001	<0.001	<0.001	<0.001

Sample ID	CR9	CR9	F3	F3
Sampling Depth	M	B	S	M
Tide	Mid-Ebb	Mid-Ebb	Mid-Ebb	Mid-Ebb
Sample No.	30425-59	30425-60	30425-61	30425-62
Suspended Solids (mg/L)	4	4	4	6
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.05	<0.05	0.06	0.05
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	<0.05	<0.05	<0.05	<0.05
<i>E. coli</i> (cfu/100mL)	<1	<1	3	1
Chlorophyll-a (mg/m <sup>3</sup> )	3.3	3.4	2.8	2.5
Total Inorganic Nitrogen (mg N/L)	<0.1	<0.1	<0.1	<0.1
Unionized Ammonia (mg/L)	<0.001	<0.001	0.002	0.002

Remarks: 1) < = less than

2) S = Surface, M = Middle, B = Bottom

3) N/A = Not applicable

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## TEST REPORT

Report No.:	30425
Date of Issue:	2018-12-28
Date Received:	2018-12-17
Date Tested:	2018-12-17
Date Completed:	2018-12-28

Page: 9 of 10

### Results:

Sample ID	F3	G1	G1	G1
Sampling Depth	B	S	M	B
Tide	Mid-Ebb	Mid-Flood	Mid-Flood	Mid-Flood
Sample No.	30425-63	30425-64	30425-65	30425-66
Suspended Solids (mg/L)	8	14	5	4
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	0.06	0.06	<0.05	0.08
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	<0.05	<0.05	<0.05	<0.05
<i>E. coli</i> (cfu/100mL)	3	<1	<1	<1
Chlorophyll-a (mg/m <sup>3</sup> )	2.8	8.8	8.9	8.8
Total Inorganic Nitrogen (mg N/L)	<0.1	<0.1	<0.1	<0.1
Unionized Ammonia (mg/L)	0.002	0.002	0.001	0.003

Sample ID	F2	F2	F2	F4
Sampling Depth	S	M	B	S
Tide	Mid-Flood	Mid-Flood	Mid-Flood	Mid-Flood
Sample No.	30425-67	30425-68	30425-69	30425-70
Suspended Solids (mg/L)	6	12	14	8
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	0.07	0.07	0.10	<0.05
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	<0.05	<0.05	<0.05	<0.05
<i>E. coli</i> (cfu/100mL)	7	4	4	<1
Chlorophyll-a (mg/m <sup>3</sup> )	2.6	2.5	2.7	3.7
Total Inorganic Nitrogen (mg N/L)	<0.1	<0.1	<0.1	<0.1
Unionized Ammonia (mg/L)	0.002	0.002	0.003	<0.001

Remarks: 1) < = less than

2) S = Surface, M = Middle, B = Bottom

3) N/A = Not applicable

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## TEST REPORT

Report No.:	30425
Date of Issue:	2018-12-28
Date Received:	2018-12-17
Date Tested:	2018-12-17
Date Completed:	2018-12-28
Page:	10 of 10

**Results:**

Sample ID	F4	F4	CR9	CR9
Sampling Depth	M	B	S	M
Tide	Mid-Flood	Mid-Flood	Mid-Flood	Mid-Flood
Sample No.	30425-71	30425-72	30425-73	30425-74
Suspended Solids (mg/L)	5	6	14	27
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.05	<0.05	<0.05	<0.05
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	<0.05	<0.05	<0.05	<0.05
<i>E. coli</i> (cfu/100mL)	<1	<1	<1	<1
Chlorophyll-a (mg/m <sup>3</sup> )	4.5	4.3	4.5	4.5
Total Inorganic Nitrogen (mg N/L)	<0.1	<0.1	<0.1	<0.1
Unionized Ammonia (mg/L)	<0.001	<0.001	<0.001	<0.001

Sample ID	CR9	F3	F3	F3
Sampling Depth	B	S	M	B
Tide	Mid-Flood	Mid-Flood	Mid-Flood	Mid-Flood
Sample No.	30425-75	30425-76	30425-77	30425-78
Suspended Solids (mg/L)	11	7	3	5
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.05	0.06	0.06	0.06
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	<0.05	<0.05	<0.05	<0.05
<i>E. coli</i> (cfu/100mL)	<1	3	4	6
Chlorophyll-a (mg/m <sup>3</sup> )	4.7	2.4	2.3	2.9
Total Inorganic Nitrogen (mg N/L)	<0.1	<0.1	<0.1	<0.1
Unionized Ammonia (mg/L)	<0.001	0.002	0.002	0.002

- Remarks: 1) < = less than  
 2) S = Surface, M = Middle, B = Bottom  
 3) N/A = Not applicable

\*\*\*\*\*END OF REPORT\*\*\*\*\*

## TEST REPORT

**APPLICANT:** Cinotech Consultants Limited  
Room 1710, Technology Park,  
18 On Lai Street,  
Shatin, N.T., Hong Kong

Report No.:	30446
Date of Issue:	2019-01-03
Date Received:	2018-12-19
Date Tested:	2018-12-19
Date Completed:	2019-01-03

**ATTN:** Ms. Mei Ling Tang

Page: 1 of 10

**Sample Description** : 72 liquid samples as received from client said to be water  
 Laboratory No. : 30446  
 Project No. : MA18061 (Route 1 & Route 2)  
 Project Name : Contract No. SPW 09 / 2018  
 Environmental Team Baseline Surveys for Sha Tin Cavern Sewage Treatment Works  
 Custody No. : MA18061/181219  
 Sampling Date : 2018-12-19

### Tests Requested & Methodology:

Item	Parameters	Ref. Method	Limit of reporting
1	Suspended Solids	APHA 17ed 2540 D	2.5 mg/L
2	5-day Biochemical Oxygen Demand	APHA 19ed 5210 B	2 mg-O <sub>2</sub> /L
3	Ammonia Nitrogen	In-house method SOP057 (FIA)	0.05mg NH <sub>3</sub> -N/L
4	Nitrite-nitrogen	In-house method SOP068 (FIA)	0.01 mg NO <sub>2</sub> <sup>-</sup> -N/L
5	Nitrate-nitrogen	In-house method SOP067 (FIA)	0.05 mg NO <sub>3</sub> <sup>-</sup> -N/L
6	<i>E. coli</i>	In-house method SOP069 (Membrane Filtration Method by CHROMagar)	1 cfu/100mL
7	Chlorophyll-a	In-house method SOP009 (Fluorometer)	0.025 mg/m <sup>3</sup>
8	Total Inorganic Nitrogen	In-house method SOP061 (By calculation)	0.1 mg N/L
9	Unionized Ammonia	By Calculation	0.001 mg/L

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PREPARED AND CHECKED BY:

For and On Behalf of **WELLAB Ltd.**



**PATRICK TSE**  
Laboratory Manager

## TEST REPORT

Report No.:	30446
Date of Issue:	2019-01-03
Date Received:	2018-12-19
Date Tested:	2018-12-19
Date Completed:	2019-01-03

Page: 2 of 10

### Results:

Sample ID	F1	F1	W2	W2
Sampling Depth	S	B	S	B
Tide	Mid-Ebb	Mid-Ebb	Mid-Ebb	Mid-Ebb
Sample No.	30446-1	30446-3	30446-4	30446-6
Suspended Solids (mg/L)	5	9	12	15
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.05	<0.05	0.12	0.08
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> -N/L)	0.08	<0.05	<0.05	<0.05
<i>E. coli</i> (cfu/100mL)	3	1	280	65
Chlorophyll-a (mg/m <sup>3</sup> )	7	7.1	12	11
Total Inorganic Nitrogen (mg N/L)	0.11	<0.1	<0.1	<0.1
Unionized Ammonia (mg/L)	0.002	<0.001	0.006	0.004

Sample ID	CR1	CR1	CR15	CR15
Sampling Depth	S	B	S	M
Tide	Mid-Ebb	Mid-Ebb	Mid-Ebb	Mid-Ebb
Sample No.	30446-7	30446-9	30446-10	30446-11
Suspended Solids (mg/L)	11	8	18	4
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.05	<0.05	<0.05	0.06
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> -N/L)	<0.05	<0.05	<0.05	<0.05
<i>E. coli</i> (cfu/100mL)	34	48	33	45
Chlorophyll-a (mg/m <sup>3</sup> )	11	10	9.8	9
Total Inorganic Nitrogen (mg N/L)	<0.1	<0.1	<0.1	<0.1
Unionized Ammonia (mg/L)	0.002	0.002	0.001	0.003

Remarks: 1) < = less than  
2) S = Surface, M = Middle, B = Bottom  
3) N/A = Not applicable

\*\*\*\*\*

## TEST REPORT

Report No.:	30446
Date of Issue:	2019-01-03
Date Received:	2018-12-19
Date Tested:	2018-12-19
Date Completed:	2019-01-03

Page: 3 of 10

### Results:

Sample ID	CR15	C1	C1	C1
Sampling Depth	B	S	M	B
Tide	Mid-Ebb	Mid-Ebb	Mid-Ebb	Mid-Ebb
Sample No.	30446-12	30446-13	30446-14	30446-15
Suspended Solids (mg/L)	<2.5	6	5	9
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.05	<0.05	0.05	0.06
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	<0.05	<0.05	<0.05	<0.05
<i>E. coli</i> (cfu/100mL)	40	16	19	39
Chlorophyll-a (mg/m <sup>3</sup> )	9.2	8.8	8.1	8
Total Inorganic Nitrogen (mg N/L)	<0.1	<0.1	<0.1	<0.1
Unionized Ammonia (mg/L)	0.001	0.001	0.002	0.002

Sample ID	CR16	CR16	CR16	CR17
Sampling Depth	S	M	B	S
Tide	Mid-Ebb	Mid-Ebb	Mid-Ebb	Mid-Ebb
Sample No.	30446-16	30446-17	30446-18	30446-19
Suspended Solids (mg/L)	5	19	12	11
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.05	<0.05	<0.05	<0.05
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	<0.05	<0.05	<0.05	<0.05
<i>E. coli</i> (cfu/100mL)	6	10	3	4
Chlorophyll-a (mg/m <sup>3</sup> )	9.2	9.6	9.2	8.8
Total Inorganic Nitrogen (mg N/L)	<0.1	<0.1	<0.1	<0.1
Unionized Ammonia (mg/L)	0.001	0.002	0.002	0.002

Remarks: 1) < = less than  
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3) N/A = Not applicable

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## TEST REPORT

Report No.:	30446
Date of Issue:	2019-01-03
Date Received:	2018-12-19
Date Tested:	2018-12-19
Date Completed:	2019-01-03

Page: 4 of 10

### Results:

Sample ID	CR17	CR17	W1	W1
Sampling Depth	M	B	S	M
Tide	Mid-Ebb	Mid-Ebb	Mid-Ebb	Mid-Ebb
Sample No.	30446-20	30446-21	30446-22	30446-23
Suspended Solids (mg/L)	6	8	3	8
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.05	0.05	0.08	0.06
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> -N/L)	<0.05	<0.05	<0.05	<0.05
<i>E. coli</i> (cfu/100mL)	<1	7	1	2
Chlorophyll-a (mg/m <sup>3</sup> )	8.2	8	8	7.9
Total Inorganic Nitrogen (mg N/L)	<0.1	<0.1	<0.1	<0.1
Unionized Ammonia (mg/L)	0.001	0.002	0.002	0.002

Sample ID	W1	F1	F1	W2
Sampling Depth	B	S	B	S
Tide	Mid-Ebb	Mid-Flood	Mid-Flood	Mid-Flood
Sample No.	30446-24	30446-25	30446-27	30446-28
Suspended Solids (mg/L)	5	10	9	9
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	0.06	0.05	<0.05	0.09
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> -N/L)	<0.05	<0.05	<0.05	<0.05
<i>E. coli</i> (cfu/100mL)	4	13	52	70
Chlorophyll-a (mg/m <sup>3</sup> )	8.8	6.4	10	12
Total Inorganic Nitrogen (mg N/L)	<0.1	<0.1	<0.1	<0.1
Unionized Ammonia (mg/L)	0.002	0.002	0.001	0.004

Remarks: 1) < = less than  
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3) N/A = Not applicable

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## TEST REPORT

Report No.:	30446
Date of Issue:	2019-01-03
Date Received:	2018-12-19
Date Tested:	2018-12-19
Date Completed:	2019-01-03

Page: 5 of 10

### Results:

Sample ID	W2	CR1	CR1	CR15
Sampling Depth	B	S	B	S
Tide	Mid-Flood	Mid-Flood	Mid-Flood	Mid-Flood
Sample No.	30446-30	30446-31	30446-33	30446-34
Suspended Solids (mg/L)	5	3	7	11
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	0.06	0.07	0.07	<0.05
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	<0.05	<0.05	<0.05	<0.05
<i>E. coli</i> (cfu/100mL)	19	5	22	3
Chlorophyll-a (mg/m <sup>3</sup> )	12	10	10	10
Total Inorganic Nitrogen (mg N/L)	<0.1	<0.1	<0.1	<0.1
Unionized Ammonia (mg/L)	0.003	0.004	0.003	0.002

Sample ID	CR15	CR15	C1	C1
Sampling Depth	M	B	S	M
Tide	Mid-Flood	Mid-Flood	Mid-Flood	Mid-Flood
Sample No.	30446-35	30446-36	30446-37	30446-38
Suspended Solids (mg/L)	12	3	8	7
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.05	<0.05	0.07	<0.05
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	<0.05	<0.05	<0.05	<0.05
<i>E. coli</i> (cfu/100mL)	2	11	6	2
Chlorophyll-a (mg/m <sup>3</sup> )	7.8	7.9	8	7.8
Total Inorganic Nitrogen (mg N/L)	<0.1	<0.1	<0.1	<0.1
Unionized Ammonia (mg/L)	0.002	<0.001	0.003	0.002

Remarks: 1) < = less than

2) S = Surface, M = Middle, B = Bottom

3) N/A = Not applicable

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## TEST REPORT

Report No.:	30446
Date of Issue:	2019-01-03
Date Received:	2018-12-19
Date Tested:	2018-12-19
Date Completed:	2019-01-03

Page: 6 of 10

### Results:

Sample ID	C1	CR16	CR16	CR16
Sampling Depth	B	S	M	B
Tide	Mid-Flood	Mid-Flood	Mid-Flood	Mid-Flood
Sample No.	30446-39	30446-40	30446-41	30446-42
Suspended Solids (mg/L)	13	10	16	17
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.05	0.06	0.05	0.05
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	<0.05	<0.05	<0.05	<0.05
<i>E. coli</i> (cfu/100mL)	5	8	6	13
Chlorophyll-a (mg/m <sup>3</sup> )	8.7	8.7	8.7	8.8
Total Inorganic Nitrogen (mg N/L)	<0.1	<0.1	<0.1	<0.1
Unionized Ammonia (mg/L)	<0.001	0.003	0.002	0.003

Sample ID	CR17	CR17	CR17	W1
Sampling Depth	S	M	B	S
Tide	Mid-Flood	Mid-Flood	Mid-Flood	Mid-Flood
Sample No.	30446-43	30446-44	30446-45	30446-46
Suspended Solids (mg/L)	6	5	8	11
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.05	<0.05	<0.05	0.06
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	<0.05	<0.05	<0.05	<0.05
<i>E. coli</i> (cfu/100mL)	<1	2	2	4
Chlorophyll-a (mg/m <sup>3</sup> )	8.8	8.7	9.3	13
Total Inorganic Nitrogen (mg N/L)	<0.1	<0.1	<0.1	<0.1
Unionized Ammonia (mg/L)	0.002	0.002	0.002	0.003

Remarks: 1) < = less than

2) S = Surface, M = Middle, B = Bottom

3) N/A = Not applicable

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## TEST REPORT

Report No.:	30446
Date of Issue:	2019-01-03
Date Received:	2018-12-19
Date Tested:	2018-12-19
Date Completed:	2019-01-03

Page: 7 of 10

### Results:

Sample ID	W1	W1	G1	G1
Sampling Depth	M	B	S	M
Tide	Mid-Flood	Mid-Flood	Mid-Ebb	Mid-Ebb
Sample No.	30446-47	30446-48	30446-49	30446-50
Suspended Solids (mg/L)	6	11	3	8
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	0.05	0.06	0.06	<0.05
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	<0.05	<0.05	<0.05	<0.05
<i>E. coli</i> (cfu/100mL)	<1	1	7	2
Chlorophyll-a (mg/m <sup>3</sup> )	10	9.2	8.5	6.7
Total Inorganic Nitrogen (mg N/L)	<0.1	<0.1	<0.1	<0.1
Unionized Ammonia (mg/L)	0.002	0.003	0.002	<0.001

Sample ID	G1	F2	F2	F2
Sampling Depth	B	S	M	B
Tide	Mid-Ebb	Mid-Ebb	Mid-Ebb	Mid-Ebb
Sample No.	30446-51	30446-52	30446-53	30446-54
Suspended Solids (mg/L)	9	9	19	11
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.05	<0.05	<0.05	<0.05
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	<0.05	<0.05	<0.05	<0.05
<i>E. coli</i> (cfu/100mL)	2	1	<1	<1
Chlorophyll-a (mg/m <sup>3</sup> )	10	3.3	3.2	3.4
Total Inorganic Nitrogen (mg N/L)	<0.1	<0.1	<0.1	<0.1
Unionized Ammonia (mg/L)	<0.001	<0.001	<0.001	<0.001

Remarks: 1) < = less than

2) S = Surface, M = Middle, B = Bottom

3) N/A = Not applicable

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## TEST REPORT

Report No.:	30446
Date of Issue:	2019-01-03
Date Received:	2018-12-19
Date Tested:	2018-12-19
Date Completed:	2019-01-03

Page: 8 of 10

### Results:

Sample ID	F4	F4	F4	CR9
Sampling Depth	S	M	B	S
Tide	Mid-Ebb	Mid-Ebb	Mid-Ebb	Mid-Ebb
Sample No.	30446-55	30446-56	30446-57	30446-58
Suspended Solids (mg/L)	<2.5	4	6	4
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.05	<0.05	<0.05	<0.05
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	<0.05	<0.05	<0.05	<0.05
<i>E. coli</i> (cfu/100mL)	<1	<1	<1	<1
Chlorophyll-a (mg/m <sup>3</sup> )	3.9	4	4.1	3.6
Total Inorganic Nitrogen (mg N/L)	<0.1	<0.1	<0.1	<0.1
Unionized Ammonia (mg/L)	<0.001	<0.001	<0.001	<0.001

Sample ID	CR9	CR9	F3	F3
Sampling Depth	M	B	S	M
Tide	Mid-Ebb	Mid-Ebb	Mid-Ebb	Mid-Ebb
Sample No.	30446-59	30446-60	30446-61	30446-62
Suspended Solids (mg/L)	9	7	4	7
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.05	<0.05	<0.05	<0.05
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	<0.05	<0.05	<0.05	<0.05
<i>E. coli</i> (cfu/100mL)	<1	<1	<1	<1
Chlorophyll-a (mg/m <sup>3</sup> )	3.7	3.7	3.3	2.6
Total Inorganic Nitrogen (mg N/L)	<0.1	<0.1	<0.1	<0.1
Unionized Ammonia (mg/L)	<0.001	<0.001	<0.001	<0.001

Remarks: 1) < = less than

2) S = Surface, M = Middle, B = Bottom

3) N/A = Not applicable

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## TEST REPORT

Report No.:	30446
Date of Issue:	2019-01-03
Date Received:	2018-12-19
Date Tested:	2018-12-19
Date Completed:	2019-01-03

Page: 9 of 10

### Results:

Sample ID	F3	G1	G1	G1
Sampling Depth	B	S	M	B
Tide	Mid-Ebb	Mid-Flood	Mid-Flood	Mid-Flood
Sample No.	30446-63	30446-64	30446-65	30446-66
Suspended Solids (mg/L)	5	6	7	9
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.05	<0.05	<0.05	<0.05
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	<0.05	<0.05	<0.05	<0.05
<i>E. coli</i> (cfu/100mL)	<1	4	2	1
Chlorophyll-a (mg/m <sup>3</sup> )	3	9.9	10	10.1
Total Inorganic Nitrogen (mg N/L)	<0.1	<0.1	<0.1	<0.1
Unionized Ammonia (mg/L)	<0.001	<0.001	<0.001	<0.001

Sample ID	F2	F2	F2	F4
Sampling Depth	S	M	B	S
Tide	Mid-Flood	Mid-Flood	Mid-Flood	Mid-Flood
Sample No.	30446-67	30446-68	30446-69	30446-70
Suspended Solids (mg/L)	23	13	8	9
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.05	<0.05	<0.05	<0.05
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	<0.05	<0.05	<0.05	<0.05
<i>E. coli</i> (cfu/100mL)	1	<1	<1	<1
Chlorophyll-a (mg/m <sup>3</sup> )	3.3	3.2	3.3	3.9
Total Inorganic Nitrogen (mg N/L)	<0.1	<0.1	<0.1	<0.1
Unionized Ammonia (mg/L)	<0.001	<0.001	<0.001	<0.001

Remarks: 1) < = less than

2) S = Surface, M = Middle, B = Bottom

3) N/A = Not applicable

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## TEST REPORT

Report No.:	30446
Date of Issue:	2019-01-03
Date Received:	2018-12-19
Date Tested:	2018-12-19
Date Completed:	2019-01-03

Page: 10 of 10

### Results:

Sample ID	F4	F4	CR9	CR9
Sampling Depth	M	B	S	M
Tide	Mid-Flood	Mid-Flood	Mid-Flood	Mid-Flood
Sample No.	30446-71	30446-72	30446-73	30446-74
Suspended Solids (mg/L)	6	3	7	10
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.05	<0.05	<0.05	<0.05
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	<0.05	<0.05	<0.05	<0.05
<i>E. coli</i> (cfu/100mL)	<1	<1	<1	<1
Chlorophyll-a (mg/m <sup>3</sup> )	4	4	3.7	3.6
Total Inorganic Nitrogen (mg N/L)	<0.1	<0.1	<0.1	<0.1
Unionized Ammonia (mg/L)	<0.001	<0.001	<0.001	<0.001

Sample ID	CR9	F3	F3	F3
Sampling Depth	B	S	M	B
Tide	Mid-Flood	Mid-Flood	Mid-Flood	Mid-Flood
Sample No.	30446-75	30446-76	30446-77	30446-78
Suspended Solids (mg/L)	11	3	5	3
5-day Biochemical Oxygen Demand (mg-O <sub>2</sub> /L)	<2	<2	<2	<2
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.05	<0.05	<0.05	<0.05
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	<0.05	<0.05	<0.05	<0.05
<i>E. coli</i> (cfu/100mL)	<1	<1	<1	<1
Chlorophyll-a (mg/m <sup>3</sup> )	3.4	3.8	2.5	2.5
Total Inorganic Nitrogen (mg N/L)	<0.1	<0.1	<0.1	<0.1
Unionized Ammonia (mg/L)	<0.001	<0.001	<0.001	<0.001

Remarks: 1) < = less than

2) S = Surface, M = Middle, B = Bottom

3) N/A = Not applicable

\*\*\*\*\*END OF REPORT\*\*\*\*\*

## TEST REPORT

**APPLICANT:** Cinotech Consultants Limited  
RM 1710, Technology Park,  
18 On Lai Street,  
Shatin, N.T., Hong Kong

Report No.:	QC29108
Date of Issue:	2018-06-29
Date Received:	2018-06-20
Date Tested:	2018-06-20
Date Completed:	2018-06-29

**ATTN:** Ms. Mei Ling Tang

Page: 1 of 4

**QC report:**  
**Method Blank**

Parameter	Method Blank 1	Method Blank 2	Method Blank 3	Method Blank 4	Method Blank 5	Acceptance
Total Suspended Solids (mg/L)	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Biochemical Oxygen Demand (mg O <sub>2</sub> /L)	N/A	N/A	N/A	N/A	N/A	N/A
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
<i>E.coli</i> (cfu/100mL)	<1	<1	<1	<1	<1	<1
Chlorophyll-a (µg chlorophyll a/L)	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005

Parameter	Method Blank 6	Method Blank 7	Method Blank 8	Acceptance
Total Suspended Solids (mg/L)	<0.5	<0.5	<0.5	<0.5
Biochemical Oxygen Demand (mg O <sub>2</sub> /L)	N/A	N/A	N/A	N/A
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.002	<0.002	<0.002	<0.002
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01
<i>E.coli</i> (cfu/100mL)	<1	<1	<1	<1
Chlorophyll-a (µg chlorophyll a/L)	<0.005	<0.005	<0.005	<0.005

Remarks: 1) < = less than

2) N/A = Not applicable

3) This report is the summary of quality control data for report number 29108

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**PREPARED AND CHECKED BY:**

For and On Behalf of **WELLAB Ltd.**



**PATRICK TSE**

Laboratory Manager



## TEST REPORT

Report No.:	QC29108
Date of Issue:	2018-06-29
Date Received:	2018-06-20
Date Tested:	2018-06-20
Date Completed:	2018-06-29

Page: 2 of 4

**QC report:  
Method QC**

Parameter	MQC1	MQC2	MQC3	MQC4	MQC5	Acceptance
Total Suspended Solids (%)	100	101	101	99	95	80-120
Biochemical Oxygen Demand (mg O <sub>2</sub> /L)	200	203	210	190	194	170-220
Ammonia nitrogen (%)	96	94	95	93	98	80-120
Nitrite-nitrogen (%)	104	101	97	97	95	80-120
Nitrate-nitrogen (%)	99	101	98	101	98	80-120
<i>E.coli</i> (cfu/100mL)	N/A	N/A	N/A	N/A	N/A	N/A
Chlorophyll-a (%)	97	101	97	92	97	80-120

Parameter	MQC6	MQC7	MQC8	Acceptance
Total Suspended Solids (%)	93	103	102	80-120
Biochemical Oxygen Demand (mg O <sub>2</sub> /L)	217	183	192	170-220
Ammonia nitrogen (%)	98	98	94	80-120
Nitrite-nitrogen (%)	101	105	100	80-120
Nitrate-nitrogen (%)	101	97	98	80-120
<i>E.coli</i> (cfu/100mL)	N/A	N/A	N/A	N/A
Chlorophyll-a (%)	102	101	93	80-120

Remarks: 1) < = less than

2) N/A = Not applicable

3) This report is the summary of quality control data for report number 29108

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## TEST REPORT

Report No.:	QC29108
Date of Issue:	2018-06-29
Date Received:	2018-06-20
Date Tested:	2018-06-20
Date Completed:	2018-06-29

Page: 3 of 4

**QC report:  
Sample Spike**

Parameter	Sample Spike 1	Sample Spike 2	Sample Spike 3	Sample Spike 4	Sample Spike 5	Acceptance
Total Suspended Solids	N/A	N/A	N/A	N/A	N/A	N/A
Biochemical Oxygen Demand	N/A	N/A	N/A	N/A	N/A	N/A
Ammonia nitrogen (%)	93	91	93	97	92	80-120
Nitrite-nitrogen (%)	98	102	90	92	90	80-120
Nitrate-nitrogen (%)	98	90	92	91	90	80-120
<i>E.coli</i>	N/A	N/A	N/A	N/A	N/A	N/A
Chlorophyll-a (%)	89	97	97	94	99	80-120

Parameter	Sample Spike 6	Sample Spike 7	Sample Spike 8	Acceptance
Total Suspended Solids	N/A	N/A	N/A	N/A
Biochemical Oxygen Demand	N/A	N/A	N/A	N/A
Ammonia nitrogen (%)	95	93	92	80-120
Nitrite-nitrogen (%)	93	97	95	80-120
Nitrate-nitrogen (%)	96	98	95	80-120
<i>E.coli</i>	N/A	N/A	N/A	N/A
Chlorophyll-a (%)	95	99	97	80-120

Remarks: 1) < = less than

2) N/A = Not applicable

3) This report is the summary of quality control data for report number 29108

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## TEST REPORT

Report No.:	QC29108
Date of Issue:	2018-06-29
Date Received:	2018-06-20
Date Tested:	2018-06-20
Date Completed:	2018-06-29

Page: 4 of 4

**QC report:  
Sample Duplicate**

Parameter	Sample Duplicate 1	Sample Duplicate 2	Sample Duplicate 3	Sample Duplicate 4	Sample Duplicate 5	Acceptance
Total Suspended Solids (%)	2	3	2	3	3	RPD <sub>≤</sub> 5
Biochemical Oxygen Demand (%)	N/A	N/A	N/A	N/A	N/A	RPD <sub>≤</sub> 20
Ammonia nitrogen (%)	3	6	4	4	5	RPD <sub>≤</sub> 20
Nitrite-nitrogen (%)	N/A	N/A	N/A	N/A	N/A	RPD <sub>≤</sub> 20
Nitrate-nitrogen (%)	6	6	5	4	N/A	RPD <sub>≤</sub> 20
<i>E.coli</i>	N/A	N/A	N/A	N/A	N/A	N/A
Chlorophyll-a (%)	3	3	6	4	5	RPD <sub>≤</sub> 20

Parameter	Sample Duplicate 6	Sample Duplicate 7	Sample Duplicate 8	Acceptance
Total Suspended Solids (%)	2	3	2	RPD <sub>≤</sub> 5
Biochemical Oxygen Demand (%)	N/A	N/A	N/A	RPD <sub>≤</sub> 20
Ammonia nitrogen (%)	6	N/A	6	RPD <sub>≤</sub> 20
Nitrite-nitrogen (%)	N/A	N/A	N/A	RPD <sub>≤</sub> 20
Nitrate-nitrogen (%)	N/A	N/A	N/A	RPD <sub>≤</sub> 20
<i>E.coli</i>	N/A	N/A	N/A	N/A
Chlorophyll-a (%)	3	6	4	RPD <sub>≤</sub> 20

- Remarks: 1) < = less than  
 2) N/A = Not applicable  
 3) This report is the summary of quality control data for report number 29108

\*\*\*\*\*END OF REPORT\*\*\*\*\*

## TEST REPORT

**APPLICANT:** Cinotech Consultants Limited  
RM 1710, Technology Park,  
18 On Lai Street,  
Shatin, N.T., Hong Kong

Report No.:	QC29151
Date of Issue:	2018-07-06
Date Received:	2018-06-26
Date Tested:	2018-06-26
Date Completed:	2018-07-06

**ATTN:** Ms. Mei Ling Tang

Page: 1 of 4

**QC report:**  
**Method Blank**

Parameter	Method Blank 1	Method Blank 2	Method Blank 3	Method Blank 4	Method Blank 5	Acceptance
Total Suspended Solids (mg/L)	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Biochemical Oxygen Demand (mg O <sub>2</sub> /L)	N/A	N/A	N/A	N/A	N/A	N/A
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
<i>E.coli</i> (cfu/100mL)	<1	<1	<1	<1	<1	<1
Chlorophyll-a (µg chlorophyll a/L)	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005

Parameter	Method Blank 6	Method Blank 7	Method Blank 8	Acceptance
Total Suspended Solids (mg/L)	<0.5	<0.5	<0.5	<0.5
Biochemical Oxygen Demand (mg O <sub>2</sub> /L)	N/A	N/A	N/A	N/A
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.002	<0.002	<0.002	<0.002
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01
<i>E.coli</i> (cfu/100mL)	<1	<1	<1	<1
Chlorophyll-a (µg chlorophyll a/L)	<0.005	<0.005	<0.005	<0.005

Remarks: 1) < = less than

2) N/A = Not applicable

3) This report is the summary of quality control data for report number 29151

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**PREPARED AND CHECKED BY:**

For and On Behalf of **WELLAB Ltd.**



**PATRICK TSE**

Laboratory Manager

## TEST REPORT

Report No.:	QC29151
Date of Issue:	2018-07-06
Date Received:	2018-06-26
Date Tested:	2018-06-26
Date Completed:	2018-07-06
Page:	2 of 4

**QC report:  
Method QC**

Parameter	MQC1	MQC2	MQC3	MQC4	MQC5	Acceptance
Total Suspended Solids (%)	96	92	95	97	97	80-120
Biochemical Oxygen Demand (mg O <sub>2</sub> /L)	214	186	215	181	183	170-220
Ammonia nitrogen (%)	101	92	96	103	99	80-120
Nitrite-nitrogen (%)	95	94	98	94	95	80-120
Nitrate-nitrogen (%)	96	93	98	91	97	80-120
<i>E.coli</i> (cfu/100mL)	N/A	N/A	N/A	N/A	N/A	N/A
Chlorophyll-a (%)	102	99	98	97	101	80-120

Parameter	MQC6	MQC7	MQC8	Acceptance
Total Suspended Solids (%)	96	102	98	80-120
Biochemical Oxygen Demand (mg O <sub>2</sub> /L)	194	207	195	170-220
Ammonia nitrogen (%)	106	94	99	80-120
Nitrite-nitrogen (%)	96	96	100	80-120
Nitrate-nitrogen (%)	97	104	101	80-120
<i>E.coli</i> (cfu/100mL)	N/A	N/A	N/A	N/A
Chlorophyll-a (%)	96	99	93	80-120

Remarks: 1) < = less than

2) N/A = Not applicable

3) This report is the summary of quality control data for report number 29151

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## TEST REPORT

Report No.:	QC29151
Date of Issue:	2018-07-06
Date Received:	2018-06-26
Date Tested:	2018-06-26
Date Completed:	2018-07-06

Page: 3 of 4

**QC report:  
Sample Spike**

Parameter	Sample Spike 1	Sample Spike 2	Sample Spike 3	Sample Spike 4	Sample Spike 5	Acceptance
Total Suspended Solids	N/A	N/A	N/A	N/A	N/A	N/A
Biochemical Oxygen Demand	N/A	N/A	N/A	N/A	N/A	N/A
Ammonia nitrogen (%)	92	98	91	95	93	80-120
Nitrite-nitrogen (%)	92	92	102	96	97	80-120
Nitrate-nitrogen (%)	93	101	98	94	98	80-120
<i>E.coli</i>	N/A	N/A	N/A	N/A	N/A	N/A
Chlorophyll-a (%)	97	93	93	90	100	80-120

Parameter	Sample Spike 6	Sample Spike 7	Sample Spike 8	Acceptance
Total Suspended Solids	N/A	N/A	N/A	N/A
Biochemical Oxygen Demand	N/A	N/A	N/A	N/A
Ammonia nitrogen (%)	95	98	92	80-120
Nitrite-nitrogen (%)	95	97	92	80-120
Nitrate-nitrogen (%)	100	98	94	80-120
<i>E.coli</i>	N/A	N/A	N/A	N/A
Chlorophyll-a (%)	97	92	96	80-120

Remarks: 1) < = less than

2) N/A = Not applicable

3) This report is the summary of quality control data for report number 29151

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## TEST REPORT

Report No.:	QC29151
Date of Issue:	2018-07-06
Date Received:	2018-06-26
Date Tested:	2018-06-26
Date Completed:	2018-07-06

Page: 4 of 4

### QC report:

#### Sample Duplicate

Parameter	Sample Duplicate 1	Sample Duplicate 2	Sample Duplicate 3	Sample Duplicate 4	Sample Duplicate 5	Acceptance
Total Suspended Solids (%)	2	3	3	3	2	RPD <sub>≤</sub> 5
Biochemical Oxygen Demand (%)	N/A	N/A	N/A	N/A	N/A	RPD <sub>≤</sub> 20
Ammonia nitrogen (%)	N/A	4	N/A	6	N/A	RPD <sub>≤</sub> 20
Nitrite-nitrogen (%)	N/A	4	N/A	6	N/A	RPD <sub>≤</sub> 20
Nitrate-nitrogen (%)	5	N/A	N/A	N/A	N/A	RPD <sub>≤</sub> 20
<i>E.coli</i>	N/A	N/A	N/A	N/A	N/A	N/A
Chlorophyll-a (%)	5	4	6	5	7	RPD <sub>≤</sub> 20

Parameter	Sample Duplicate 6	Sample Duplicate 7	Sample Duplicate 8	Acceptance
Total Suspended Solids (%)	2	2	2	RPD <sub>≤</sub> 5
Biochemical Oxygen Demand (%)	N/A	N/A	N/A	RPD <sub>≤</sub> 20
Ammonia nitrogen (%)	N/A	N/A	N/A	RPD <sub>≤</sub> 20
Nitrite-nitrogen (%)	N/A	N/A	N/A	RPD <sub>≤</sub> 20
Nitrate-nitrogen (%)	N/A	N/A	N/A	RPD <sub>≤</sub> 20
<i>E.coli</i>	N/A	N/A	N/A	N/A
Chlorophyll-a (%)	5	3	3	RPD <sub>≤</sub> 20

Remarks: 1) < = less than

2) N/A = Not applicable

3) This report is the summary of quality control data for report number 29151

\*\*\*\*\*END OF REPORT\*\*\*\*\*

## TEST REPORT

**APPLICANT:** Cinotech Consultants Limited  
RM 1710, Technology Park,  
18 On Lai Street,  
Shatin, N.T., Hong Kong

Report No.:	QC29284
Date of Issue:	2018-07-25
Date Received:	2018-07-16
Date Tested:	2018-07-16
Date Completed:	2018-07-25

**ATTN:** Ms. Mei Ling Tang

Page: 1 of 4

**QC report:**  
**Method Blank**

Parameter	Method Blank 1	Method Blank 2	Method Blank 3	Method Blank 4	Method Blank 5	Acceptance
Total Suspended Solids (mg/L)	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Biochemical Oxygen Demand (mg O <sub>2</sub> /L)	N/A	N/A	N/A	N/A	N/A	N/A
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
<i>E.coli</i> (cfu/100mL)	<1	<1	<1	<1	<1	<1
Chlorophyll-a (µg chlorophyll a/L)	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005

Parameter	Method Blank 6	Method Blank 7	Method Blank 8	Acceptance
Total Suspended Solids (mg/L)	<0.5	<0.5	<0.5	<0.5
Biochemical Oxygen Demand (mg O <sub>2</sub> /L)	N/A	N/A	N/A	N/A
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.002	<0.002	<0.002	<0.002
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01
<i>E.coli</i> (cfu/100mL)	<1	<1	<1	<1
Chlorophyll-a (µg chlorophyll a/L)	<0.005	<0.005	<0.005	<0.005

Remarks: 1) < = less than

2) N/A = Not applicable

3) This report is the summary of quality control data for report number 29284

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**PREPARED AND CHECKED BY:**

For and On Behalf of **WELLAB Ltd.**



**PATRICK TSE**

Laboratory Manager



## TEST REPORT

Report No.:	QC29284
Date of Issue:	2018-07-25
Date Received:	2018-07-16
Date Tested:	2018-07-16
Date Completed:	2018-07-25

Page: 2 of 4

**QC report:  
Method QC**

Parameter	MQC1	MQC2	MQC3	MQC4	MQC5	Acceptance
Total Suspended Solids (%)	98	102	94	96	98	80-120
Biochemical Oxygen Demand (mg O <sub>2</sub> /L)	202	201	181	197	193	170-220
Ammonia nitrogen (%)	93	103	96	105	95	80-120
Nitrite-nitrogen (%)	98	98	93	99	99	80-120
Nitrate-nitrogen (%)	97	98	104	98	95	80-120
<i>E.coli</i> (cfu/100mL)	N/A	N/A	N/A	N/A	N/A	N/A
Chlorophyll-a (%)	95	99	101	95	101	80-120

Parameter	MQC6	MQC7	MQC8	Acceptance
Total Suspended Solids (%)	98	105	103	80-120
Biochemical Oxygen Demand (mg O <sub>2</sub> /L)	196	185	189	170-220
Ammonia nitrogen (%)	97	102	96	80-120
Nitrite-nitrogen (%)	96	98	95	80-120
Nitrate-nitrogen (%)	97	96	94	80-120
<i>E.coli</i> (cfu/100mL)	N/A	N/A	N/A	N/A
Chlorophyll-a (%)	100	100	98	80-120

Remarks: 1) < = less than

2) N/A = Not applicable

3) This report is the summary of quality control data for report number 29284

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## TEST REPORT

Report No.:	QC29284
Date of Issue:	2018-07-25
Date Received:	2018-07-16
Date Tested:	2018-07-16
Date Completed:	2018-07-25

Page: 3 of 4

**QC report:  
Sample Spike**

Parameter	Sample Spike 1	Sample Spike 2	Sample Spike 3	Sample Spike 4	Sample Spike 5	Acceptance
Total Suspended Solids	N/A	N/A	N/A	N/A	N/A	N/A
Biochemical Oxygen Demand	N/A	N/A	N/A	N/A	N/A	N/A
Ammonia nitrogen (%)	95	96	95	98	90	80-120
Nitrite-nitrogen (%)	97	97	88	91	92	80-120
Nitrate-nitrogen (%)	96	95	95	95	92	80-120
<i>E.coli</i>	N/A	N/A	N/A	N/A	N/A	N/A
Chlorophyll-a (%)	97	93	98	101	92	80-120

Parameter	Sample Spike 6	Sample Spike 7	Sample Spike 8	Acceptance
Total Suspended Solids	N/A	N/A	N/A	N/A
Biochemical Oxygen Demand	N/A	N/A	N/A	N/A
Ammonia nitrogen (%)	90	99	96	80-120
Nitrite-nitrogen (%)	98	94	94	80-120
Nitrate-nitrogen (%)	98	93	94	80-120
<i>E.coli</i>	N/A	N/A	N/A	N/A
Chlorophyll-a (%)	97	92	99	80-120

Remarks: 1) < = less than

2) N/A = Not applicable

3) This report is the summary of quality control data for report number 29284

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## TEST REPORT

Report No.:	QC29284
Date of Issue:	2018-07-25
Date Received:	2018-07-16
Date Tested:	2018-07-16
Date Completed:	2018-07-25
Page:	4 of 4

**QC report:  
Sample Duplicate**

Parameter	Sample Duplicate 1	Sample Duplicate 2	Sample Duplicate 3	Sample Duplicate 4	Sample Duplicate 5	Acceptance
Total Suspended Solids (%)	3	3	3	N/A	3	RPD <sub>≤</sub> 5
Biochemical Oxygen Demand (%)	N/A	N/A	N/A	N/A	N/A	RPD <sub>≤</sub> 20
Ammonia nitrogen (%)	N/A	N/A	N/A	N/A	N/A	RPD <sub>≤</sub> 20
Nitrite-nitrogen (%)	N/A	N/A	N/A	N/A	N/A	RPD <sub>≤</sub> 20
Nitrate-nitrogen (%)	N/A	N/A	N/A	N/A	N/A	RPD <sub>≤</sub> 20
<i>E.coli</i>	N/A	N/A	N/A	N/A	N/A	N/A
Chlorophyll-a (%)	4	5	6	5	4	RPD <sub>≤</sub> 20

Parameter	Sample Duplicate 6	Sample Duplicate 7	Sample Duplicate 8	Acceptance
Total Suspended Solids (%)	N/A	3	3	RPD <sub>≤</sub> 5
Biochemical Oxygen Demand (%)	N/A	N/A	N/A	RPD <sub>≤</sub> 20
Ammonia nitrogen (%)	N/A	N/A	N/A	RPD <sub>≤</sub> 20
Nitrite-nitrogen (%)	N/A	N/A	N/A	RPD <sub>≤</sub> 20
Nitrate-nitrogen (%)	N/A	N/A	N/A	RPD <sub>≤</sub> 20
<i>E.coli</i>	N/A	N/A	N/A	N/A
Chlorophyll-a (%)	3	5	3	RPD <sub>≤</sub> 20

Remarks: 1) < = less than

2) N/A = Not applicable

3) This report is the summary of quality control data for report number 29284

\*\*\*\*\*END OF REPORT\*\*\*\*\*

## TEST REPORT

**APPLICANT:** Cinotech Consultants Limited  
RM 1710, Technology Park,  
18 On Lai Street,  
Shatin, N.T., Hong Kong

Report No.:	QC29356
Date of Issue:	2018-08-02
Date Received:	2018-07-24
Date Tested:	2018-07-24
Date Completed:	2018-08-02

**ATTN:** Ms. Mei Ling Tang

Page: 1 of 4

**QC report:**  
**Method Blank**

Parameter	Method Blank 1	Method Blank 2	Method Blank 3	Method Blank 4	Method Blank 5	Acceptance
Total Suspended Solids (mg/L)	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Biochemical Oxygen Demand (mg O <sub>2</sub> /L)	N/A	N/A	N/A	N/A	N/A	N/A
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
<i>E.coli</i> (cfu/100mL)	<1	<1	<1	<1	<1	<1
Chlorophyll-a (µg chlorophyll a/L)	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005

Parameter	Method Blank 6	Method Blank 7	Method Blank 8	Acceptance
Total Suspended Solids (mg/L)	<0.5	<0.5	<0.5	<0.5
Biochemical Oxygen Demand (mg O <sub>2</sub> /L)	N/A	N/A	N/A	N/A
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.002	<0.002	<0.002	<0.002
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01
<i>E.coli</i> (cfu/100mL)	<1	<1	<1	<1
Chlorophyll-a (µg chlorophyll a/L)	<0.005	<0.005	<0.005	<0.005

Remarks: 1) < = less than

2) N/A = Not applicable

3) This report is the summary of quality control data for report number 29356

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**PREPARED AND CHECKED BY:**

For and On Behalf of **WELLAB Ltd.**



**PATRICK TSE**

Laboratory Manager

## TEST REPORT

Report No.:	QC29356
Date of Issue:	2018-08-02
Date Received:	2018-07-24
Date Tested:	2018-07-24
Date Completed:	2018-08-02
Page:	2 of 4

**QC report:  
Method QC**

Parameter	MQC1	MQC2	MQC3	MQC4	MQC5	Acceptance
Total Suspended Solids (%)	99	100	104	103	96	80-120
Biochemical Oxygen Demand (mg O <sub>2</sub> /L)	192	193	200	191	192	170-220
Ammonia nitrogen (%)	93	97	97	97	94	80-120
Nitrite-nitrogen (%)	99	103	95	95	97	80-120
Nitrate-nitrogen (%)	102	92	98	101	97	80-120
<i>E.coli</i> (cfu/100mL)	N/A	N/A	N/A	N/A	N/A	N/A
Chlorophyll-a (%)	101	97	105	95	99	80-120

Parameter	MQC6	MQC7	MQC8	Acceptance
Total Suspended Solids (%)	99	98	98	80-120
Biochemical Oxygen Demand (mg O <sub>2</sub> /L)	199	189	203	170-220
Ammonia nitrogen (%)	98	98	100	80-120
Nitrite-nitrogen (%)	94	93	100	80-120
Nitrate-nitrogen (%)	92	100	96	80-120
<i>E.coli</i> (cfu/100mL)	N/A	N/A	N/A	N/A
Chlorophyll-a (%)	92	96	97	80-120

Remarks: 1) < = less than

2) N/A = Not applicable

3) This report is the summary of quality control data for report number 29356

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## TEST REPORT

Report No.:	QC29356
Date of Issue:	2018-08-02
Date Received:	2018-07-24
Date Tested:	2018-07-24
Date Completed:	2018-08-02

Page: 3 of 4

**QC report:  
Sample Spike**

Parameter	Sample Spike 1	Sample Spike 2	Sample Spike 3	Sample Spike 4	Sample Spike 5	Acceptance
Total Suspended Solids	N/A	N/A	N/A	N/A	N/A	N/A
Biochemical Oxygen Demand	N/A	N/A	N/A	N/A	N/A	N/A
Ammonia nitrogen (%)	98	93	94	93	94	80-120
Nitrite-nitrogen (%)	94	90	100	100	100	80-120
Nitrate-nitrogen (%)	97	93	92	98	96	80-120
<i>E.coli</i>	N/A	N/A	N/A	N/A	N/A	N/A
Chlorophyll-a (%)	93	90	95	96	91	80-120

Parameter	Sample Spike 6	Sample Spike 7	Sample Spike 8	Acceptance
Total Suspended Solids	N/A	N/A	N/A	N/A
Biochemical Oxygen Demand	N/A	N/A	N/A	N/A
Ammonia nitrogen (%)	93	99	96	80-120
Nitrite-nitrogen (%)	93	92	101	80-120
Nitrate-nitrogen (%)	99	95	92	80-120
<i>E.coli</i>	N/A	N/A	N/A	N/A
Chlorophyll-a (%)	97	94	96	80-120

Remarks: 1) < = less than

2) N/A = Not applicable

3) This report is the summary of quality control data for report number 29356

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## TEST REPORT

Report No.:	QC29356
Date of Issue:	2018-08-02
Date Received:	2018-07-24
Date Tested:	2018-07-24
Date Completed:	2018-08-02
Page:	4 of 4

**QC report:  
Sample Duplicate**

Parameter	Sample Duplicate 1	Sample Duplicate 2	Sample Duplicate 3	Sample Duplicate 4	Sample Duplicate 5	Acceptance
Total Suspended Solids (%)	N/A	2	2	3	3	RPD <sub>≤</sub> 5
Biochemical Oxygen Demand (%)	N/A	N/A	N/A	N/A	N/A	RPD <sub>≤</sub> 20
Ammonia nitrogen (%)	N/A	N/A	N/A	N/A	N/A	RPD <sub>≤</sub> 20
Nitrite-nitrogen (%)	N/A	N/A	N/A	N/A	N/A	RPD <sub>≤</sub> 20
Nitrate-nitrogen (%)	N/A	N/A	N/A	N/A	N/A	RPD <sub>≤</sub> 20
<i>E.coli</i>	N/A	N/A	N/A	N/A	N/A	N/A
Chlorophyll-a (%)	3	5	4	4	5	RPD <sub>≤</sub> 20

Parameter	Sample Duplicate 6	Sample Duplicate 7	Sample Duplicate 8	Acceptance
Total Suspended Solids (%)	3	2	2	RPD <sub>≤</sub> 5
Biochemical Oxygen Demand (%)	N/A	N/A	N/A	RPD <sub>≤</sub> 20
Ammonia nitrogen (%)	N/A	N/A	N/A	RPD <sub>≤</sub> 20
Nitrite-nitrogen (%)	N/A	N/A	N/A	RPD <sub>≤</sub> 20
Nitrate-nitrogen (%)	N/A	N/A	N/A	RPD <sub>≤</sub> 20
<i>E.coli</i>	N/A	N/A	N/A	N/A
Chlorophyll-a (%)	4	5	3	RPD <sub>≤</sub> 20

Remarks: 1) < = less than

2) N/A = Not applicable

3) This report is the summary of quality control data for report number 29356

\*\*\*\*\*END OF REPORT\*\*\*\*\*

## TEST REPORT

**APPLICANT:** Cinotech Consultants Limited  
RM 1710, Technology Park,  
18 On Lai Street,  
Shatin, N.T., Hong Kong

Report No.:	QC29489
Date of Issue:	2018-08-27
Date Received:	2018-08-16
Date Tested:	2018-08-16
Date Completed:	2018-08-27

**ATTN:** Ms. Mei Ling Tang

Page: 1 of 4

**QC report:**  
**Method Blank**

Parameter	Method Blank 1	Method Blank 2	Method Blank 3	Method Blank 4	Method Blank 5	Acceptance
Total Suspended Solids (mg/L)	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Biochemical Oxygen Demand (mg O <sub>2</sub> /L)	N/A	N/A	N/A	N/A	N/A	N/A
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
<i>E.coli</i> (cfu/100mL)	<1	<1	<1	<1	<1	<1
Chlorophyll-a (µg chlorophyll a/L)	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005

Parameter	Method Blank 6	Method Blank 7	Method Blank 8	Acceptance
Total Suspended Solids (mg/L)	<0.5	<0.5	<0.5	<0.5
Biochemical Oxygen Demand (mg O <sub>2</sub> /L)	N/A	N/A	N/A	N/A
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.002	<0.002	<0.002	<0.002
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01
<i>E.coli</i> (cfu/100mL)	<1	<1	<1	<1
Chlorophyll-a (µg chlorophyll a/L)	<0.005	<0.005	<0.005	<0.005

Remarks: 1) < = less than

2) N/A = Not applicable

3) This report is the summary of quality control data for report number 29489

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**PREPARED AND CHECKED BY:**

For and On Behalf of **WELLAB Ltd.**



**PATRICK TSE**

Laboratory Manager



## TEST REPORT

Report No.:	QC29489
Date of Issue:	2018-08-27
Date Received:	2018-08-16
Date Tested:	2018-08-16
Date Completed:	2018-08-27

Page: 2 of 4

**QC report:  
Method QC**

Parameter	MQC1	MQC2	MQC3	MQC4	MQC5	Acceptance
Total Suspended Solids (%)	103	101	95	102	99	80-120
Biochemical Oxygen Demand (mg O <sub>2</sub> /L)	210	193	196	199	211	170-220
Ammonia nitrogen (%)	95	102	105	97	94	80-120
Nitrite-nitrogen (%)	98	98	100	98	102	80-120
Nitrate-nitrogen (%)	103	98	91	97	104	80-120
<i>E.coli</i> (cfu/100mL)	N/A	N/A	N/A	N/A	N/A	N/A
Chlorophyll-a (%)	97	106	95	92	98	80-120

Parameter	MQC6	MQC7	MQC8	Acceptance
Total Suspended Solids (%)	99	103	101	80-120
Biochemical Oxygen Demand (mg O <sub>2</sub> /L)	200	204	185	170-220
Ammonia nitrogen (%)	97	98	97	80-120
Nitrite-nitrogen (%)	101	98	98	80-120
Nitrate-nitrogen (%)	102	91	96	80-120
<i>E.coli</i> (cfu/100mL)	N/A	N/A	N/A	N/A
Chlorophyll-a (%)	99	94	98	80-120

Remarks: 1) < = less than

2) N/A = Not applicable

3) This report is the summary of quality control data for report number 29489

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## TEST REPORT

Report No.:	QC29489
Date of Issue:	2018-08-27
Date Received:	2018-08-16
Date Tested:	2018-08-16
Date Completed:	2018-08-27

Page: 3 of 4

**QC report:  
Sample Spike**

Parameter	Sample Spike 1	Sample Spike 2	Sample Spike 3	Sample Spike 4	Sample Spike 5	Acceptance
Total Suspended Solids	N/A	N/A	N/A	N/A	N/A	N/A
Biochemical Oxygen Demand	N/A	N/A	N/A	N/A	N/A	N/A
Ammonia nitrogen (%)	89	90	91	93	92	80-120
Nitrite-nitrogen (%)	96	97	101	94	98	80-120
Nitrate-nitrogen (%)	95	97	90	95	91	80-120
<i>E.coli</i>	N/A	N/A	N/A	N/A	N/A	N/A
Chlorophyll-a (%)	90	93	90	95	96	80-120

Parameter	Sample Spike 6	Sample Spike 7	Sample Spike 8	Acceptance
Total Suspended Solids	N/A	N/A	N/A	N/A
Biochemical Oxygen Demand	N/A	N/A	N/A	N/A
Ammonia nitrogen (%)	93	98	100	80-120
Nitrite-nitrogen (%)	95	95	95	80-120
Nitrate-nitrogen (%)	97	96	89	80-120
<i>E.coli</i>	N/A	N/A	N/A	N/A
Chlorophyll-a (%)	89	97	93	80-120

Remarks: 1) < = less than

2) N/A = Not applicable

3) This report is the summary of quality control data for report number 29489

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## TEST REPORT

Report No.:	QC29489
Date of Issue:	2018-08-27
Date Received:	2018-08-16
Date Tested:	2018-08-16
Date Completed:	2018-08-27

Page: 4 of 4

### QC report:

#### Sample Duplicate

Parameter	Sample Duplicate 1	Sample Duplicate 2	Sample Duplicate 3	Sample Duplicate 4	Sample Duplicate 5	Acceptance
Total Suspended Solids (%)	N/A	3	N/A	2	N/A	RPD <sub>≤</sub> 5
Biochemical Oxygen Demand (%)	N/A	N/A	N/A	N/A	N/A	RPD <sub>≤</sub> 20
Ammonia nitrogen (%)	5	3	N/A	N/A	N/A	RPD <sub>≤</sub> 20
Nitrite-nitrogen (%)	N/A	N/A	N/A	N/A	N/A	RPD <sub>≤</sub> 20
Nitrate-nitrogen (%)	N/A	N/A	N/A	4	N/A	RPD <sub>≤</sub> 20
<i>E.coli</i>	N/A	N/A	N/A	N/A	N/A	N/A
Chlorophyll-a (%)	4	4	4	5	4	RPD <sub>≤</sub> 20

Parameter	Sample Duplicate 6	Sample Duplicate 7	Sample Duplicate 8	Acceptance
Total Suspended Solids (%)	2	4	3	RPD <sub>≤</sub> 5
Biochemical Oxygen Demand (%)	N/A	N/A	N/A	RPD <sub>≤</sub> 20
Ammonia nitrogen (%)	4	6	N/A	RPD <sub>≤</sub> 20
Nitrite-nitrogen (%)	N/A	N/A	N/A	RPD <sub>≤</sub> 20
Nitrate-nitrogen (%)	N/A	N/A	N/A	RPD <sub>≤</sub> 20
<i>E.coli</i>	N/A	N/A	N/A	N/A
Chlorophyll-a (%)	3	4	5	RPD <sub>≤</sub> 20

Remarks: 1) < = less than

2) N/A = Not applicable

3) This report is the summary of quality control data for report number 29489

\*\*\*\*\*END OF REPORT\*\*\*\*\*

## TEST REPORT

**APPLICANT:** Cinotech Consultants Limited  
RM 1710, Technology Park,  
18 On Lai Street,  
Shatin, N.T., Hong Kong

Report No.:	QC29551
Date of Issue:	2018-09-04
Date Received:	2018-08-25
Date Tested:	2018-08-25
Date Completed:	2018-09-04

**ATTN:** Ms. Mei Ling Tang  
**QC report:**  
**Method Blank**

Page: 1 of 4

Parameter	Method Blank 1	Method Blank 2	Method Blank 3	Method Blank 4	Method Blank 5	Acceptance
Total Suspended Solids (mg/L)	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Biochemical Oxygen Demand (mg O <sub>2</sub> /L)	N/A	N/A	N/A	N/A	N/A	N/A
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
<i>E.coli</i> (cfu/100mL)	<1	<1	<1	<1	<1	<1
Chlorophyll-a (µg chlorophyll a/L)	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005

Remarks: 1) < = less than  
2) N/A = Not applicable  
3) This report is the summary of quality control data for report number 29551

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PREPARED AND CHECKED BY:

For and On Behalf of **WELLAB Ltd.**



**PATRICK TSE**

Laboratory Manager

## TEST REPORT

Report No.:	QC29551
Date of Issue:	2018-09-04
Date Received:	2018-08-25
Date Tested:	2018-08-25
Date Completed:	2018-09-04

Page: 2 of 4

**QC report:  
Method QC**

Parameter	MQC1	MQC2	MQC3	MQC4	MQC5	Acceptance
Total Suspended Solids (%)	98	94	96	95	97	80-120
Biochemical Oxygen Demand (mg O <sub>2</sub> /L)	201	201	209	197	211	170-220
Ammonia nitrogen (%)	96	99	105	99	102	80-120
Nitrite-nitrogen (%)	101	96	93	95	100	80-120
Nitrate-nitrogen (%)	93	97	99	103	96	80-120
<i>E.coli</i> (cfu/100mL)	N/A	N/A	N/A	N/A	N/A	N/A
Chlorophyll-a (%)	95	94	97	97	100	80-120

Remarks: 1) < = less than

2) N/A = Not applicable

3) This report is the summary of quality control data for report number 29551

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## TEST REPORT

Report No.:	QC29551
Date of Issue:	2018-09-04
Date Received:	2018-08-25
Date Tested:	2018-08-25
Date Completed:	2018-09-04

Page: 3 of 4

**QC report:  
Sample Spike**

Parameter	Sample Spike 1	Sample Spike 2	Sample Spike 3	Sample Spike 4	Sample Spike 5	Acceptance
Total Suspended Solids	N/A	N/A	N/A	N/A	N/A	N/A
Biochemical Oxygen Demand	N/A	N/A	N/A	N/A	N/A	N/A
Ammonia nitrogen (%)	91	101	94	100	89	80-120
Nitrite-nitrogen (%)	92	95	97	90	97	80-120
Nitrate-nitrogen (%)	96	97	95	95	100	80-120
<i>E.coli</i>	N/A	N/A	N/A	N/A	N/A	N/A
Chlorophyll-a (%)	99	100	94	90	96	80-120

Remarks: 1) < = less than

2) N/A = Not applicable

3) This report is the summary of quality control data for report number 29551

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## TEST REPORT

Report No.:	QC29551
Date of Issue:	2018-09-04
Date Received:	2018-08-25
Date Tested:	2018-08-25
Date Completed:	2018-09-04

Page: 4 of 4

**QC report:  
Sample Duplicate**

Parameter	Sample Duplicate 1	Sample Duplicate 2	Sample Duplicate 3	Sample Duplicate 4	Sample Duplicate 5	Acceptance
Total Suspended Solids (%)	2	3	2	2	2	RPD <sub>≤</sub> 5
Biochemical Oxygen Demand (%)	N/A	N/A	N/A	N/A	N/A	RPD <sub>≤</sub> 20
Ammonia nitrogen (%)	N/A	4	N/A	N/A	N/A	RPD <sub>≤</sub> 20
Nitrite-nitrogen (%)	N/A	N/A	N/A	N/A	N/A	RPD <sub>≤</sub> 20
Nitrate-nitrogen (%)	N/A	N/A	N/A	N/A	N/A	RPD <sub>≤</sub> 20
<i>E.coli</i>	N/A	N/A	N/A	N/A	N/A	N/A
Chlorophyll-a (%)	5	3	7	6	5	RPD <sub>≤</sub> 20

Remarks: 1) < = less than

2) N/A = Not applicable

3) This report is the summary of quality control data for report number 29551

\*\*\*\*\*END OF REPORT\*\*\*\*\*

## TEST REPORT

**APPLICANT:** Cinotech Consultants Limited  
RM 1710, Technology Park,  
18 On Lai Street,  
Shatin, N.T., Hong Kong

Report No.:	QC29552
Date of Issue:	2018-09-04
Date Received:	2018-08-25
Date Tested:	2018-08-25
Date Completed:	2018-09-04

**ATTN:** Ms. Mei Ling Tang  
**QC report:**  
**Method Blank**

Page: 1 of 4

Parameter	Method Blank 1	Method Blank 2	Method Blank 3	Acceptance
Total Suspended Solids (mg/L)	<0.5	<0.5	<0.5	<0.5
Biochemical Oxygen Demand (mg O <sub>2</sub> /L)	N/A	N/A	N/A	N/A
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.002	<0.002	<0.002	<0.002
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01
<i>E.coli</i> (cfu/100mL)	<1	<1	<1	<1
Chlorophyll-a (µg chlorophyll a/L)	<0.005	<0.005	<0.005	<0.005

Remarks: 1) < = less than  
2) N/A = Not applicable  
3) This report is the summary of quality control data for report number 29552

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PREPARED AND CHECKED BY:

For and On Behalf of **WELLAB Ltd.**



**PATRICK TSE**

Laboratory Manager



## TEST REPORT

Report No.:	QC29552
Date of Issue:	2018-09-04
Date Received:	2018-08-25
Date Tested:	2018-08-25
Date Completed:	2018-09-04

Page: 2 of 4

**QC report:  
Method QC**

Parameter	MQC1	MQC2	MQC3	Acceptance
Total Suspended Solids (%)	101	97	100	80-120
Biochemical Oxygen Demand (mg O <sub>2</sub> /L)	202	187	195	170-220
Ammonia nitrogen (%)	91	97	100	80-120
Nitrite-nitrogen (%)	97	102	92	80-120
Nitrate-nitrogen (%)	98	99	104	80-120
<i>E.coli</i> (cfu/100mL)	N/A	N/A	N/A	N/A
Chlorophyll-a (%)	97	97	101	80-120

Remarks: 1) < = less than

2) N/A = Not applicable

3) This report is the summary of quality control data for report number 29552

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## TEST REPORT

Report No.:	QC29552
Date of Issue:	2018-09-04
Date Received:	2018-08-25
Date Tested:	2018-08-25
Date Completed:	2018-09-04

Page: 3 of 4

**QC report:  
Sample Spike**

Parameter	Sample Spike 1	Sample Spike 2	Sample Spike 3	Acceptance
Total Suspended Solids	N/A	N/A	N/A	N/A
Biochemical Oxygen Demand	N/A	N/A	N/A	N/A
Ammonia nitrogen (%)	92	89	95	80-120
Nitrite-nitrogen (%)	101	90	97	80-120
Nitrate-nitrogen (%)	96	97	98	80-120
<i>E.coli</i>	N/A	N/A	N/A	N/A
Chlorophyll-a (%)	100	98	96	80-120

Remarks: 1) < = less than

2) N/A = Not applicable

3) This report is the summary of quality control data for report number 29552

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## TEST REPORT

Report No.:	QC29552
Date of Issue:	2018-09-04
Date Received:	2018-08-25
Date Tested:	2018-08-25
Date Completed:	2018-09-04

Page: 4 of 4

**QC report:  
Sample Duplicate**

Parameter	Sample Duplicate 1	Sample Duplicate 2	Sample Duplicate 3	Acceptance
Total Suspended Solids (%)	3	2	2	RPD <sub>≤</sub> 5
Biochemical Oxygen Demand (%)	N/A	N/A	N/A	RPD <sub>≤</sub> 20
Ammonia nitrogen (%)	N/A	N/A	6	RPD <sub>≤</sub> 20
Nitrite-nitrogen (%)	N/A	N/A	N/A	RPD <sub>≤</sub> 20
Nitrate-nitrogen (%)	N/A	N/A	N/A	RPD <sub>≤</sub> 20
<i>E.coli</i>	N/A	N/A	N/A	N/A
Chlorophyll-a (%)	5	3	4	RPD <sub>≤</sub> 20

Remarks: 1) < = less than

2) N/A = Not applicable

3) This report is the summary of quality control data for report number 29552

\*\*\*\*\*END OF REPORT\*\*\*\*\*

## TEST REPORT

**APPLICANT:** Cinotech Consultants Limited  
RM 1710, Technology Park,  
18 On Lai Street,  
Shatin, N.T., Hong Kong

Report No.:	QC29748
Date of Issue:	2018-10-03
Date Received:	2018-09-20
Date Tested:	2018-09-20
Date Completed:	2018-10-03

**ATTN:** Ms. Mei Ling Tang

Page: 1 of 4

**QC report:**  
**Method Blank**

Parameter	Method Blank 1	Method Blank 2	Method Blank 3	Method Blank 4	Method Blank 5	Acceptance
Total Suspended Solids (mg/L)	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Biochemical Oxygen Demand (mg O <sub>2</sub> /L)	N/A	N/A	N/A	N/A	N/A	N/A
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
<i>E.coli</i> (cfu/100mL)	<1	<1	<1	<1	<1	<1
Chlorophyll-a (µg chlorophyll a/L)	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005

Parameter	Method Blank 6	Method Blank 7	Method Blank 8	Acceptance
Total Suspended Solids (mg/L)	<0.5	<0.5	<0.5	<0.5
Biochemical Oxygen Demand (mg O <sub>2</sub> /L)	N/A	N/A	N/A	N/A
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.002	<0.002	<0.002	<0.002
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01
<i>E.coli</i> (cfu/100mL)	<1	<1	<1	<1
Chlorophyll-a (µg chlorophyll a/L)	<0.005	<0.005	<0.005	<0.005

Remarks: 1) < = less than

2) N/A = Not applicable

3) This report is the summary of quality control data for report number 29748

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**PREPARED AND CHECKED BY:**

For and On Behalf of **WELLAB Ltd.**



**PATRICK TSE**

Laboratory Manager

## TEST REPORT

Report No.:	QC29748
Date of Issue:	2018-10-03
Date Received:	2018-09-20
Date Tested:	2018-09-20
Date Completed:	2018-10-03

Page: 2 of 4

**QC report:  
Method QC**

Parameter	MQC1	MQC2	MQC3	MQC4	MQC5	Acceptance
Total Suspended Solids (%)	96	100	99	97	101	80-120
Biochemical Oxygen Demand (mg O <sub>2</sub> /L)	201	208	187	198	207	170-220
Ammonia nitrogen (%)	95	97	94	96	101	80-120
Nitrite-nitrogen (%)	99	97	94	99	94	80-120
Nitrate-nitrogen (%)	96	93	104	95	97	80-120
<i>E.coli</i> (cfu/100mL)	N/A	N/A	N/A	N/A	N/A	N/A
Chlorophyll-a (%)	101	94	97	99	100	80-120

Parameter	MQC6	MQC7	MQC8	Acceptance
Total Suspended Solids (%)	99	97	97	80-120
Biochemical Oxygen Demand (mg O <sub>2</sub> /L)	197	205	200	170-220
Ammonia nitrogen (%)	100	101	93	80-120
Nitrite-nitrogen (%)	101	100	95	80-120
Nitrate-nitrogen (%)	100	98	92	80-120
<i>E.coli</i> (cfu/100mL)	N/A	N/A	N/A	N/A
Chlorophyll-a (%)	97	99	96	80-120

Remarks: 1) < = less than

2) N/A = Not applicable

3) This report is the summary of quality control data for report number 29748

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## TEST REPORT

Report No.:	QC29748
Date of Issue:	2018-10-03
Date Received:	2018-09-20
Date Tested:	2018-09-20
Date Completed:	2018-10-03

Page: 3 of 4

**QC report:  
Sample Spike**

Parameter	Sample Spike 1	Sample Spike 2	Sample Spike 3	Sample Spike 4	Sample Spike 5	Acceptance
Total Suspended Solids	N/A	N/A	N/A	N/A	N/A	N/A
Biochemical Oxygen Demand	N/A	N/A	N/A	N/A	N/A	N/A
Ammonia nitrogen (%)	91	89	98	94	95	80-120
Nitrite-nitrogen (%)	90	90	90	98	100	80-120
Nitrate-nitrogen (%)	95	94	100	95	91	80-120
<i>E.coli</i>	N/A	N/A	N/A	N/A	N/A	N/A
Chlorophyll-a (%)	96	90	98	100	93	80-120

Parameter	Sample Spike 6	Sample Spike 7	Sample Spike 8	Acceptance
Total Suspended Solids	N/A	N/A	N/A	N/A
Biochemical Oxygen Demand	N/A	N/A	N/A	N/A
Ammonia nitrogen (%)	94	97	94	80-120
Nitrite-nitrogen (%)	93	95	95	80-120
Nitrate-nitrogen (%)	98	93	97	80-120
<i>E.coli</i>	N/A	N/A	N/A	N/A
Chlorophyll-a (%)	96	92	89	80-120

Remarks: 1) < = less than

2) N/A = Not applicable

3) This report is the summary of quality control data for report number 29748

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## TEST REPORT

Report No.:	QC29748
Date of Issue:	2018-10-03
Date Received:	2018-09-20
Date Tested:	2018-09-20
Date Completed:	2018-10-03

Page: 4 of 4

**QC report:  
 Sample Duplicate**

Parameter	Sample Duplicate 1	Sample Duplicate 2	Sample Duplicate 3	Sample Duplicate 4	Sample Duplicate 5	Acceptance
Total Suspended Solids (%)	2	2	3	2	3	RPD <sub>≤</sub> 5
Biochemical Oxygen Demand (%)	N/A	N/A	N/A	N/A	N/A	RPD <sub>≤</sub> 20
Ammonia nitrogen (%)	3	N/A	N/A	N/A	N/A	RPD <sub>≤</sub> 20
Nitrite-nitrogen (%)	N/A	N/A	N/A	N/A	N/A	RPD <sub>≤</sub> 20
Nitrate-nitrogen (%)	4	N/A	N/A	N/A	N/A	RPD <sub>≤</sub> 20
<i>E.coli</i>	N/A	N/A	N/A	N/A	N/A	N/A
Chlorophyll-a (%)	4	3	4	7	6	RPD <sub>≤</sub> 20

Parameter	Sample Duplicate 6	Sample Duplicate 7	Sample Duplicate 8	Acceptance
Total Suspended Solids (%)	3	2	3	RPD <sub>≤</sub> 5
Biochemical Oxygen Demand (%)	N/A	N/A	N/A	RPD <sub>≤</sub> 20
Ammonia nitrogen (%)	4	N/A	5	RPD <sub>≤</sub> 20
Nitrite-nitrogen (%)	N/A	N/A	N/A	RPD <sub>≤</sub> 20
Nitrate-nitrogen (%)	N/A	N/A	N/A	RPD <sub>≤</sub> 20
<i>E.coli</i>	N/A	N/A	N/A	N/A
Chlorophyll-a (%)	3	4	4	RPD <sub>≤</sub> 20

Remarks: 1) < = less than

2) N/A = Not applicable

3) This report is the summary of quality control data for report number 29748

\*\*\*\*\*END OF REPORT\*\*\*\*\*

## TEST REPORT

**APPLICANT:** Cinotech Consultants Limited  
RM 1710, Technology Park,  
18 On Lai Street,  
Shatin, N.T., Hong Kong

Report No.:	QC29769
Date of Issue:	2018-10-04
Date Received:	2018-09-23
Date Tested:	2018-09-23
Date Completed:	2018-10-04

**ATTN:** Ms. Mei Ling Tang

Page: 1 of 4

**QC report:**  
**Method Blank**

Parameter	Method Blank 1	Method Blank 2	Method Blank 3	Method Blank 4	Method Blank 5	Acceptance
Total Suspended Solids (mg/L)	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Biochemical Oxygen Demand (mg O <sub>2</sub> /L)	N/A	N/A	N/A	N/A	N/A	N/A
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
<i>E.coli</i> (cfu/100mL)	<1	<1	<1	<1	<1	<1
Chlorophyll-a (µg chlorophyll a/L)	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005

Parameter	Method Blank 6	Method Blank 7	Method Blank 8	Acceptance
Total Suspended Solids (mg/L)	<0.5	<0.5	<0.5	<0.5
Biochemical Oxygen Demand (mg O <sub>2</sub> /L)	N/A	N/A	N/A	N/A
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.002	<0.002	<0.002	<0.002
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01
<i>E.coli</i> (cfu/100mL)	<1	<1	<1	<1
Chlorophyll-a (µg chlorophyll a/L)	<0.005	<0.005	<0.005	<0.005

Remarks: 1) < = less than

2) N/A = Not applicable

3) This report is the summary of quality control data for report number 29769

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**PREPARED AND CHECKED BY:**

For and On Behalf of **WELLAB Ltd.**



**PATRICK TSE**

Laboratory Manager



## TEST REPORT

Report No.:	QC29769
Date of Issue:	2018-10-04
Date Received:	2018-09-23
Date Tested:	2018-09-23
Date Completed:	2018-10-04

Page: 2 of 4

**QC report:  
Method QC**

Parameter	MQC1	MQC2	MQC3	MQC4	MQC5	Acceptance
Total Suspended Solids (%)	105	98	99	100	103	80-120
Biochemical Oxygen Demand (mg O <sub>2</sub> /L)	196	214	199	195	188	170-220
Ammonia nitrogen (%)	102	100	100	99	100	80-120
Nitrite-nitrogen (%)	97	101	103	104	101	80-120
Nitrate-nitrogen (%)	102	97	99	99	95	80-120
<i>E.coli</i> (cfu/100mL)	N/A	N/A	N/A	N/A	N/A	N/A
Chlorophyll-a (%)	103	97	101	100	101	80-120

Parameter	MQC6	MQC7	MQC8	Acceptance
Total Suspended Solids (%)	95	96	95	80-120
Biochemical Oxygen Demand (mg O <sub>2</sub> /L)	205	199	204	170-220
Ammonia nitrogen (%)	93	97	100	80-120
Nitrite-nitrogen (%)	98	95	92	80-120
Nitrate-nitrogen (%)	95	102	98	80-120
<i>E.coli</i> (cfu/100mL)	N/A	N/A	N/A	N/A
Chlorophyll-a (%)	102	99	94	80-120

Remarks: 1) < = less than

2) N/A = Not applicable

3) This report is the summary of quality control data for report number 29769

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## TEST REPORT

Report No.:	QC29769
Date of Issue:	2018-10-04
Date Received:	2018-09-23
Date Tested:	2018-09-23
Date Completed:	2018-10-04

Page: 3 of 4

**QC report:  
Sample Spike**

Parameter	Sample Spike 1	Sample Spike 2	Sample Spike 3	Sample Spike 4	Sample Spike 5	Acceptance
Total Suspended Solids	N/A	N/A	N/A	N/A	N/A	N/A
Biochemical Oxygen Demand	N/A	N/A	N/A	N/A	N/A	N/A
Ammonia nitrogen (%)	98	90	95	99	98	80-120
Nitrite-nitrogen (%)	93	94	93	95	98	80-120
Nitrate-nitrogen (%)	100	92	99	94	99	80-120
<i>E.coli</i>	N/A	N/A	N/A	N/A	N/A	N/A
Chlorophyll-a (%)	94	91	100	94	96	80-120

Parameter	Sample Spike 6	Sample Spike 7	Sample Spike 8	Acceptance
Total Suspended Solids	N/A	N/A	N/A	N/A
Biochemical Oxygen Demand	N/A	N/A	N/A	N/A
Ammonia nitrogen (%)	95	93	93	80-120
Nitrite-nitrogen (%)	92	89	97	80-120
Nitrate-nitrogen (%)	95	90	98	80-120
<i>E.coli</i>	N/A	N/A	N/A	N/A
Chlorophyll-a (%)	94	89	97	80-120

Remarks: 1) < = less than

2) N/A = Not applicable

3) This report is the summary of quality control data for report number 29769

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## TEST REPORT

Report No.:	QC29769
Date of Issue:	2018-10-04
Date Received:	2018-09-23
Date Tested:	2018-09-23
Date Completed:	2018-10-04

Page: 4 of 4

**QC report:  
Sample Duplicate**

Parameter	Sample Duplicate 1	Sample Duplicate 2	Sample Duplicate 3	Sample Duplicate 4	Sample Duplicate 5	Acceptance
Total Suspended Solids (%)	3	3	2	3	N/A	RPD <sub>≤</sub> 5
Biochemical Oxygen Demand (%)	N/A	N/A	N/A	N/A	N/A	RPD <sub>≤</sub> 20
Ammonia nitrogen (%)	N/A	N/A	N/A	N/A	N/A	RPD <sub>≤</sub> 20
Nitrite-nitrogen (%)	N/A	N/A	N/A	N/A	N/A	RPD <sub>≤</sub> 20
Nitrate-nitrogen (%)	N/A	N/A	N/A	N/A	N/A	RPD <sub>≤</sub> 20
<i>E.coli</i>	N/A	N/A	N/A	N/A	N/A	N/A
Chlorophyll-a (%)	4	4	5	6	3	RPD <sub>≤</sub> 20

Parameter	Sample Duplicate 6	Sample Duplicate 7	Sample Duplicate 8	Acceptance
Total Suspended Solids (%)	2	2	3	RPD <sub>≤</sub> 5
Biochemical Oxygen Demand (%)	N/A	N/A	N/A	RPD <sub>≤</sub> 20
Ammonia nitrogen (%)	N/A	N/A	N/A	RPD <sub>≤</sub> 20
Nitrite-nitrogen (%)	N/A	N/A	N/A	RPD <sub>≤</sub> 20
Nitrate-nitrogen (%)	N/A	N/A	N/A	RPD <sub>≤</sub> 20
<i>E.coli</i>	N/A	N/A	N/A	N/A
Chlorophyll-a (%)	4	4	5	RPD <sub>≤</sub> 20

Remarks: 1) < = less than

2) N/A = Not applicable

3) This report is the summary of quality control data for report number 29769

\*\*\*\*\*END OF REPORT\*\*\*\*\*

## TEST REPORT

**APPLICANT:** Cinotech Consultants Limited  
RM 1710, Technology Park,  
18 On Lai Street,  
Shatin, N.T., Hong Kong

Report No.:	QC29913
Date of Issue:	2018-10-24
Date Received:	2018-10-13
Date Tested:	2018-10-13
Date Completed:	2018-10-24

**ATTN:** Ms. Mei Ling Tang

Page: 1 of 4

**QC report:**  
**Method Blank**

Parameter	Method Blank 1	Method Blank 2	Method Blank 3	Method Blank 4	Method Blank 5	Acceptance
Total Suspended Solids (mg/L)	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Biochemical Oxygen Demand (mg O <sub>2</sub> /L)	N/A	N/A	N/A	N/A	N/A	N/A
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
<i>E.coli</i> (cfu/100mL)	<1	<1	<1	<1	<1	<1
Chlorophyll-a (µg chlorophyll a/L)	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005

Parameter	Method Blank 6	Method Blank 7	Method Blank 8	Acceptance
Total Suspended Solids (mg/L)	<0.5	<0.5	<0.5	<0.5
Biochemical Oxygen Demand (mg O <sub>2</sub> /L)	N/A	N/A	N/A	N/A
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.002	<0.002	<0.002	<0.002
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01
<i>E.coli</i> (cfu/100mL)	<1	<1	<1	<1
Chlorophyll-a (µg chlorophyll a/L)	<0.005	<0.005	<0.005	<0.005

Remarks: 1) < = less than

2) N/A = Not applicable

3) This report is the summary of quality control data for report number 29913

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**PREPARED AND CHECKED BY:**

For and On Behalf of **WELLAB Ltd.**



**PATRICK TSE**

Laboratory Manager

## TEST REPORT

Report No.:	QC29913
Date of Issue:	2018-10-24
Date Received:	2018-10-13
Date Tested:	2018-10-13
Date Completed:	2018-10-24

Page: 2 of 4

**QC report:  
Method QC**

Parameter	MQC1	MQC2	MQC3	MQC4	MQC5	Acceptance
Total Suspended Solids (%)	96	101	99	97	98	80-120
Biochemical Oxygen Demand (mg O <sub>2</sub> /L)	200	189	191	207	203	170-220
Ammonia nitrogen (%)	99	95	101	99	97	80-120
Nitrite-nitrogen (%)	102	97	103	98	95	80-120
Nitrate-nitrogen (%)	97	99	99	103	102	80-120
<i>E.coli</i> (cfu/100mL)	N/A	N/A	N/A	N/A	N/A	N/A
Chlorophyll-a (%)	95	103	103	97	105	80-120

Parameter	MQC6	MQC7	MQC8	Acceptance
Total Suspended Solids (%)	94	94	100	80-120
Biochemical Oxygen Demand (mg O <sub>2</sub> /L)	209	194	198	170-220
Ammonia nitrogen (%)	98	97	103	80-120
Nitrite-nitrogen (%)	93	94	100	80-120
Nitrate-nitrogen (%)	96	97	95	80-120
<i>E.coli</i> (cfu/100mL)	N/A	N/A	N/A	N/A
Chlorophyll-a (%)	91	99	99	80-120

Remarks: 1) < = less than

2) N/A = Not applicable

3) This report is the summary of quality control data for report number 29913

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## TEST REPORT

Report No.:	QC29913
Date of Issue:	2018-10-24
Date Received:	2018-10-13
Date Tested:	2018-10-13
Date Completed:	2018-10-24

Page: 3 of 4

**QC report:  
Sample Spike**

Parameter	Sample Spike 1	Sample Spike 2	Sample Spike 3	Sample Spike 4	Sample Spike 5	Acceptance
Total Suspended Solids	N/A	N/A	N/A	N/A	N/A	N/A
Biochemical Oxygen Demand	N/A	N/A	N/A	N/A	N/A	N/A
Ammonia nitrogen (%)	94	99	93	100	90	80-120
Nitrite-nitrogen (%)	94	98	91	89	93	80-120
Nitrate-nitrogen (%)	93	93	97	94	95	80-120
<i>E.coli</i>	N/A	N/A	N/A	N/A	N/A	N/A
Chlorophyll-a (%)	90	97	97	95	95	80-120

Parameter	Sample Spike 6	Sample Spike 7	Sample Spike 8	Acceptance
Total Suspended Solids	N/A	N/A	N/A	N/A
Biochemical Oxygen Demand	N/A	N/A	N/A	N/A
Ammonia nitrogen (%)	96	90	99	80-120
Nitrite-nitrogen (%)	97	94	91	80-120
Nitrate-nitrogen (%)	89	96	92	80-120
<i>E.coli</i>	N/A	N/A	N/A	N/A
Chlorophyll-a (%)	95	90	92	80-120

Remarks: 1) < = less than

2) N/A = Not applicable

3) This report is the summary of quality control data for report number 29913

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## TEST REPORT

Report No.:	QC29913
Date of Issue:	2018-10-24
Date Received:	2018-10-13
Date Tested:	2018-10-13
Date Completed:	2018-10-24

Page: 4 of 4

**QC report:  
Sample Duplicate**

Parameter	Sample Duplicate 1	Sample Duplicate 2	Sample Duplicate 3	Sample Duplicate 4	Sample Duplicate 5	Acceptance
Total Suspended Solids (%)	2	2	3	3	3	RPD <sub>≤</sub> 5
Biochemical Oxygen Demand (%)	N/A	N/A	N/A	N/A	N/A	RPD <sub>≤</sub> 20
Ammonia nitrogen (%)	6	4	N/A	4	N/A	RPD <sub>≤</sub> 20
Nitrite-nitrogen (%)	N/A	N/A	N/A	N/A	N/A	RPD <sub>≤</sub> 20
Nitrate-nitrogen (%)	5	3	N/A	3	N/A	RPD <sub>≤</sub> 20
<i>E.coli</i>	N/A	N/A	N/A	N/A	N/A	N/A
Chlorophyll-a (%)	5	5	4	5	6	RPD <sub>≤</sub> 20

Parameter	Sample Duplicate 6	Sample Duplicate 7	Sample Duplicate 8	Acceptance
Total Suspended Solids (%)	2	2	N/A	RPD <sub>≤</sub> 5
Biochemical Oxygen Demand (%)	N/A	N/A	N/A	RPD <sub>≤</sub> 20
Ammonia nitrogen (%)	5	7	N/A	RPD <sub>≤</sub> 20
Nitrite-nitrogen (%)	N/A	N/A	N/A	RPD <sub>≤</sub> 20
Nitrate-nitrogen (%)	N/A	N/A	N/A	RPD <sub>≤</sub> 20
<i>E.coli</i>	N/A	N/A	N/A	N/A
Chlorophyll-a (%)	8	7	4	RPD <sub>≤</sub> 20

Remarks: 1) < = less than

2) N/A = Not applicable

3) This report is the summary of quality control data for report number 29913

\*\*\*\*\*END OF REPORT\*\*\*\*\*

## TEST REPORT

**APPLICANT:** Cinotech Consultants Limited  
RM 1710, Technology Park,  
18 On Lai Street,  
Shatin, N.T., Hong Kong

Report No.:	QC29947
Date of Issue:	2018-10-31
Date Received:	2018-10-22
Date Tested:	2018-10-22
Date Completed:	2018-10-31

**ATTN:** Ms. Mei Ling Tang

Page: 1 of 4

**QC report:**  
**Method Blank**

Parameter	Method Blank 1	Method Blank 2	Method Blank 3	Method Blank 4	Method Blank 5	Acceptance
Total Suspended Solids (mg/L)	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Biochemical Oxygen Demand (mg O <sub>2</sub> /L)	N/A	N/A	N/A	N/A	N/A	N/A
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
<i>E.coli</i> (cfu/100mL)	<1	<1	<1	<1	<1	<1
Chlorophyll-a (µg chlorophyll a/L)	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005

Parameter	Method Blank 6	Method Blank 7	Method Blank 8	Acceptance
Total Suspended Solids (mg/L)	<0.5	<0.5	<0.5	<0.5
Biochemical Oxygen Demand (mg O <sub>2</sub> /L)	N/A	N/A	N/A	N/A
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.002	<0.002	<0.002	<0.002
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01
<i>E.coli</i> (cfu/100mL)	<1	<1	<1	<1
Chlorophyll-a (µg chlorophyll a/L)	<0.005	<0.005	<0.005	<0.005

Remarks: 1) < = less than

2) N/A = Not applicable

3) This report is the summary of quality control data for report number 29947

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**PREPARED AND CHECKED BY:**

For and On Behalf of **WELLAB Ltd.**



**PATRICK TSE**

Laboratory Manager



## TEST REPORT

Report No.:	QC29947
Date of Issue:	2018-10-31
Date Received:	2018-10-22
Date Tested:	2018-10-22
Date Completed:	2018-10-31

Page: 2 of 4

**QC report:  
Method QC**

Parameter	MQC1	MQC2	MQC3	MQC4	MQC5	Acceptance
Total Suspended Solids (%)	95	99	100	93	101	80-120
Biochemical Oxygen Demand (mg O <sub>2</sub> /L)	199	184	188	198	206	170-220
Ammonia nitrogen (%)	97	103	95	99	99	80-120
Nitrite-nitrogen (%)	98	97	101	95	98	80-120
Nitrate-nitrogen (%)	98	100	102	99	98	80-120
<i>E.coli</i> (cfu/100mL)	N/A	N/A	N/A	N/A	N/A	N/A
Chlorophyll-a (%)	100	98	96	98	101	80-120

Parameter	MQC6	MQC7	MQC8	Acceptance
Total Suspended Solids (%)	97	92	93	80-120
Biochemical Oxygen Demand (mg O <sub>2</sub> /L)	199	188	204	170-220
Ammonia nitrogen (%)	99	98	100	80-120
Nitrite-nitrogen (%)	102	98	97	80-120
Nitrate-nitrogen (%)	99	96	94	80-120
<i>E.coli</i> (cfu/100mL)	N/A	N/A	N/A	N/A
Chlorophyll-a (%)	94	97	98	80-120

Remarks: 1) < = less than

2) N/A = Not applicable

3) This report is the summary of quality control data for report number 29947

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## TEST REPORT

Report No.:	QC29947
Date of Issue:	2018-10-31
Date Received:	2018-10-22
Date Tested:	2018-10-22
Date Completed:	2018-10-31

Page: 3 of 4

**QC report:  
Sample Spike**

Parameter	Sample Spike 1	Sample Spike 2	Sample Spike 3	Sample Spike 4	Sample Spike 5	Acceptance
Total Suspended Solids	N/A	N/A	N/A	N/A	N/A	N/A
Biochemical Oxygen Demand	N/A	N/A	N/A	N/A	N/A	N/A
Ammonia nitrogen (%)	94	94	97	94	95	80-120
Nitrite-nitrogen (%)	98	90	92	88	89	80-120
Nitrate-nitrogen (%)	93	97	101	97	96	80-120
<i>E.coli</i>	N/A	N/A	N/A	N/A	N/A	N/A
Chlorophyll-a (%)	98	90	94	97	94	80-120

Parameter	Sample Spike 6	Sample Spike 7	Sample Spike 8	Acceptance
Total Suspended Solids	N/A	N/A	N/A	N/A
Biochemical Oxygen Demand	N/A	N/A	N/A	N/A
Ammonia nitrogen (%)	94	97	99	80-120
Nitrite-nitrogen (%)	97	97	97	80-120
Nitrate-nitrogen (%)	94	96	93	80-120
<i>E.coli</i>	N/A	N/A	N/A	N/A
Chlorophyll-a (%)	93	97	96	80-120

Remarks: 1) < = less than

2) N/A = Not applicable

3) This report is the summary of quality control data for report number 29947

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## TEST REPORT

Report No.:	QC29947
Date of Issue:	2018-10-31
Date Received:	2018-10-22
Date Tested:	2018-10-22
Date Completed:	2018-10-31

Page: 4 of 4

### QC report:

#### Sample Duplicate

Parameter	Sample Duplicate 1	Sample Duplicate 2	Sample Duplicate 3	Sample Duplicate 4	Sample Duplicate 5	Acceptance
Total Suspended Solids (%)	3	2	2	2	2	RPD <sub>≤</sub> 5
Biochemical Oxygen Demand (%)	N/A	N/A	N/A	N/A	N/A	RPD <sub>≤</sub> 20
Ammonia nitrogen (%)	3	N/A	N/A	5	N/A	RPD <sub>≤</sub> 20
Nitrite-nitrogen (%)	N/A	N/A	N/A	N/A	N/A	RPD <sub>≤</sub> 20
Nitrate-nitrogen (%)	3	N/A	N/A	N/A	N/A	RPD <sub>≤</sub> 20
<i>E.coli</i>	N/A	N/A	N/A	N/A	N/A	N/A
Chlorophyll-a (%)	4	4	5	6	3	RPD <sub>≤</sub> 20

Parameter	Sample Duplicate 6	Sample Duplicate 7	Sample Duplicate 8	Acceptance
Total Suspended Solids (%)	3	2	3	RPD <sub>≤</sub> 5
Biochemical Oxygen Demand (%)	N/A	N/A	N/A	RPD <sub>≤</sub> 20
Ammonia nitrogen (%)	5	N/A	N/A	RPD <sub>≤</sub> 20
Nitrite-nitrogen (%)	N/A	N/A	N/A	RPD <sub>≤</sub> 20
Nitrate-nitrogen (%)	N/A	7	N/A	RPD <sub>≤</sub> 20
<i>E.coli</i>	N/A	N/A	N/A	N/A
Chlorophyll-a (%)	3	5	6	RPD <sub>≤</sub> 20

Remarks: 1) < = less than

2) N/A = Not applicable

3) This report is the summary of quality control data for report number 29947

\*\*\*\*\*END OF REPORT\*\*\*\*\*

## TEST REPORT

**APPLICANT:** Cinotech Consultants Limited  
RM 1710, Technology Park,  
18 On Lai Street,  
Shatin, N.T., Hong Kong

Report No.:	QC30093
Date of Issue:	2018-11-16
Date Received:	2018-11-08
Date Tested:	2018-11-08
Date Completed:	2018-11-16

**ATTN:** Ms. Mei Ling Tang

Page: 1 of 4

**QC report:**  
**Method Blank**

Parameter	Method Blank 1	Method Blank 2	Method Blank 3	Method Blank 4	Method Blank 5	Acceptance
Total Suspended Solids (mg/L)	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Biochemical Oxygen Demand (mg O <sub>2</sub> /L)	N/A	N/A	N/A	N/A	N/A	N/A
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
<i>E.coli</i> (cfu/100mL)	<1	<1	<1	<1	<1	<1
Chlorophyll-a (µg chlorophyll a/L)	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005

Parameter	Method Blank 6	Method Blank 7	Method Blank 8	Acceptance
Total Suspended Solids (mg/L)	<0.5	<0.5	<0.5	<0.5
Biochemical Oxygen Demand (mg O <sub>2</sub> /L)	N/A	N/A	N/A	N/A
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.002	<0.002	<0.002	<0.002
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01
<i>E.coli</i> (cfu/100mL)	<1	<1	<1	<1
Chlorophyll-a (µg chlorophyll a/L)	<0.005	<0.005	<0.005	<0.005

Remarks: 1) < = less than

2) N/A = Not applicable

3) This report is the summary of quality control data for report number 30093

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**PREPARED AND CHECKED BY:**

For and On Behalf of **WELLAB Ltd.**



**PATRICK TSE**

Laboratory Manager

## TEST REPORT

Report No.:	QC30093
Date of Issue:	2018-11-16
Date Received:	2018-11-08
Date Tested:	2018-11-08
Date Completed:	2018-11-16

Page: 2 of 4

**QC report:  
Method QC**

Parameter	MQC1	MQC2	MQC3	MQC4	MQC5	Acceptance
Total Suspended Solids (%)	101	99	97	103	96	80-120
Biochemical Oxygen Demand (mg O <sub>2</sub> /L)	190	191	184	190	193	170-220
Ammonia nitrogen (%)	101	92	102	99	95	80-120
Nitrite-nitrogen (%)	97	95	95	104	97	80-120
Nitrate-nitrogen (%)	98	94	99	95	95	80-120
<i>E.coli</i> (cfu/100mL)	N/A	N/A	N/A	N/A	N/A	N/A
Chlorophyll-a (%)	101	101	101	103	92	80-120

Parameter	MQC6	MQC7	MQC8	Acceptance
Total Suspended Solids (%)	104	94	97	80-120
Biochemical Oxygen Demand (mg O <sub>2</sub> /L)	203	199	200	170-220
Ammonia nitrogen (%)	96	99	94	80-120
Nitrite-nitrogen (%)	94	101	104	80-120
Nitrate-nitrogen (%)	96	95	99	80-120
<i>E.coli</i> (cfu/100mL)	N/A	N/A	N/A	N/A
Chlorophyll-a (%)	96	99	94	80-120

Remarks: 1) < = less than

2) N/A = Not applicable

3) This report is the summary of quality control data for report number 30093

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## TEST REPORT

Report No.:	QC30093
Date of Issue:	2018-11-16
Date Received:	2018-11-08
Date Tested:	2018-11-08
Date Completed:	2018-11-16

Page: 3 of 4

**QC report:  
Sample Spike**

Parameter	Sample Spike 1	Sample Spike 2	Sample Spike 3	Sample Spike 4	Sample Spike 5	Acceptance
Total Suspended Solids	N/A	N/A	N/A	N/A	N/A	N/A
Biochemical Oxygen Demand	N/A	N/A	N/A	N/A	N/A	N/A
Ammonia nitrogen (%)	96	97	96	93	94	80-120
Nitrite-nitrogen (%)	92	98	100	100	98	80-120
Nitrate-nitrogen (%)	96	92	100	94	96	80-120
<i>E.coli</i>	N/A	N/A	N/A	N/A	N/A	N/A
Chlorophyll-a (%)	95	98	96	95	95	80-120

Parameter	Sample Spike 6	Sample Spike 7	Sample Spike 8	Acceptance
Total Suspended Solids	N/A	N/A	N/A	N/A
Biochemical Oxygen Demand	N/A	N/A	N/A	N/A
Ammonia nitrogen (%)	97	93	90	80-120
Nitrite-nitrogen (%)	95	100	96	80-120
Nitrate-nitrogen (%)	93	95	98	80-120
<i>E.coli</i>	N/A	N/A	N/A	N/A
Chlorophyll-a (%)	91	99	90	80-120

Remarks: 1) < = less than

2) N/A = Not applicable

3) This report is the summary of quality control data for report number 30093

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## TEST REPORT

Report No.:	QC30093
Date of Issue:	2018-11-16
Date Received:	2018-11-08
Date Tested:	2018-11-08
Date Completed:	2018-11-16

Page: 4 of 4

### QC report:

#### Sample Duplicate

Parameter	Sample Duplicate 1	Sample Duplicate 2	Sample Duplicate 3	Sample Duplicate 4	Sample Duplicate 5	Acceptance
Total Suspended Solids (%)	3	2	2	3	3	RPD <sub>≤</sub> 5
Biochemical Oxygen Demand (%)	N/A	N/A	N/A	N/A	N/A	RPD <sub>≤</sub> 20
Ammonia nitrogen (%)	N/A	N/A	N/A	N/A	N/A	RPD <sub>≤</sub> 20
Nitrite-nitrogen (%)	N/A	N/A	N/A	N/A	N/A	RPD <sub>≤</sub> 20
Nitrate-nitrogen (%)	N/A	N/A	N/A	N/A	N/A	RPD <sub>≤</sub> 20
<i>E.coli</i>	N/A	N/A	N/A	N/A	N/A	N/A
Chlorophyll-a (%)	4	7	5	7	4	RPD <sub>≤</sub> 20

Parameter	Sample Duplicate 6	Sample Duplicate 7	Sample Duplicate 8	Acceptance
Total Suspended Solids (%)	3	3	2	RPD <sub>≤</sub> 5
Biochemical Oxygen Demand (%)	N/A	N/A	N/A	RPD <sub>≤</sub> 20
Ammonia nitrogen (%)	N/A	N/A	N/A	RPD <sub>≤</sub> 20
Nitrite-nitrogen (%)	N/A	N/A	N/A	RPD <sub>≤</sub> 20
Nitrate-nitrogen (%)	N/A	N/A	N/A	RPD <sub>≤</sub> 20
<i>E.coli</i>	N/A	N/A	N/A	N/A
Chlorophyll-a (%)	4	3	5	RPD <sub>≤</sub> 20

Remarks: 1) < = less than

2) N/A = Not applicable

3) This report is the summary of quality control data for report number 30093

\*\*\*\*\*END OF REPORT\*\*\*\*\*

## TEST REPORT

**APPLICANT:** Cinotech Consultants Limited  
RM 1710, Technology Park,  
18 On Lai Street,  
Shatin, N.T., Hong Kong

Report No.:	QC30139
Date of Issue:	2018-11-20
Date Received:	2018-11-10
Date Tested:	2018-11-10
Date Completed:	2018-11-20

**ATTN:** Ms. Mei Ling Tang

Page: 1 of 4

**QC report:**  
**Method Blank**

Parameter	Method Blank 1	Method Blank 2	Method Blank 3	Method Blank 4	Method Blank 5	Acceptance
Total Suspended Solids (mg/L)	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Biochemical Oxygen Demand (mg O <sub>2</sub> /L)	N/A	N/A	N/A	N/A	N/A	N/A
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
<i>E.coli</i> (cfu/100mL)	<1	<1	<1	<1	<1	<1
Chlorophyll-a (µg chlorophyll a/L)	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005

Parameter	Method Blank 6	Method Blank 7	Method Blank 8	Acceptance
Total Suspended Solids (mg/L)	<0.5	<0.5	<0.5	<0.5
Biochemical Oxygen Demand (mg O <sub>2</sub> /L)	N/A	N/A	N/A	N/A
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.002	<0.002	<0.002	<0.002
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01
<i>E.coli</i> (cfu/100mL)	<1	<1	<1	<1
Chlorophyll-a (µg chlorophyll a/L)	<0.005	<0.005	<0.005	<0.005

Remarks: 1) < = less than

2) N/A = Not applicable

3) This report is the summary of quality control data for report number 30139

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**PREPARED AND CHECKED BY:**

For and On Behalf of **WELLAB Ltd.**



**PATRICK TSE**

Laboratory Manager



## TEST REPORT

Report No.:	QC30139
Date of Issue:	2018-11-20
Date Received:	2018-11-10
Date Tested:	2018-11-10
Date Completed:	2018-11-20

Page: 2 of 4

**QC report:  
Method QC**

Parameter	MQC1	MQC2	MQC3	MQC4	MQC5	Acceptance
Total Suspended Solids (%)	95	98	96	99	95	80-120
Biochemical Oxygen Demand (mg O <sub>2</sub> /L)	204	210	183	207	191	170-220
Ammonia nitrogen (%)	97	104	93	103	102	80-120
Nitrite-nitrogen (%)	101	93	95	101	98	80-120
Nitrate-nitrogen (%)	104	97	95	97	103	80-120
<i>E.coli</i> (cfu/100mL)	N/A	N/A	N/A	N/A	N/A	N/A
Chlorophyll-a (%)	101	99	100	96	96	80-120

Parameter	MQC6	MQC7	MQC8	Acceptance
Total Suspended Solids (%)	100	96	97	80-120
Biochemical Oxygen Demand (mg O <sub>2</sub> /L)	185	203	199	170-220
Ammonia nitrogen (%)	100	98	99	80-120
Nitrite-nitrogen (%)	99	98	100	80-120
Nitrate-nitrogen (%)	101	98	104	80-120
<i>E.coli</i> (cfu/100mL)	N/A	N/A	N/A	N/A
Chlorophyll-a (%)	100	105	91	80-120

Remarks: 1) < = less than

2) N/A = Not applicable

3) This report is the summary of quality control data for report number 30139

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## TEST REPORT

Report No.:	QC30139
Date of Issue:	2018-11-20
Date Received:	2018-11-10
Date Tested:	2018-11-10
Date Completed:	2018-11-20

Page: 3 of 4

**QC report:  
Sample Spike**

Parameter	Sample Spike 1	Sample Spike 2	Sample Spike 3	Sample Spike 4	Sample Spike 5	Acceptance
Total Suspended Solids	N/A	N/A	N/A	N/A	N/A	N/A
Biochemical Oxygen Demand	N/A	N/A	N/A	N/A	N/A	N/A
Ammonia nitrogen (%)	96	93	97	96	89	80-120
Nitrite-nitrogen (%)	91	97	97	99	96	80-120
Nitrate-nitrogen (%)	91	96	96	90	91	80-120
<i>E.coli</i>	N/A	N/A	N/A	N/A	N/A	N/A
Chlorophyll-a (%)	93	94	95	91	100	80-120

Parameter	Sample Spike 6	Sample Spike 7	Sample Spike 8	Acceptance
Total Suspended Solids	N/A	N/A	N/A	N/A
Biochemical Oxygen Demand	N/A	N/A	N/A	N/A
Ammonia nitrogen (%)	100	90	92	80-120
Nitrite-nitrogen (%)	97	94	93	80-120
Nitrate-nitrogen (%)	102	92	91	80-120
<i>E.coli</i>	N/A	N/A	N/A	N/A
Chlorophyll-a (%)	92	95	94	80-120

Remarks: 1) < = less than

2) N/A = Not applicable

3) This report is the summary of quality control data for report number 30139

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## TEST REPORT

Report No.:	QC30139
Date of Issue:	2018-11-20
Date Received:	2018-11-10
Date Tested:	2018-11-10
Date Completed:	2018-11-20

Page: 4 of 4

### QC report:

#### Sample Duplicate

Parameter	Sample Duplicate 1	Sample Duplicate 2	Sample Duplicate 3	Sample Duplicate 4	Sample Duplicate 5	Acceptance
Total Suspended Solids (%)	3	2	3	3	3	RPD <sub>≤</sub> 5
Biochemical Oxygen Demand (%)	N/A	N/A	N/A	N/A	N/A	RPD <sub>≤</sub> 20
Ammonia nitrogen (%)	N/A	N/A	N/A	N/A	N/A	RPD <sub>≤</sub> 20
Nitrite-nitrogen (%)	N/A	N/A	N/A	N/A	N/A	RPD <sub>≤</sub> 20
Nitrate-nitrogen (%)	N/A	N/A	N/A	N/A	N/A	RPD <sub>≤</sub> 20
<i>E.coli</i>	N/A	N/A	N/A	N/A	N/A	N/A
Chlorophyll-a (%)	4	7	4	5	3	RPD <sub>≤</sub> 20

Parameter	Sample Duplicate 6	Sample Duplicate 7	Sample Duplicate 8	Acceptance
Total Suspended Solids (%)	3	2	3	RPD <sub>≤</sub> 5
Biochemical Oxygen Demand (%)	N/A	N/A	N/A	RPD <sub>≤</sub> 20
Ammonia nitrogen (%)	N/A	N/A	N/A	RPD <sub>≤</sub> 20
Nitrite-nitrogen (%)	N/A	N/A	N/A	RPD <sub>≤</sub> 20
Nitrate-nitrogen (%)	N/A	N/A	N/A	RPD <sub>≤</sub> 20
<i>E.coli</i>	N/A	N/A	N/A	N/A
Chlorophyll-a (%)	4	6	5	RPD <sub>≤</sub> 20

Remarks: 1) < = less than

2) N/A = Not applicable

3) This report is the summary of quality control data for report number 30139

\*\*\*\*\*END OF REPORT\*\*\*\*\*

## TEST REPORT

**APPLICANT:** Cinotech Consultants Limited  
RM 1710, Technology Park,  
18 On Lai Street,  
Shatin, N.T., Hong Kong

Report No.:	QC30425
Date of Issue:	2018-12-28
Date Received:	2018-12-17
Date Tested:	2018-12-17
Date Completed:	2018-12-28

**ATTN:** Ms. Mei Ling Tang

Page: 1 of 4

**QC report:**  
**Method Blank**

Parameter	Method Blank 1	Method Blank 2	Method Blank 3	Method Blank 4	Method Blank 5	Acceptance
Total Suspended Solids (mg/L)	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Biochemical Oxygen Demand (mg O <sub>2</sub> /L)	N/A	N/A	N/A	N/A	N/A	N/A
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
<i>E.coli</i> (cfu/100mL)	<1	<1	<1	<1	<1	<1
Chlorophyll-a (µg chlorophyll a/L)	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005

Parameter	Method Blank 6	Method Blank 7	Method Blank 8	Acceptance
Total Suspended Solids (mg/L)	<0.5	<0.5	<0.5	<0.5
Biochemical Oxygen Demand (mg O <sub>2</sub> /L)	N/A	N/A	N/A	N/A
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.002	<0.002	<0.002	<0.002
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01
<i>E.coli</i> (cfu/100mL)	<1	<1	<1	<1
Chlorophyll-a (µg chlorophyll a/L)	<0.005	<0.005	<0.005	<0.005

Remarks: 1) < = less than

2) N/A = Not applicable

3) This report is the summary of quality control data for report number 30425

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**PREPARED AND CHECKED BY:**

For and On Behalf of **WELLAB Ltd.**



**PATRICK TSE**

Laboratory Manager

## TEST REPORT

Report No.:	QC30425
Date of Issue:	2018-12-28
Date Received:	2018-12-17
Date Tested:	2018-12-17
Date Completed:	2018-12-28

Page: 2 of 4

**QC report:  
Method QC**

Parameter	MQC1	MQC2	MQC3	MQC4	MQC5	Acceptance
Total Suspended Solids (%)	99	100	105	101	98	80-120
Biochemical Oxygen Demand (mg O <sub>2</sub> /L)	209	201	185	201	197	170-220
Ammonia nitrogen (%)	95	97	103	95	92	80-120
Nitrite-nitrogen (%)	100	96	94	96	95	80-120
Nitrate-nitrogen (%)	105	96	92	97	100	80-120
<i>E.coli</i> (cfu/100mL)	N/A	N/A	N/A	N/A	N/A	N/A
Chlorophyll-a (%)	102	99	96	105	104	80-120

Parameter	MQC6	MQC7	MQC8	Acceptance
Total Suspended Solids (%)	99	101	94	80-120
Biochemical Oxygen Demand (mg O <sub>2</sub> /L)	208	196	190	170-220
Ammonia nitrogen (%)	95	98	96	80-120
Nitrite-nitrogen (%)	96	102	94	80-120
Nitrate-nitrogen (%)	95	98	103	80-120
<i>E.coli</i> (cfu/100mL)	N/A	N/A	N/A	N/A
Chlorophyll-a (%)	97	98	93	80-120

Remarks: 1) < = less than

2) N/A = Not applicable

3) This report is the summary of quality control data for report number 30425

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## TEST REPORT

Report No.:	QC30425
Date of Issue:	2018-12-28
Date Received:	2018-12-17
Date Tested:	2018-12-17
Date Completed:	2018-12-28

Page: 3 of 4

**QC report:  
Sample Spike**

Parameter	Sample Spike 1	Sample Spike 2	Sample Spike 3	Sample Spike 4	Sample Spike 5	Acceptance
Total Suspended Solids	N/A	N/A	N/A	N/A	N/A	N/A
Biochemical Oxygen Demand	N/A	N/A	N/A	N/A	N/A	N/A
Ammonia nitrogen (%)	95	97	94	97	101	80-120
Nitrite-nitrogen (%)	99	94	100	100	95	80-120
Nitrate-nitrogen (%)	96	95	97	98	93	80-120
<i>E.coli</i>	N/A	N/A	N/A	N/A	N/A	N/A
Chlorophyll-a (%)	99	95	90	97	98	80-120

Parameter	Sample Spike 6	Sample Spike 7	Sample Spike 8	Acceptance
Total Suspended Solids	N/A	N/A	N/A	N/A
Biochemical Oxygen Demand	N/A	N/A	N/A	N/A
Ammonia nitrogen (%)	97	95	96	80-120
Nitrite-nitrogen (%)	95	91	92	80-120
Nitrate-nitrogen (%)	98	98	93	80-120
<i>E.coli</i>	N/A	N/A	N/A	N/A
Chlorophyll-a (%)	97	90	92	80-120

Remarks: 1) < = less than

2) N/A = Not applicable

3) This report is the summary of quality control data for report number 30425

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## TEST REPORT

Report No.:	QC30425
Date of Issue:	2018-12-28
Date Received:	2018-12-17
Date Tested:	2018-12-17
Date Completed:	2018-12-28

Page: 4 of 4

### QC report:

#### Sample Duplicate

Parameter	Sample Duplicate 1	Sample Duplicate 2	Sample Duplicate 3	Sample Duplicate 4	Sample Duplicate 5	Acceptance
Total Suspended Solids (%)	2	2	2	2	2	RPD <sub>≤</sub> 5
Biochemical Oxygen Demand (%)	N/A	N/A	N/A	N/A	N/A	RPD <sub>≤</sub> 20
Ammonia nitrogen (%)	N/A	4	5	6	N/A	RPD <sub>≤</sub> 20
Nitrite-nitrogen (%)	N/A	N/A	N/A	N/A	N/A	RPD <sub>≤</sub> 20
Nitrate-nitrogen (%)	N/A	N/A	N/A	N/A	N/A	RPD <sub>≤</sub> 20
<i>E.coli</i>	N/A	N/A	N/A	N/A	N/A	N/A
Chlorophyll-a (%)	4	3	5	6	4	RPD <sub>≤</sub> 20

Parameter	Sample Duplicate 6	Sample Duplicate 7	Sample Duplicate 8	Acceptance
Total Suspended Solids (%)	3	3	3	RPD <sub>≤</sub> 5
Biochemical Oxygen Demand (%)	N/A	N/A	N/A	RPD <sub>≤</sub> 20
Ammonia nitrogen (%)	6	6	3	RPD <sub>≤</sub> 20
Nitrite-nitrogen (%)	N/A	N/A	N/A	RPD <sub>≤</sub> 20
Nitrate-nitrogen (%)	N/A	N/A	N/A	RPD <sub>≤</sub> 20
<i>E.coli</i>	N/A	N/A	N/A	N/A
Chlorophyll-a (%)	6	4	4	RPD <sub>≤</sub> 20

Remarks: 1) < = less than

2) N/A = Not applicable

3) This report is the summary of quality control data for report number 30425

\*\*\*\*\*END OF REPORT\*\*\*\*\*

## TEST REPORT

**APPLICANT:** Cinotech Consultants Limited  
RM 1710, Technology Park,  
18 On Lai Street,  
Shatin, N.T., Hong Kong

Report No.:	QC30446
Date of Issue:	2019-01-03
Date Received:	2018-12-19
Date Tested:	2018-12-19
Date Completed:	2019-01-03

**ATTN:** Ms. Mei Ling Tang

Page: 1 of 4

**QC report:**  
**Method Blank**

Parameter	Method Blank 1	Method Blank 2	Method Blank 3	Method Blank 4	Method Blank 5	Acceptance
Total Suspended Solids (mg/L)	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Biochemical Oxygen Demand (mg O <sub>2</sub> /L)	N/A	N/A	N/A	N/A	N/A	N/A
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
<i>E.coli</i> (cfu/100mL)	<1	<1	<1	<1	<1	<1
Chlorophyll-a (µg chlorophyll a/L)	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005

Parameter	Method Blank 6	Method Blank 7	Method Blank 8	Acceptance
Total Suspended Solids (mg/L)	<0.5	<0.5	<0.5	<0.5
Biochemical Oxygen Demand (mg O <sub>2</sub> /L)	N/A	N/A	N/A	N/A
Ammonia Nitrogen (mg NH <sub>3</sub> -N/L)	<0.01	<0.01	<0.01	<0.01
Nitrite-nitrogen (NO <sub>2</sub> <sup>-</sup> -N/L)	<0.002	<0.002	<0.002	<0.002
Nitrate-nitrogen (NO <sub>3</sub> <sup>-</sup> -N/L)	<0.01	<0.01	<0.01	<0.01
<i>E.coli</i> (cfu/100mL)	<1	<1	<1	<1
Chlorophyll-a (µg chlorophyll a/L)	<0.005	<0.005	<0.005	<0.005

Remarks: 1) < = less than

2) N/A = Not applicable

3) This report is the summary of quality control data for report number 30446

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**PREPARED AND CHECKED BY:**

For and On Behalf of **WELLAB Ltd.**



**PATRICK TSE**

Laboratory Manager



## TEST REPORT

Report No.:	QC30446
Date of Issue:	2019-01-03
Date Received:	2018-12-19
Date Tested:	2018-12-19
Date Completed:	2019-01-03

Page: 2 of 4

**QC report:  
Method QC**

Parameter	MQC1	MQC2	MQC3	MQC4	MQC5	Acceptance
Total Suspended Solids (%)	94	98	96	96	96	80-120
Biochemical Oxygen Demand (mg O <sub>2</sub> /L)	206	185	193	207	205	170-220
Ammonia nitrogen (%)	103	100	98	95	99	80-120
Nitrite-nitrogen (%)	94	99	99	94	95	80-120
Nitrate-nitrogen (%)	96	100	96	92	92	80-120
<i>E.coli</i> (cfu/100mL)	N/A	N/A	N/A	N/A	N/A	N/A
Chlorophyll-a (%)	94	93	99	98	97	80-120

Parameter	MQC6	MQC7	MQC8	Acceptance
Total Suspended Solids (%)	98	101	96	80-120
Biochemical Oxygen Demand (mg O <sub>2</sub> /L)	192	206	194	170-220
Ammonia nitrogen (%)	103	97	102	80-120
Nitrite-nitrogen (%)	92	99	100	80-120
Nitrate-nitrogen (%)	95	94	92	80-120
<i>E.coli</i> (cfu/100mL)	N/A	N/A	N/A	N/A
Chlorophyll-a (%)	98	92	101	80-120

Remarks: 1) < = less than

2) N/A = Not applicable

3) This report is the summary of quality control data for report number 30446

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## TEST REPORT

Report No.:	QC30446
Date of Issue:	2019-01-03
Date Received:	2018-12-19
Date Tested:	2018-12-19
Date Completed:	2019-01-03

Page: 3 of 4

**QC report:  
Sample Spike**

Parameter	Sample Spike 1	Sample Spike 2	Sample Spike 3	Sample Spike 4	Sample Spike 5	Acceptance
Total Suspended Solids	N/A	N/A	N/A	N/A	N/A	N/A
Biochemical Oxygen Demand	N/A	N/A	N/A	N/A	N/A	N/A
Ammonia nitrogen (%)	94	92	90	99	100	80-120
Nitrite-nitrogen (%)	91	95	95	96	91	80-120
Nitrate-nitrogen (%)	95	98	100	97	96	80-120
<i>E.coli</i>	N/A	N/A	N/A	N/A	N/A	N/A
Chlorophyll-a (%)	96	98	100	97	90	80-120

Parameter	Sample Spike 6	Sample Spike 7	Sample Spike 8	Acceptance
Total Suspended Solids	N/A	N/A	N/A	N/A
Biochemical Oxygen Demand	N/A	N/A	N/A	N/A
Ammonia nitrogen (%)	92	100	97	80-120
Nitrite-nitrogen (%)	98	95	99	80-120
Nitrate-nitrogen (%)	95	96	96	80-120
<i>E.coli</i>	N/A	N/A	N/A	N/A
Chlorophyll-a (%)	94	91	96	80-120

Remarks: 1) < = less than

2) N/A = Not applicable

3) This report is the summary of quality control data for report number 30446

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## TEST REPORT

Report No.:	QC30446
Date of Issue:	2019-01-03
Date Received:	2018-12-19
Date Tested:	2018-12-19
Date Completed:	2019-01-03
Page:	4 of 4

**QC report:  
Sample Duplicate**

Parameter	Sample Duplicate 1	Sample Duplicate 2	Sample Duplicate 3	Sample Duplicate 4	Sample Duplicate 5	Acceptance
Total Suspended Solids (%)	2	3	2	4	3	RPD <sub>≤</sub> 5
Biochemical Oxygen Demand (%)	N/A	N/A	N/A	N/A	N/A	RPD <sub>≤</sub> 20
Ammonia nitrogen (%)	7	4	3	6	4	RPD <sub>≤</sub> 20
Nitrite-nitrogen (%)	5	7	3	3	5	RPD <sub>≤</sub> 20
Nitrate-nitrogen (%)	4	5	7	6	4	RPD <sub>≤</sub> 20
<i>E.coli</i>	N/A	N/A	N/A	N/A	N/A	N/A
Chlorophyll-a (%)	3	7	6	4	4	RPD <sub>≤</sub> 20

Parameter	Sample Duplicate 6	Sample Duplicate 7	Sample Duplicate 8	Acceptance
Total Suspended Solids (%)	4	3	2	RPD <sub>≤</sub> 5
Biochemical Oxygen Demand (%)	N/A	N/A	N/A	RPD <sub>≤</sub> 20
Ammonia nitrogen (%)	3	3	5	RPD <sub>≤</sub> 20
Nitrite-nitrogen (%)	4	5	5	RPD <sub>≤</sub> 20
Nitrate-nitrogen (%)	4	4	4	RPD <sub>≤</sub> 20
<i>E.coli</i>	N/A	N/A	N/A	N/A
Chlorophyll-a (%)	4	3	6	RPD <sub>≤</sub> 20

Remarks: 1) < = less than

2) N/A = Not applicable

3) This report is the summary of quality control data for report number 30446

\*\*\*\*\*END OF REPORT\*\*\*\*\*

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**APPENDIX E  
INSTRUMENTAL VALUE OF TOTAL  
AMMONIA NITROGEN (FOR REFERENCE  
ONLY)**

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**Contract No. SPW 09 / 2018****Environmental Team Baseline Surveys for Sha Tin Cavern Sewage Treatment Works****Appendix F - Instrumental Value of Total Ammonia Nitrogen (20 June 2018)**

Sample ID	Sampling Depth	Tide	Sample No.	NH <sub>3</sub>
F1	S	Mid-Ebb	29108-1	0.07
F1	M	Mid-Ebb	29108-2	0.07
F1	B	Mid-Ebb	29108-3	0.06
W2	S	Mid-Ebb	29108-4	0.12
W2	M	Mid-Ebb	29108-5	
W2	B	Mid-Ebb	29108-6	0.09
CR1	S	Mid-Ebb	29108-7	0.07
CR1	M	Mid-Ebb	29108-8	
CR1	B	Mid-Ebb	29108-9	0.05
CR15	S	Mid-Ebb	29108-10	0.08
CR15	M	Mid-Ebb	29108-11	0.01
CR15	B	Mid-Ebb	29108-12	0.12
C1	S	Mid-Ebb	29108-13	0.14
C1	M	Mid-Ebb	29108-14	0.13
C1	B	Mid-Ebb	29108-15	0.15
CR16	S	Mid-Ebb	29108-16	0.15
CR16	M	Mid-Ebb	29108-17	0.18
CR16	B	Mid-Ebb	29108-18	0.18
CR17	S	Mid-Ebb	29108-19	0.14
CR17	M	Mid-Ebb	29108-20	
CR17	B	Mid-Ebb	29108-21	0.24
W1	S	Mid-Ebb	29108-22	0.11
W1	M	Mid-Ebb	29108-23	0.12
W1	B	Mid-Ebb	29108-24	0.13
F1	S	Mid-Flood	29108-25	0.09
F1	M	Mid-Flood	29108-26	0.08
F1	B	Mid-Flood	29108-27	0.10
W2	S	Mid-Flood	29108-28	0.11
W2	M	Mid-Flood	29108-29	
W2	B	Mid-Flood	29108-30	0.08
CR1	S	Mid-Flood	29108-31	0.07
CR1	M	Mid-Flood	29108-32	0.06
CR1	B	Mid-Flood	29108-33	0.17
CR15	S	Mid-Flood	29108-34	0.08
CR15	M	Mid-Flood	29108-35	0.04
CR15	B	Mid-Flood	29108-36	0.10
C1	S	Mid-Flood	29108-37	0.16
C1	M	Mid-Flood	29108-38	0.12
C1	B	Mid-Flood	29108-39	0.12
CR16	S	Mid-Flood	29108-40	0.08
CR16	M	Mid-Flood	29108-41	0.09
CR16	B	Mid-Flood	29108-42	0.09
CR17	S	Mid-Flood	29108-43	0.18

Shaded cells mean no measurement was made due to shallow depth (<6m).

**Contract No. SPW 09 / 2018****Environmental Team Baseline Surveys for Sha Tin Cavern Sewage Treatment Works****Appendix F - Instrumental Value of Total Ammonia Nitrogen (20 June 2018)**

Sample ID	Sampling Depth	Tide	Sample No.	NH <sub>3</sub>
CR17	M	Mid-Flood	29108-44	0.17
CR17	B	Mid-Flood	29108-45	0.21
W1	S	Mid-Flood	29108-46	0.12
W1	M	Mid-Flood	29108-47	0.13
W1	B	Mid-Flood	29108-48	0.21
G1	S	Mid-Ebb	29108-49	0.03
G1	M	Mid-Ebb	29108-50	0.04
G1	B	Mid-Ebb	29108-51	0.05
F2	S	Mid-Ebb	29108-52	0.06
F2	M	Mid-Ebb	29108-53	0.08
F2	B	Mid-Ebb	29108-54	0.10
F4	S	Mid-Ebb	29108-55	0.14
F4	M	Mid-Ebb	29108-56	0.06
F4	B	Mid-Ebb	29108-57	0.08
CR9	S	Mid-Ebb	29108-58	0.03
CR9	M	Mid-Ebb	29108-59	0.08
CR9	B	Mid-Ebb	29108-60	0.06
F3	S	Mid-Ebb	29108-61	0.11
F3	M	Mid-Ebb	29108-62	0.08
F3	B	Mid-Ebb	29108-63	0.08
G1	S	Mid-Flood	29108-64	0.09
G1	M	Mid-Flood	29108-65	0.13
G1	B	Mid-Flood	29108-66	0.13
F2	S	Mid-Flood	29108-67	0.11
F2	M	Mid-Flood	29108-68	0.12
F2	B	Mid-Flood	29108-69	0.10
F4	S	Mid-Flood	29108-70	0.03
F4	M	Mid-Flood	29108-71	0.11
F4	B	Mid-Flood	29108-72	0.03
CR9	S	Mid-Flood	29108-73	0.04
CR9	M	Mid-Flood	29108-74	0.05
CR9	B	Mid-Flood	29108-75	0.03
F3	S	Mid-Flood	29108-76	0.05
F3	M	Mid-Flood	29108-77	0.08
F3	B	Mid-Flood	29108-78	0.05

**Contract No. SPW 09 / 2018****Environmental Team Baseline Surveys for Sha Tin Cavern Sewage Treatment Works****Appendix F - Instrumental Value of Total Ammonia Nitrogen (26 June 2018)**

Sample ID	Sampling Depth	Tide	Sample No.	NH <sub>3</sub>
F1	S	Mid-Ebb	29151-1	0.06
F1	M	Mid-Ebb	29151-2	
F1	B	Mid-Ebb	29151-3	0.02
W2	S	Mid-Ebb	29151-4	0.21
W2	M	Mid-Ebb	29151-5	
W2	B	Mid-Ebb	29151-6	0.18
CR1	S	Mid-Ebb	29151-7	0.05
CR1	M	Mid-Ebb	29151-8	
CR1	B	Mid-Ebb	29151-9	0.05
CR15	S	Mid-Ebb	29151-10	0.03
CR15	M	Mid-Ebb	29151-11	0.11
CR15	B	Mid-Ebb	29151-12	0.10
C1	S	Mid-Ebb	29151-13	0.03
C1	M	Mid-Ebb	29151-14	0.03
C1	B	Mid-Ebb	29151-15	0.07
CR16	S	Mid-Ebb	29151-16	0.00
CR16	M	Mid-Ebb	29151-17	0.16
CR16	B	Mid-Ebb	29151-18	0.04
CR17	S	Mid-Ebb	29151-19	0.01
CR17	M	Mid-Ebb	29151-20	0.01
CR17	B	Mid-Ebb	29151-21	0.10
W1	S	Mid-Ebb	29151-22	0.29
W1	M	Mid-Ebb	29151-23	0.08
W1	B	Mid-Ebb	29151-24	0.19
F1	S	Mid-Flood	29151-25	0.02
F1	M	Mid-Flood	29151-26	
F1	B	Mid-Flood	29151-27	0.01
W2	S	Mid-Flood	29151-28	0.09
W2	M	Mid-Flood	29151-29	
W2	B	Mid-Flood	29151-30	<0.01
CR1	S	Mid-Flood	29151-31	0.01
CR1	M	Mid-Flood	29151-32	
CR1	B	Mid-Flood	29151-33	0.05
CR15	S	Mid-Flood	29151-34	0.02
CR15	M	Mid-Flood	29151-35	0.05
CR15	B	Mid-Flood	29151-36	<0.01
C1	S	Mid-Flood	29151-37	0.02
C1	M	Mid-Flood	29151-38	0.09
C1	B	Mid-Flood	29151-39	0.09
CR16	S	Mid-Flood	29151-40	0.02
CR16	M	Mid-Flood	29151-41	0.10
CR16	B	Mid-Flood	29151-42	0.02
CR17	S	Mid-Flood	29151-43	0.03

Shaded cells mean no measurement was made due to shallow depth (<6m).

**Contract No. SPW 09 / 2018****Environmental Team Baseline Surveys for Sha Tin Cavern Sewage Treatment Works****Appendix F - Instrumental Value of Total Ammonia Nitrogen (26 June 2018)**

Sample ID	Sampling Depth	Tide	Sample No.	NH <sub>3</sub>
CR17	M	Mid-Flood	29151-44	
CR17	B	Mid-Flood	29151-45	0.04
W1	S	Mid-Flood	29151-46	0.07
W1	M	Mid-Flood	29151-47	0.10
W1	B	Mid-Flood	29151-48	0.17
G1	S	Mid-Ebb	29151-49	0.01
G1	M	Mid-Ebb	29151-50	<0.01
G1	B	Mid-Ebb	29151-51	0.10
F2	S	Mid-Ebb	29151-52	0.07
F2	M	Mid-Ebb	29151-53	0.01
F2	B	Mid-Ebb	29151-54	0.09
F4	S	Mid-Ebb	29151-55	0.04
F4	M	Mid-Ebb	29151-56	0.03
F4	B	Mid-Ebb	29151-57	0.03
CR9	S	Mid-Ebb	29151-58	<0.01
CR9	M	Mid-Ebb	29151-59	<0.01
CR9	B	Mid-Ebb	29151-60	0.03
F3	S	Mid-Ebb	29151-61	0.01
F3	M	Mid-Ebb	29151-62	0.03
F3	B	Mid-Ebb	29151-63	0.05
G1	S	Mid-Flood	29151-64	0.01
G1	M	Mid-Flood	29151-65	0.02
G1	B	Mid-Flood	29151-66	0.03
F2	S	Mid-Flood	29151-67	0.01
F2	M	Mid-Flood	29151-68	0.04
F2	B	Mid-Flood	29151-69	0.02
F4	S	Mid-Flood	29151-70	0.03
F4	M	Mid-Flood	29151-71	0.03
F4	B	Mid-Flood	29151-72	0.04
CR9	S	Mid-Flood	29151-73	0.00
CR9	M	Mid-Flood	29151-74	0.01
CR9	B	Mid-Flood	29151-75	0.02
F3	S	Mid-Flood	29151-76	0.01
F3	M	Mid-Flood	29151-77	<0.01
F3	B	Mid-Flood	29151-78	0.01

Remarks: <0.01 means the instrumental value of NH<sub>3</sub>  $\leq$ 0

Shaded cells mean no measurement was made due to shallow depth (<6m).



**Contract No. SPW 09 / 2018****Environmental Team Baseline Surveys for Sha Tin Cavern Sewage Treatment Works****Appendix F - Instrumental Value of Total Ammonia Nitrogen (16 July 2018)**

Sample ID	Sampling Depth	Tide	Sample No.	NH <sub>3</sub>
F1	S	Mid-Ebb	29284-1	0.07
F1	M	Mid-Ebb	29284-2	0.13
F1	B	Mid-Ebb	29284-3	0.09
W2	S	Mid-Ebb	29284-4	0.32
W2	M	Mid-Ebb	29284-5	
W2	B	Mid-Ebb	29284-6	0.04
CR1	S	Mid-Ebb	29284-7	0.05
CR1	M	Mid-Ebb	29284-8	<0.01
CR1	B	Mid-Ebb	29284-9	0.03
CR15	S	Mid-Ebb	29284-10	0.03
CR15	M	Mid-Ebb	29284-11	<0.01
CR15	B	Mid-Ebb	29284-12	0.00
C1	S	Mid-Ebb	29284-13	0.02
C1	M	Mid-Ebb	29284-14	0.04
C1	B	Mid-Ebb	29284-15	0.03
CR16	S	Mid-Ebb	29284-16	0.01
CR16	M	Mid-Ebb	29284-17	0.08
CR16	B	Mid-Ebb	29284-18	0.03
CR17	S	Mid-Ebb	29284-19	0.02
CR17	M	Mid-Ebb	29284-20	
CR17	B	Mid-Ebb	29284-21	0.04
W1	S	Mid-Ebb	29284-22	<0.01
W1	M	Mid-Ebb	29284-23	0.01
W1	B	Mid-Ebb	29284-24	0.04
F1	S	Mid-Flood	29284-25	0.09
F1	M	Mid-Flood	29284-26	0.03
F1	B	Mid-Flood	29284-27	0.05
W2	S	Mid-Flood	29284-28	0.08
W2	M	Mid-Flood	29284-29	0.06
W2	B	Mid-Flood	29284-30	0.08
CR1	S	Mid-Flood	29284-31	0.06
CR1	M	Mid-Flood	29284-32	<0.01
CR1	B	Mid-Flood	29284-33	0.08
CR15	S	Mid-Flood	29284-34	0.05
CR15	M	Mid-Flood	29284-35	0.02
CR15	B	Mid-Flood	29284-36	0.03
C1	S	Mid-Flood	29284-37	<0.01
C1	M	Mid-Flood	29284-38	0.03
C1	B	Mid-Flood	29284-39	<0.01
CR16	S	Mid-Flood	29284-40	0.03
CR16	M	Mid-Flood	29284-41	<0.01
CR16	B	Mid-Flood	29284-42	<0.01
CR17	S	Mid-Flood	29284-43	0.02

Shaded cells mean no measurement was made due to shallow depth (<6m).

**Contract No. SPW 09 / 2018****Environmental Team Baseline Surveys for Sha Tin Cavern Sewage Treatment Works****Appendix F - Instrumental Value of Total Ammonia Nitrogen (16 July 2018)**

Sample ID	Sampling Depth	Tide	Sample No.	NH <sub>3</sub>
CR17	M	Mid-Flood	29284-44	0.03
CR17	B	Mid-Flood	29284-45	0.03
W1	S	Mid-Flood	29284-46	0.06
W1	M	Mid-Flood	29284-47	0.01
W1	B	Mid-Flood	29284-48	<0.01
G1	S	Mid-Ebb	29284-49	0.01
G1	M	Mid-Ebb	29284-50	0.12
G1	B	Mid-Ebb	29284-51	0.01
F2	S	Mid-Ebb	29284-52	<0.01
F2	M	Mid-Ebb	29284-53	<0.01
F2	B	Mid-Ebb	29284-54	<0.01
F4	S	Mid-Ebb	29284-55	<0.01
F4	M	Mid-Ebb	29284-56	0.01
F4	B	Mid-Ebb	29284-57	<0.01
CR9	S	Mid-Ebb	29284-58	0.03
CR9	M	Mid-Ebb	29284-59	<0.01
CR9	B	Mid-Ebb	29284-60	0.01
F3	S	Mid-Ebb	29284-61	<0.01
F3	M	Mid-Ebb	29284-62	<0.01
F3	B	Mid-Ebb	29284-63	<0.01
G1	S	Mid-Flood	29284-64	0.05
G1	M	Mid-Flood	29284-65	0.07
G1	B	Mid-Flood	29284-66	0.01
F2	S	Mid-Flood	29284-67	0.05
F2	M	Mid-Flood	29284-68	<0.01
F2	B	Mid-Flood	29284-69	0.01
F4	S	Mid-Flood	29284-70	0.04
F4	M	Mid-Flood	29284-71	<0.01
F4	B	Mid-Flood	29284-72	<0.01
CR9	S	Mid-Flood	29284-73	0.04
CR9	M	Mid-Flood	29284-74	0.01
CR9	B	Mid-Flood	29284-75	<0.01
F3	S	Mid-Flood	29284-76	<0.01
F3	M	Mid-Flood	29284-77	0.01
F3	B	Mid-Flood	29284-78	<0.01

Remarks: <0.01 means the instrumental value of NH<sub>3</sub>  $\leq$ 0

**Contract No. SPW 09 / 2018****Environmental Team Baseline Surveys for Sha Tin Cavern Sewage Treatment Works****Appendix F - Instrumental Value of Total Ammonia Nitrogen (24 July 2018)**

Sample ID	Sampling Depth	Tide	Sample No.	NH <sub>3</sub>
F1	S	Mid-Ebb	29356-1	<0.01
F1	M	Mid-Ebb	29356-2	
F1	B	Mid-Ebb	29356-3	<0.01
W2	S	Mid-Ebb	29356-4	0.15
W2	M	Mid-Ebb	29356-5	
W2	B	Mid-Ebb	29356-6	0.07
CR1	S	Mid-Ebb	29356-7	0.01
CR1	M	Mid-Ebb	29356-8	
CR1	B	Mid-Ebb	29356-9	<0.01
CR15	S	Mid-Ebb	29356-10	<0.01
CR15	M	Mid-Ebb	29356-11	<0.01
CR15	B	Mid-Ebb	29356-12	<0.01
C1	S	Mid-Ebb	29356-13	<0.01
C1	M	Mid-Ebb	29356-14	0.02
C1	B	Mid-Ebb	29356-15	<0.01
CR16	S	Mid-Ebb	29356-16	<0.01
CR16	M	Mid-Ebb	29356-17	<0.01
CR16	B	Mid-Ebb	29356-18	0.00
CR17	S	Mid-Ebb	29356-19	0.01
CR17	M	Mid-Ebb	29356-20	<0.01
CR17	B	Mid-Ebb	29356-21	0.00
W1	S	Mid-Ebb	29356-22	<0.01
W1	M	Mid-Ebb	29356-23	<0.01
W1	B	Mid-Ebb	29356-24	<0.01
F1	S	Mid-Flood	29356-25	<0.01
F1	M	Mid-Flood	29356-26	
F1	B	Mid-Flood	29356-27	0.03
W2	S	Mid-Flood	29356-28	0.08
W2	M	Mid-Flood	29356-29	
W2	B	Mid-Flood	29356-30	<0.01
CR1	S	Mid-Flood	29356-31	<0.01
CR1	M	Mid-Flood	29356-32	
CR1	B	Mid-Flood	29356-33	0.02
CR15	S	Mid-Flood	29356-34	0.00
CR15	M	Mid-Flood	29356-35	<0.01
CR15	B	Mid-Flood	29356-36	<0.01
C1	S	Mid-Flood	29356-37	<0.01
C1	M	Mid-Flood	29356-38	<0.01
C1	B	Mid-Flood	29356-39	<0.01
CR16	S	Mid-Flood	29356-40	<0.01
CR16	M	Mid-Flood	29356-41	<0.01
CR16	B	Mid-Flood	29356-42	<0.01
CR17	S	Mid-Flood	29356-43	0.04

Shaded cells mean no measurement was made due to shallow depth (<6m).

**Contract No. SPW 09 / 2018****Environmental Team Baseline Surveys for Sha Tin Cavern Sewage Treatment Works****Appendix F - Instrumental Value of Total Ammonia Nitrogen (24 July 2018)**

Sample ID	Sampling Depth	Tide	Sample No.	NH <sub>3</sub>
CR17	M	Mid-Flood	29356-44	
CR17	B	Mid-Flood	29356-45	0.01
W1	S	Mid-Flood	29356-46	0.01
W1	M	Mid-Flood	29356-47	<0.01
W1	B	Mid-Flood	29356-48	<0.01
G1	S	Mid-Ebb	29356-49	0.00
G1	M	Mid-Ebb	29356-50	<0.01
G1	B	Mid-Ebb	29356-51	<0.01
F2	S	Mid-Ebb	29356-52	<0.01
F2	M	Mid-Ebb	29356-53	0.04
F2	B	Mid-Ebb	29356-54	<0.01
F4	S	Mid-Ebb	29356-55	<0.01
F4	M	Mid-Ebb	29356-56	<0.01
F4	B	Mid-Ebb	29356-57	<0.01
CR9	S	Mid-Ebb	29356-58	<0.01
CR9	M	Mid-Ebb	29356-59	<0.01
CR9	B	Mid-Ebb	29356-60	0.03
F3	S	Mid-Ebb	29356-61	0.03
F3	M	Mid-Ebb	29356-62	0.14
F3	B	Mid-Ebb	29356-63	0.01
G1	S	Mid-Flood	29356-64	<0.01
G1	M	Mid-Flood	29356-65	<0.01
G1	B	Mid-Flood	29356-66	0.00
F2	S	Mid-Flood	29356-67	<0.01
F2	M	Mid-Flood	29356-68	<0.01
F2	B	Mid-Flood	29356-69	0.01
F4	S	Mid-Flood	29356-70	<0.01
F4	M	Mid-Flood	29356-71	<0.01
F4	B	Mid-Flood	29356-72	0.03
CR9	S	Mid-Flood	29356-73	<0.01
CR9	M	Mid-Flood	29356-74	<0.01
CR9	B	Mid-Flood	29356-75	<0.01
F3	S	Mid-Flood	29356-76	<0.01
F3	M	Mid-Flood	29356-77	<0.01
F3	B	Mid-Flood	29356-78	<0.01

Remarks: <0.01 means the instrumental value of NH<sub>3</sub> ≤ 0

Shaded cells mean no measurement was made due to shallow depth (<6m).

**Contract No. SPW 09 / 2018****Environmental Team Baseline Surveys for Sha Tin Cavern Sewage Treatment Works****Appendix F - Instrumental Value of Total Ammonia Nitrogen (16 August 2018)**

Sample ID	Sampling Depth	Tide	Sample No.	NH <sub>3</sub>
F1	S	Mid-Ebb	29489-1	0.04
F1	M	Mid-Ebb	29489-2	0.03
F1	B	Mid-Ebb	29489-3	0.04
W2	S	Mid-Ebb	29489-4	0.05
W2	M	Mid-Ebb	29489-5	
W2	B	Mid-Ebb	29489-6	0.05
CR1	S	Mid-Ebb	29489-7	0.06
CR1	M	Mid-Ebb	29489-8	0.07
CR1	B	Mid-Ebb	29489-9	0.02
CR15	S	Mid-Ebb	29489-10	0.04
CR15	M	Mid-Ebb	29489-11	0.06
CR15	B	Mid-Ebb	29489-12	0.11
C1	S	Mid-Ebb	29489-13	0.07
C1	M	Mid-Ebb	29489-14	0.02
C1	B	Mid-Ebb	29489-15	0.06
CR16	S	Mid-Ebb	29489-16	0.05
CR16	M	Mid-Ebb	29489-17	0.07
CR16	B	Mid-Ebb	29489-18	0.03
CR17	S	Mid-Ebb	29489-19	0.01
CR17	M	Mid-Ebb	29489-20	
CR17	B	Mid-Ebb	29489-21	0.04
W1	S	Mid-Ebb	29489-22	0.06
W1	M	Mid-Ebb	29489-23	0.05
W1	B	Mid-Ebb	29489-24	0.05
F1	S	Mid-Flood	29489-25	0.03
F1	M	Mid-Flood	29489-26	0.06
F1	B	Mid-Flood	29489-27	0.21
W2	S	Mid-Flood	29489-28	0.10
W2	M	Mid-Flood	29489-29	
W2	B	Mid-Flood	29489-30	0.29
CR1	S	Mid-Flood	29489-31	0.05
CR1	M	Mid-Flood	29489-32	0.05
CR1	B	Mid-Flood	29489-33	0.04
CR15	S	Mid-Flood	29489-34	0.05
CR15	M	Mid-Flood	29489-35	0.06
CR15	B	Mid-Flood	29489-36	0.11
C1	S	Mid-Flood	29489-37	0.04
C1	M	Mid-Flood	29489-38	0.03
C1	B	Mid-Flood	29489-39	0.05
CR16	S	Mid-Flood	29489-40	0.04
CR16	M	Mid-Flood	29489-41	0.07
CR16	B	Mid-Flood	29489-42	0.09
CR17	S	Mid-Flood	29489-43	0.04

Shaded cells mean no measurement was made due to shallow depth (<6m).

**Contract No. SPW 09 / 2018****Environmental Team Baseline Surveys for Sha Tin Cavern Sewage Treatment Works****Appendix F - Instrumental Value of Total Ammonia Nitrogen (16 August 2018)**

Sample ID	Sampling Depth	Tide	Sample No.	NH <sub>3</sub>
CR17	M	Mid-Flood	29489-44	
CR17	B	Mid-Flood	29489-45	0.01
W1	S	Mid-Flood	29489-46	0.03
W1	M	Mid-Flood	29489-47	0.09
W1	B	Mid-Flood	29489-48	0.08
G1	S	Mid-Ebb	29489-49	0.04
G1	M	Mid-Ebb	29489-50	0.02
G1	B	Mid-Ebb	29489-51	0.02
F2	S	Mid-Ebb	29489-52	0.08
F2	M	Mid-Ebb	29489-53	0.04
F2	B	Mid-Ebb	29489-54	0.02
F4	S	Mid-Ebb	29489-55	0.02
F4	M	Mid-Ebb	29489-56	0.03
F4	B	Mid-Ebb	29489-57	0.15
CR9	S	Mid-Ebb	29489-58	0.17
CR9	M	Mid-Ebb	29489-59	0.10
CR9	B	Mid-Ebb	29489-60	0.08
F3	S	Mid-Ebb	29489-61	0.01
F3	M	Mid-Ebb	29489-62	0.01
F3	B	Mid-Ebb	29489-63	0.02
G1	S	Mid-Flood	29489-64	0.09
G1	M	Mid-Flood	29489-65	0.02
G1	B	Mid-Flood	29489-66	0.07
F2	S	Mid-Flood	29489-67	0.03
F2	M	Mid-Flood	29489-68	0.01
F2	B	Mid-Flood	29489-69	0.01
F4	S	Mid-Flood	29489-70	0.01
F4	M	Mid-Flood	29489-71	0.05
F4	B	Mid-Flood	29489-72	0.06
CR9	S	Mid-Flood	29489-73	0.02
CR9	M	Mid-Flood	29489-74	0.10
CR9	B	Mid-Flood	29489-75	0.04
F3	S	Mid-Flood	29489-76	0.02
F3	M	Mid-Flood	29489-77	0.01
F3	B	Mid-Flood	29489-78	0.05

Shaded cells mean no measurement was made due to shallow depth (<6m).

**Contract No. SPW 09 / 2018****Environmental Team Baseline Surveys for Sha Tin Cavern Sewage Treatment Works****Appendix F - Instrumental Value of Total Ammonia Nitrogen (25 August 2018)**

Sample ID	Sampling Depth	Tide	Sample No.	NH <sub>3</sub>
F1	S	Mid-Ebb	29551-1	<0.01
F1	M	Mid-Ebb	29551-2	
F1	B	Mid-Ebb	29551-3	<0.01
W2	S	Mid-Ebb	29551-4	0.02
W2	M	Mid-Ebb	29551-5	
W2	B	Mid-Ebb	29551-6	0.04
CR1	S	Mid-Ebb	29551-7	0.07
CR1	M	Mid-Ebb	29551-8	
CR1	B	Mid-Ebb	29551-9	0.02
CR15	S	Mid-Ebb	29551-10	<0.01
CR15	M	Mid-Ebb	29551-11	0.01
CR15	B	Mid-Ebb	29551-12	0.09
C1	S	Mid-Ebb	29551-13	<0.01
C1	M	Mid-Ebb	29551-14	0.01
C1	B	Mid-Ebb	29551-15	<0.01
CR16	S	Mid-Ebb	29551-16	<0.01
CR16	M	Mid-Ebb	29551-17	<0.01
CR16	B	Mid-Ebb	29551-18	0.09
CR17	S	Mid-Ebb	29551-19	<0.01
CR17	M	Mid-Ebb	29551-20	0.01
CR17	B	Mid-Ebb	29551-21	0.01
W1	S	Mid-Ebb	29551-22	0.02
W1	M	Mid-Ebb	29551-23	0.05
W1	B	Mid-Ebb	29551-24	0.17
F1	S	Mid-Flood	29551-25	<0.01
F1	M	Mid-Flood	29551-26	
F1	B	Mid-Flood	29551-27	0.00
W2	S	Mid-Flood	29551-28	0.13
W2	M	Mid-Flood	29551-29	
W2	B	Mid-Flood	29551-30	0.06
CR1	S	Mid-Flood	29551-31	0.03
CR1	M	Mid-Flood	29551-32	
CR1	B	Mid-Flood	29551-33	0.01
CR15	S	Mid-Flood	29551-34	0.01
CR15	M	Mid-Flood	29551-35	0.01
CR15	B	Mid-Flood	29551-36	0.05
C1	S	Mid-Flood	29551-37	0.06
C1	M	Mid-Flood	29551-38	0.01
C1	B	Mid-Flood	29551-39	0.02
CR16	S	Mid-Flood	29551-40	0.01
CR16	M	Mid-Flood	29551-41	0.00
CR16	B	Mid-Flood	29551-42	0.01
CR17	S	Mid-Flood	29551-43	0.06

Shaded cells mean no measurement was made due to shallow depth (&lt;6m).

**Contract No. SPW 09 / 2018****Environmental Team Baseline Surveys for Sha Tin Cavern Sewage Treatment Works****Appendix F - Instrumental Value of Total Ammonia Nitrogen (25 August 2018)**

Sample ID	Sampling Depth	Tide	Sample No.	NH <sub>3</sub>
CR17	M	Mid-Flood	29551-44	
CR17	B	Mid-Flood	29551-45	0.06
W1	S	Mid-Flood	29551-46	0.00
W1	M	Mid-Flood	29551-47	0.03
W1	B	Mid-Flood	29551-48	0.02
G1	S	Mid-Ebb	29552-49	0.00
G1	M	Mid-Ebb	29552-50	0.06
G1	B	Mid-Ebb	29552-51	0.02
F2	S	Mid-Ebb	29552-52	0.06
F2	M	Mid-Ebb	29552-53	0.01
F2	B	Mid-Ebb	29552-54	0.03
F4	S	Mid-Ebb	29552-55	0.01
F4	M	Mid-Ebb	29552-56	0.01
F4	B	Mid-Ebb	29552-57	<0.01
CR9	S	Mid-Ebb	29552-58	0.00
CR9	M	Mid-Ebb	29552-59	0.06
CR9	B	Mid-Ebb	29552-60	0.02
F3	S	Mid-Ebb	29552-61	0.03
F3	M	Mid-Ebb	29552-62	0.01
F3	B	Mid-Ebb	29552-63	0.03
G1	S	Mid-Flood	29552-64	0.03
G1	M	Mid-Flood	29552-65	0.06
G1	B	Mid-Flood	29552-66	0.01
F2	S	Mid-Flood	29552-67	0.01
F2	M	Mid-Flood	29552-68	0.02
F2	B	Mid-Flood	29552-69	<0.01
F4	S	Mid-Flood	29552-70	0.06
F4	M	Mid-Flood	29552-71	0.05
F4	B	Mid-Flood	29552-72	0.01
CR9	S	Mid-Flood	29552-73	0.03
CR9	M	Mid-Flood	29552-74	0.01
CR9	B	Mid-Flood	29552-75	0.06
F3	S	Mid-Flood	29552-76	0.04
F3	M	Mid-Flood	29552-77	0.03
F3	B	Mid-Flood	29552-78	0.08

Remarks: <0.01 means the instrumental value of NH<sub>3</sub> ≤ 0

Shaded cells mean no measurement was made due to shallow depth (<6m).



**Contract No. SPW 09 / 2018****Environmental Team Baseline Surveys for Sha Tin Cavern Sewage Treatment Works****Appendix F - Instrumental Value of Total Ammonia Nitrogen (20 September 2018)**

Sample ID	Sampling Depth	Tide	Sample No.	NH <sub>3</sub>
F1	S	Mid-Ebb	29748-1	0.35
F1	M	Mid-Ebb	29748-2	
F1	B	Mid-Ebb	29748-3	0.12
W2	S	Mid-Ebb	29748-4	0.09
W2	M	Mid-Ebb	29748-5	
W2	B	Mid-Ebb	29748-6	0.10
CR1	S	Mid-Ebb	29748-7	0.56
CR1	M	Mid-Ebb	29748-8	
CR1	B	Mid-Ebb	29748-9	0.09
CR15	S	Mid-Ebb	29748-10	0.03
CR15	M	Mid-Ebb	29748-11	0.04
CR15	B	Mid-Ebb	29748-12	0.14
C1	S	Mid-Ebb	29748-13	0.06
C1	M	Mid-Ebb	29748-14	0.04
C1	B	Mid-Ebb	29748-15	0.08
CR16	S	Mid-Ebb	29748-16	0.02
CR16	M	Mid-Ebb	29748-17	0.01
CR16	B	Mid-Ebb	29748-18	0.07
CR17	S	Mid-Ebb	29748-19	0.10
CR17	M	Mid-Ebb	29748-20	0.04
CR17	B	Mid-Ebb	29748-21	0.03
W1	S	Mid-Ebb	29748-22	0.01
W1	M	Mid-Ebb	29748-23	0.04
W1	B	Mid-Ebb	29748-24	0.09
F1	S	Mid-Flood	29748-25	0.05
F1	M	Mid-Flood	29748-26	
F1	B	Mid-Flood	29748-27	0.01
W2	S	Mid-Flood	29748-28	0.12
W2	M	Mid-Flood	29748-29	
W2	B	Mid-Flood	29748-30	0.02
CR1	S	Mid-Flood	29748-31	0.17
CR1	M	Mid-Flood	29748-32	
CR1	B	Mid-Flood	29748-33	0.14
CR15	S	Mid-Flood	29748-34	0.01
CR15	M	Mid-Flood	29748-35	0.03
CR15	B	Mid-Flood	29748-36	0.05
C1	S	Mid-Flood	29748-37	0.02
C1	M	Mid-Flood	29748-38	0.04
C1	B	Mid-Flood	29748-39	0.01
CR16	S	Mid-Flood	29748-40	0.03
CR16	M	Mid-Flood	29748-41	0.02
CR16	B	Mid-Flood	29748-42	0.02
CR17	S	Mid-Flood	29748-43	0.02

Shaded cells mean no measurement was made due to shallow depth (<6m).

**Contract No. SPW 09 / 2018****Environmental Team Baseline Surveys for Sha Tin Cavern Sewage Treatment Works****Appendix F - Instrumental Value of Total Ammonia Nitrogen (20 September 2018)**

<b>Sample ID</b>	<b>Sampling Depth</b>	<b>Tide</b>	<b>Sample No.</b>	<b>NH<sub>3</sub></b>
CR17	M	Mid-Flood	29748-44	0.06
CR17	B	Mid-Flood	29748-45	0.13
W1	S	Mid-Flood	29748-46	0.02
W1	M	Mid-Flood	29748-47	0.08
W1	B	Mid-Flood	29748-48	0.02
G1	S	Mid-Ebb	29748-49	0.04
G1	M	Mid-Ebb	29748-50	0.11
G1	B	Mid-Ebb	29748-51	0.07
F2	S	Mid-Ebb	29748-52	0.04
F2	M	Mid-Ebb	29748-53	0.05
F2	B	Mid-Ebb	29748-54	0.02
F4	S	Mid-Ebb	29748-55	0.02
F4	M	Mid-Ebb	29748-56	0.04
F4	B	Mid-Ebb	29748-57	0.03
CR9	S	Mid-Ebb	29748-58	0.01
CR9	M	Mid-Ebb	29748-59	0.02
CR9	B	Mid-Ebb	29748-60	0.07
F3	S	Mid-Ebb	29748-61	0.03
F3	M	Mid-Ebb	29748-62	0.04
F3	B	Mid-Ebb	29748-63	0.05
G1	S	Mid-Flood	29748-64	0.02
G1	M	Mid-Flood	29748-65	0.00
G1	B	Mid-Flood	29748-66	0.07
F2	S	Mid-Flood	29748-67	0.02
F2	M	Mid-Flood	29748-68	0.01
F2	B	Mid-Flood	29748-69	0.00
F4	S	Mid-Flood	29748-70	0.03
F4	M	Mid-Flood	29748-71	0.01
F4	B	Mid-Flood	29748-72	0.02
CR9	S	Mid-Flood	29748-73	0.05
CR9	M	Mid-Flood	29748-74	0.01
CR9	B	Mid-Flood	29748-75	0.03
F3	S	Mid-Flood	29748-76	0.04
F3	M	Mid-Flood	29748-77	0.02
F3	B	Mid-Flood	29748-78	0.12

**Contract No. SPW 09 / 2018**

**Environmental Team Baseline Surveys for Sha Tin Cavern Sewage Treatment Works**

**Appendix F - Instrumental Value of Total Ammonia Nitrogen (23 September 2018)**

Sample ID	Sampling Depth	Tide	Sample No.	NH <sub>3</sub>
F1	S	Mid-Ebb	29769-1	0.12
F1	M	Mid-Ebb	29769-2	
F1	B	Mid-Ebb	29769-3	0.04
W2	S	Mid-Ebb	29769-4	0.32
W2	M	Mid-Ebb	29769-5	
W2	B	Mid-Ebb	29769-6	0.20
CR1	S	Mid-Ebb	29769-7	0.11
CR1	M	Mid-Ebb	29769-8	
CR1	B	Mid-Ebb	29769-9	0.03
CR15	S	Mid-Ebb	29769-10	0.02
CR15	M	Mid-Ebb	29769-11	0.04
CR15	B	Mid-Ebb	29769-12	0.04
C1	S	Mid-Ebb	29769-13	<0.01
C1	M	Mid-Ebb	29769-14	0.09
C1	B	Mid-Ebb	29769-15	0.05
CR16	S	Mid-Ebb	29769-16	0.02
CR16	M	Mid-Ebb	29769-17	0.06
CR16	B	Mid-Ebb	29769-18	0.03
CR17	S	Mid-Ebb	29769-19	0.05
CR17	M	Mid-Ebb	29769-20	0.02
CR17	B	Mid-Ebb	29769-21	0.07
W1	S	Mid-Ebb	29769-22	0.02
W1	M	Mid-Ebb	29769-23	0.03
W1	B	Mid-Ebb	29769-24	0.05
F1	S	Mid-Flood	29769-25	0.07
F1	M	Mid-Flood	29769-26	
F1	B	Mid-Flood	29769-27	0.07
W2	S	Mid-Flood	29769-28	0.26
W2	M	Mid-Flood	29769-29	
W2	B	Mid-Flood	29769-30	0.36
CR1	S	Mid-Flood	29769-31	0.34
CR1	M	Mid-Flood	29769-32	
CR1	B	Mid-Flood	29769-33	0.07
CR15	S	Mid-Flood	29769-34	0.05
CR15	M	Mid-Flood	29769-35	0.02
CR15	B	Mid-Flood	29769-36	0.03
C1	S	Mid-Flood	29769-37	0.03
C1	M	Mid-Flood	29769-38	0.02
C1	B	Mid-Flood	29769-39	0.03
CR16	S	Mid-Flood	29769-40	0.07
CR16	M	Mid-Flood	29769-41	0.04
CR16	B	Mid-Flood	29769-42	0.04
CR17	S	Mid-Flood	29769-43	0.05

Shaded cells mean no measurement was made due to shallow depth (<6m).

**Contract No. SPW 09 / 2018****Environmental Team Baseline Surveys for Sha Tin Cavern Sewage Treatment Works****Appendix F - Instrumental Value of Total Ammonia Nitrogen (23 September 2018)**

Sample ID	Sampling Depth	Tide	Sample No.	NH <sub>3</sub>
CR17	M	Mid-Flood	29769-44	0.02
CR17	B	Mid-Flood	29769-45	0.07
W1	S	Mid-Flood	29769-46	0.04
W1	M	Mid-Flood	29769-47	0.02
W1	B	Mid-Flood	29769-48	0.04
G1	S	Mid-Ebb	29769-49	0.04
G1	M	Mid-Ebb	29769-50	0.09
G1	B	Mid-Ebb	29769-51	0.06
F2	S	Mid-Ebb	29769-52	0.06
F2	M	Mid-Ebb	29769-53	0.06
F2	B	Mid-Ebb	29769-54	0.03
F4	S	Mid-Ebb	29769-55	0.05
F4	M	Mid-Ebb	29769-56	0.01
F4	B	Mid-Ebb	29769-57	0.01
CR9	S	Mid-Ebb	29769-58	<0.01
CR9	M	Mid-Ebb	29769-59	0.02
CR9	B	Mid-Ebb	29769-60	0.04
F3	S	Mid-Ebb	29769-61	0.01
F3	M	Mid-Ebb	29769-62	<0.01
F3	B	Mid-Ebb	29769-63	0.02
G1	S	Mid-Flood	29769-64	0.02
G1	M	Mid-Flood	29769-65	0.06
G1	B	Mid-Flood	29769-66	0.00
F2	S	Mid-Flood	29769-67	0.04
F2	M	Mid-Flood	29769-68	0.08
F2	B	Mid-Flood	29769-69	0.00
F4	S	Mid-Flood	29769-70	<0.01
F4	M	Mid-Flood	29769-71	0.01
F4	B	Mid-Flood	29769-72	0.01
CR9	S	Mid-Flood	29769-73	0.01
CR9	M	Mid-Flood	29769-74	0.10
CR9	B	Mid-Flood	29769-75	0.08
F3	S	Mid-Flood	29769-76	<0.01
F3	M	Mid-Flood	29769-77	0.03
F3	B	Mid-Flood	29769-78	<0.01

Remarks: <0.01 means the instrumental value of NH<sub>3</sub>  $\leq$ 0

**Contract No. SPW 09 / 2018****Environmental Team Baseline Surveys for Sha Tin Cavern Sewage Treatment Works****Appendix F - Instrumental Value of Total Ammonia Nitrogen (13 October 2018)**

Sample ID	Sampling Depth	Tide	Sample No.	NH <sub>3</sub>
F1	S	Mid-Ebb	29913-1	0.03
F1	M	Mid-Ebb	29913-2	0.04
F1	B	Mid-Ebb	29913-3	0.05
W2	S	Mid-Ebb	29913-4	0.20
W2	M	Mid-Ebb	29913-5	
W2	B	Mid-Ebb	29913-6	0.38
CR1	S	Mid-Ebb	29913-7	0.05
CR1	M	Mid-Ebb	29913-8	0.01
CR1	B	Mid-Ebb	29913-9	0.08
CR15	S	Mid-Ebb	29913-10	0.08
CR15	M	Mid-Ebb	29913-11	0.09
CR15	B	Mid-Ebb	29913-12	0.08
C1	S	Mid-Ebb	29913-13	0.02
C1	M	Mid-Ebb	29913-14	0.05
C1	B	Mid-Ebb	29913-15	0.36
CR16	S	Mid-Ebb	29913-16	0.03
CR16	M	Mid-Ebb	29913-17	0.05
CR16	B	Mid-Ebb	29913-18	0.05
CR17	S	Mid-Ebb	29913-19	0.10
CR17	M	Mid-Ebb	29913-20	0.02
CR17	B	Mid-Ebb	29913-21	0.06
W1	S	Mid-Ebb	29913-22	0.05
W1	M	Mid-Ebb	29913-23	0.03
W1	B	Mid-Ebb	29913-24	0.03
F1	S	Mid-Flood	29913-25	0.08
F1	M	Mid-Flood	29913-26	
F1	B	Mid-Flood	29913-27	0.03
W2	S	Mid-Flood	29913-28	0.09
W2	M	Mid-Flood	29913-29	
W2	B	Mid-Flood	29913-30	0.17
CR1	S	Mid-Flood	29913-31	0.06
CR1	M	Mid-Flood	29913-32	
CR1	B	Mid-Flood	29913-33	<0.01
CR15	S	Mid-Flood	29913-34	0.03
CR15	M	Mid-Flood	29913-35	<0.01
CR15	B	Mid-Flood	29913-36	0.06
C1	S	Mid-Flood	29913-37	0.11
C1	M	Mid-Flood	29913-38	0.07
C1	B	Mid-Flood	29913-39	0.06
CR16	S	Mid-Flood	29913-40	0.08
CR16	M	Mid-Flood	29913-41	0.07
CR16	B	Mid-Flood	29913-42	0.05
CR17	S	Mid-Flood	29913-43	0.07

Shaded cells mean no measurement was made due to shallow depth (&lt;6m).

**Contract No. SPW 09 / 2018****Environmental Team Baseline Surveys for Sha Tin Cavern Sewage Treatment Works****Appendix F - Instrumental Value of Total Ammonia Nitrogen (13 October 2018)**

Sample ID	Sampling Depth	Tide	Sample No.	NH <sub>3</sub>
CR17	M	Mid-Flood	29913-44	0.07
CR17	B	Mid-Flood	29913-45	0.04
W1	S	Mid-Flood	29913-46	0.06
W1	M	Mid-Flood	29913-47	0.15
W1	B	Mid-Flood	29913-48	0.15
G1	S	Mid-Ebb	29913-49	0.04
G1	M	Mid-Ebb	29913-50	0.03
G1	B	Mid-Ebb	29913-51	0.03
F2	S	Mid-Ebb	29913-52	0.09
F2	M	Mid-Ebb	29913-53	0.05
F2	B	Mid-Ebb	29913-54	0.03
F4	S	Mid-Ebb	29913-55	0.04
F4	M	Mid-Ebb	29913-56	0.04
F4	B	Mid-Ebb	29913-57	0.03
CR9	S	Mid-Ebb	29913-58	0.05
CR9	M	Mid-Ebb	29913-59	0.04
CR9	B	Mid-Ebb	29913-60	0.07
F3	S	Mid-Ebb	29913-61	0.00
F3	M	Mid-Ebb	29913-62	0.06
F3	B	Mid-Ebb	29913-63	0.11
G1	S	Mid-Flood	29913-64	0.20
G1	M	Mid-Flood	29913-65	0.05
G1	B	Mid-Flood	29913-66	0.04
F2	S	Mid-Flood	29913-67	0.04
F2	M	Mid-Flood	29913-68	0.03
F2	B	Mid-Flood	29913-69	0.07
F4	S	Mid-Flood	29913-70	0.00
F4	M	Mid-Flood	29913-71	0.02
F4	B	Mid-Flood	29913-72	0.01
CR9	S	Mid-Flood	29913-73	0.01
CR9	M	Mid-Flood	29913-74	0.19
CR9	B	Mid-Flood	29913-75	0.02
F3	S	Mid-Flood	29913-76	0.04
F3	M	Mid-Flood	29913-77	0.04
F3	B	Mid-Flood	29913-78	0.03

Remarks: <0.01 means the instrumental value of NH<sub>3</sub> ≤ 0

**Contract No. SPW 09 / 2018****Environmental Team Baseline Surveys for Sha Tin Cavern Sewage Treatment Works****Appendix F - Instrumental Value of Total Ammonia Nitrogen (22 October 2018)**

Sample ID	Sampling Depth	Tide	Sample No.	NH <sub>3</sub>
F1	S	Mid-Ebb	29947-1	0.01
F1	M	Mid-Ebb	29947-2	
F1	B	Mid-Ebb	29947-3	0.06
W2	S	Mid-Ebb	29947-4	0.27
W2	M	Mid-Ebb	29947-5	
W2	B	Mid-Ebb	29947-6	0.02
CR1	S	Mid-Ebb	29947-7	0.24
CR1	M	Mid-Ebb	29947-8	
CR1	B	Mid-Ebb	29947-9	0.02
CR15	S	Mid-Ebb	29947-10	0.05
CR15	M	Mid-Ebb	29947-11	0.03
CR15	B	Mid-Ebb	29947-12	0.11
C1	S	Mid-Ebb	29947-13	0.06
C1	M	Mid-Ebb	29947-14	0.02
C1	B	Mid-Ebb	29947-15	0.01
CR16	S	Mid-Ebb	29947-16	0.04
CR16	M	Mid-Ebb	29947-17	0.02
CR16	B	Mid-Ebb	29947-18	0.03
CR17	S	Mid-Ebb	29947-19	0.06
CR17	M	Mid-Ebb	29947-20	0.04
CR17	B	Mid-Ebb	29947-21	0.07
W1	S	Mid-Ebb	29947-22	0.03
W1	M	Mid-Ebb	29947-23	0.01
W1	B	Mid-Ebb	29947-24	0.02
F1	S	Mid-Flood	29947-25	0.03
F1	M	Mid-Flood	29947-26	
F1	B	Mid-Flood	29947-27	0.02
W2	S	Mid-Flood	29947-28	0.04
W2	M	Mid-Flood	29947-29	
W2	B	Mid-Flood	29947-30	0.20
CR1	S	Mid-Flood	29947-31	0.17
CR1	M	Mid-Flood	29947-32	0.09
CR1	B	Mid-Flood	29947-33	0.05
CR15	S	Mid-Flood	29947-34	0.01
CR15	M	Mid-Flood	29947-35	0.02
CR15	B	Mid-Flood	29947-36	0.04
C1	S	Mid-Flood	29947-37	0.03
C1	M	Mid-Flood	29947-38	0.01
C1	B	Mid-Flood	29947-39	0.03
CR16	S	Mid-Flood	29947-40	0.02
CR16	M	Mid-Flood	29947-41	0.03
CR16	B	Mid-Flood	29947-42	0.01
CR17	S	Mid-Flood	29947-43	0.04

Shaded cells mean no measurement was made due to shallow depth (<6m).

**Contract No. SPW 09 / 2018****Environmental Team Baseline Surveys for Sha Tin Cavern Sewage Treatment Works****Appendix F - Instrumental Value of Total Ammonia Nitrogen (22 October 2018)**

Sample ID	Sampling Depth	Tide	Sample No.	NH <sub>3</sub>
CR17	M	Mid-Flood	29947-44	0.04
CR17	B	Mid-Flood	29947-45	0.09
W1	S	Mid-Flood	29947-46	0.07
W1	M	Mid-Flood	29947-47	0.07
W1	B	Mid-Flood	29947-48	0.13
G1	S	Mid-Ebb	29947-49	0.08
G1	M	Mid-Ebb	29947-50	0.07
G1	B	Mid-Ebb	29947-51	0.04
F2	S	Mid-Ebb	29947-52	0.10
F2	M	Mid-Ebb	29947-53	0.02
F2	B	Mid-Ebb	29947-54	0.03
F4	S	Mid-Ebb	29947-55	0.00
F4	M	Mid-Ebb	29947-56	0.01
F4	B	Mid-Ebb	29947-57	<0.01
CR9	S	Mid-Ebb	29947-58	0.00
CR9	M	Mid-Ebb	29947-59	0.02
CR9	B	Mid-Ebb	29947-60	0.02
F3	S	Mid-Ebb	29947-61	0.00
F3	M	Mid-Ebb	29947-62	<0.01
F3	B	Mid-Ebb	29947-63	<0.01
G1	S	Mid-Flood	29947-64	0.03
G1	M	Mid-Flood	29947-65	0.05
G1	B	Mid-Flood	29947-66	0.02
F2	S	Mid-Flood	29947-67	0.18
F2	M	Mid-Flood	29947-68	<0.01
F2	B	Mid-Flood	29947-69	0.03
F4	S	Mid-Flood	29947-70	0.02
F4	M	Mid-Flood	29947-71	<0.01
F4	B	Mid-Flood	29947-72	0.01
CR9	S	Mid-Flood	29947-73	0.06
CR9	M	Mid-Flood	29947-74	0.04
CR9	B	Mid-Flood	29947-75	0.01
F3	S	Mid-Flood	29947-76	0.03
F3	M	Mid-Flood	29947-77	0.02
F3	B	Mid-Flood	29947-78	0.01

Remarks: <0.01 means the instrumental value of NH<sub>3</sub>  $\leq$ 0



**Contract No. SPW 09 / 2018****Environmental Team Baseline Surveys for Sha Tin Cavern Sewage Treatment Works****Appendix F - Instrumental Value of Total Ammonia Nitrogen (8 November 2018)**

Sample ID	Sampling Depth	Tide	Sample No.	NH <sub>3</sub>
F1	S	Mid-Ebb	30093-1	<0.01
F1	M	Mid-Ebb	30093-2	
F1	B	Mid-Ebb	30093-3	<0.01
W2	S	Mid-Ebb	30093-4	<0.01
W2	M	Mid-Ebb	30093-5	
W2	B	Mid-Ebb	30093-6	<0.01
CR1	S	Mid-Ebb	30093-7	<0.01
CR1	M	Mid-Ebb	30093-8	
CR1	B	Mid-Ebb	30093-9	0.01
CR15	S	Mid-Ebb	30093-10	<0.01
CR15	M	Mid-Ebb	30093-11	<0.01
CR15	B	Mid-Ebb	30093-12	<0.01
C1	S	Mid-Ebb	30093-13	<0.01
C1	M	Mid-Ebb	30093-14	<0.01
C1	B	Mid-Ebb	30093-15	<0.01
CR16	S	Mid-Ebb	30093-16	<0.01
CR16	M	Mid-Ebb	30093-17	<0.01
CR16	B	Mid-Ebb	30093-18	<0.01
CR17	S	Mid-Ebb	30093-19	<0.01
CR17	M	Mid-Ebb	30093-20	<0.01
CR17	B	Mid-Ebb	30093-21	<0.01
W1	S	Mid-Ebb	30093-22	<0.01
W1	M	Mid-Ebb	30093-23	<0.01
W1	B	Mid-Ebb	30093-24	<0.01
F1	S	Mid-Flood	30093-25	<0.01
F1	M	Mid-Flood	30093-26	
F1	B	Mid-Flood	30093-27	<0.01
W2	S	Mid-Flood	30093-28	<0.01
W2	M	Mid-Flood	30093-29	
W2	B	Mid-Flood	30093-30	<0.01
CR1	S	Mid-Flood	30093-31	<0.01
CR1	M	Mid-Flood	30093-32	
CR1	B	Mid-Flood	30093-33	<0.01
CR15	S	Mid-Flood	30093-34	<0.01
CR15	M	Mid-Flood	30093-35	<0.01
CR15	B	Mid-Flood	30093-36	<0.01
C1	S	Mid-Flood	30093-37	<0.01
C1	M	Mid-Flood	30093-38	<0.01
C1	B	Mid-Flood	30093-39	<0.01
CR16	S	Mid-Flood	30093-40	<0.01
CR16	M	Mid-Flood	30093-41	<0.01
CR16	B	Mid-Flood	30093-42	<0.01
CR17	S	Mid-Flood	30093-43	<0.01

Shaded cells mean no measurement was made due to shallow depth (&lt;6m).

**Contract No. SPW 09 / 2018****Environmental Team Baseline Surveys for Sha Tin Cavern Sewage Treatment Works****Appendix F - Instrumental Value of Total Ammonia Nitrogen (8 November 2018)**

Sample ID	Sampling Depth	Tide	Sample No.	NH <sub>3</sub>
CR17	M	Mid-Flood	30093-44	<0.01
CR17	B	Mid-Flood	30093-45	<0.01
W1	S	Mid-Flood	30093-46	<0.01
W1	M	Mid-Flood	30093-47	<0.01
W1	B	Mid-Flood	30093-48	<0.01
G1	S	Mid-Ebb	30093-49	<0.01
G1	M	Mid-Ebb	30093-50	<0.01
G1	B	Mid-Ebb	30093-51	<0.01
F2	S	Mid-Ebb	30093-52	<0.01
F2	M	Mid-Ebb	30093-53	<0.01
F2	B	Mid-Ebb	30093-54	<0.01
F4	S	Mid-Ebb	30093-55	<0.01
F4	M	Mid-Ebb	30093-56	<0.01
F4	B	Mid-Ebb	30093-57	<0.01
CR9	S	Mid-Ebb	30093-58	<0.01
CR9	M	Mid-Ebb	30093-59	<0.01
CR9	B	Mid-Ebb	30093-60	<0.01
F3	S	Mid-Ebb	30093-61	<0.01
F3	M	Mid-Ebb	30093-62	<0.01
F3	B	Mid-Ebb	30093-63	<0.01
G1	S	Mid-Flood	30093-64	<0.01
G1	M	Mid-Flood	30093-65	<0.01
G1	B	Mid-Flood	30093-66	<0.01
F2	S	Mid-Flood	30093-67	<0.01
F2	M	Mid-Flood	30093-68	<0.01
F2	B	Mid-Flood	30093-69	<0.01
F4	S	Mid-Flood	30093-70	<0.01
F4	M	Mid-Flood	30093-71	<0.01
F4	B	Mid-Flood	30093-72	<0.01
CR9	S	Mid-Flood	30093-73	<0.01
CR9	M	Mid-Flood	30093-74	<0.01
CR9	B	Mid-Flood	30093-75	<0.01
F3	S	Mid-Flood	30093-76	<0.01
F3	M	Mid-Flood	30093-77	<0.01
F3	B	Mid-Flood	30093-78	<0.01

Remarks: <0.01 means the instrumental value of NH<sub>3</sub>  $\leq 0$

Contract No. SPW 09 / 2018

Environmental Team Baseline Surveys for Sha Tin Cavern Sewage Treatment Works

Appendix F - Instrumental Value of Total Ammonia Nitrogen (10 November 2018)

Sample ID	Sampling Depth	Tide	Sample No.	NH <sub>3</sub>
F1	S	Mid-Ebb	30139-1	0.01
F1	M	Mid-Ebb	30139-2	0.01
F1	B	Mid-Ebb	30139-3	0.01
W2	S	Mid-Ebb	30139-4	0.06
W2	M	Mid-Ebb	30139-5	
W2	B	Mid-Ebb	30139-6	0.07
CR1	S	Mid-Ebb	30139-7	0.01
CR1	M	Mid-Ebb	30139-8	0.03
CR1	B	Mid-Ebb	30139-9	<0.01
CR15	S	Mid-Ebb	30139-10	0.01
CR15	M	Mid-Ebb	30139-11	<0.01
CR15	B	Mid-Ebb	30139-12	0.02
C1	S	Mid-Ebb	30139-13	0.02
C1	M	Mid-Ebb	30139-14	<0.01
C1	B	Mid-Ebb	30139-15	0.01
CR16	S	Mid-Ebb	30139-16	<0.01
CR16	M	Mid-Ebb	30139-17	0.00
CR16	B	Mid-Ebb	30139-18	<0.01
CR17	S	Mid-Ebb	30139-19	<0.01
CR17	M	Mid-Ebb	30139-20	0.00
CR17	B	Mid-Ebb	30139-21	0.02
W1	S	Mid-Ebb	30139-22	0.02
W1	M	Mid-Ebb	30139-23	<0.01
W1	B	Mid-Ebb	30139-24	<0.01
F1	S	Mid-Flood	30139-25	<0.01
F1	M	Mid-Flood	30139-26	0.01
F1	B	Mid-Flood	30139-27	0.01
W2	S	Mid-Flood	30139-28	0.02
W2	M	Mid-Flood	30139-29	
W2	B	Mid-Flood	30139-30	0.01
CR1	S	Mid-Flood	30139-31	0.03
CR1	M	Mid-Flood	30139-32	
CR1	B	Mid-Flood	30139-33	<0.01
CR15	S	Mid-Flood	30139-34	0.04
CR15	M	Mid-Flood	30139-35	0.02
CR15	B	Mid-Flood	30139-36	<0.01
C1	S	Mid-Flood	30139-37	0.02
C1	M	Mid-Flood	30139-38	0.02
C1	B	Mid-Flood	30139-39	0.03
CR16	S	Mid-Flood	30139-40	<0.01
CR16	M	Mid-Flood	30139-41	0.01
CR16	B	Mid-Flood	30139-42	<0.01
CR17	S	Mid-Flood	30139-43	0.00

Shaded cells mean no measurement was made due to shallow depth (<6m).

Sample ID	Sampling Depth	Tide	Sample No.	NH <sub>3</sub>
CR17	M	Mid-Flood	30139-44	<0.01
CR17	B	Mid-Flood	30139-45	0.03
W1	S	Mid-Flood	30139-46	<0.01
W1	M	Mid-Flood	30139-47	<0.01
W1	B	Mid-Flood	30139-48	0.02
G1	S	Mid-Ebb	30139-49	<0.01
G1	M	Mid-Ebb	30139-50	0.02
G1	B	Mid-Ebb	30139-51	<0.01
F2	S	Mid-Ebb	30139-52	<0.01
F2	M	Mid-Ebb	30139-53	0.00
F2	B	Mid-Ebb	30139-54	<0.01
F4	S	Mid-Ebb	30139-55	<0.01
F4	M	Mid-Ebb	30139-56	0.01
F4	B	Mid-Ebb	30139-57	0.00
CR9	S	Mid-Ebb	30139-58	0.02
CR9	M	Mid-Ebb	30139-59	0.01
CR9	B	Mid-Ebb	30139-60	0.01
F3	S	Mid-Ebb	30139-61	0.01
F3	M	Mid-Ebb	30139-62	0.01
F3	B	Mid-Ebb	30139-63	0.01
G1	S	Mid-Flood	30139-64	0.00
G1	M	Mid-Flood	30139-65	0.02
G1	B	Mid-Flood	30139-66	0.01
F2	S	Mid-Flood	30139-67	0.00
F2	M	Mid-Flood	30139-68	0.00
F2	B	Mid-Flood	30139-69	0.01
F4	S	Mid-Flood	30139-70	0.00
F4	M	Mid-Flood	30139-71	0.01
F4	B	Mid-Flood	30139-72	<0.01
CR9	S	Mid-Flood	30139-73	0.01
CR9	M	Mid-Flood	30139-74	0.01
CR9	B	Mid-Flood	30139-75	0.02
F3	S	Mid-Flood	30139-76	0.01
F3	M	Mid-Flood	30139-77	0.01
F3	B	Mid-Flood	30139-78	0.01

Remarks: <0.01 means the instrumental value of NH<sub>3</sub> ≤ 0

**Contract No. SPW 09 / 2018**

**Environmental Team Baseline Surveys for Sha Tin Cavern Sewage Treatment Works**

**Appendix F - Instrumental Value of Total Ammonia Nitrogen (17 December 2018)**

Sample ID	Sampling Depth	Tide	Sample No.	NH <sub>3</sub>
F1	S	Mid-Ebb	30425-1	0.03
F1	M	Mid-Ebb	30425-2	
F1	B	Mid-Ebb	30425-3	0.02
W2	S	Mid-Ebb	30425-4	0.15
W2	M	Mid-Ebb	30425-5	
W2	B	Mid-Ebb	30425-6	0.07
CR1	S	Mid-Ebb	30425-7	0.31
CR1	M	Mid-Ebb	30425-8	
CR1	B	Mid-Ebb	30425-9	0.17
CR15	S	Mid-Ebb	30425-10	0.05
CR15	M	Mid-Ebb	30425-11	0.19
CR15	B	Mid-Ebb	30425-12	0.18
C1	S	Mid-Ebb	30425-13	<0.01
C1	M	Mid-Ebb	30425-14	<0.01
C1	B	Mid-Ebb	30425-15	<0.01
CR16	S	Mid-Ebb	30425-16	<0.01
CR16	M	Mid-Ebb	30425-17	<0.01
CR16	B	Mid-Ebb	30425-18	0.01
CR17	S	Mid-Ebb	30425-19	0.01
CR17	M	Mid-Ebb	30425-20	<0.01
CR17	B	Mid-Ebb	30425-21	0.02
W1	S	Mid-Ebb	30425-22	<0.01
W1	M	Mid-Ebb	30425-23	0.08
W1	B	Mid-Ebb	30425-24	0.10
F1	S	Mid-Flood	30425-25	0.04
F1	M	Mid-Flood	30425-26	
F1	B	Mid-Flood	30425-27	0.02
W2	S	Mid-Flood	30425-28	0.30
W2	M	Mid-Flood	30425-29	
W2	B	Mid-Flood	30425-30	0.10
CR1	S	Mid-Flood	30425-31	0.06
CR1	M	Mid-Flood	30425-32	
CR1	B	Mid-Flood	30425-33	0.06
CR15	S	Mid-Flood	30425-34	0.06
CR15	M	Mid-Flood	30425-35	0.06
CR15	B	Mid-Flood	30425-36	0.05
C1	S	Mid-Flood	30425-37	0.03
C1	M	Mid-Flood	30425-38	0.06
C1	B	Mid-Flood	30425-39	0.06
CR16	S	Mid-Flood	30425-40	0.07
CR16	M	Mid-Flood	30425-41	0.08
CR16	B	Mid-Flood	30425-42	0.10
CR17	S	Mid-Flood	30425-43	0.04

Shaded cells mean no measurement was made due to shallow depth (<6m).

**Contract No. SPW 09 / 2018****Environmental Team Baseline Surveys for Sha Tin Cavern Sewage Treatment Works****Appendix F - Instrumental Value of Total Ammonia Nitrogen (17 December 2018)**

Sample ID	Sampling Depth	Tide	Sample No.	NH <sub>3</sub>
CR17	M	Mid-Flood	30425-44	0.05
CR17	B	Mid-Flood	30425-45	0.08
W1	S	Mid-Flood	30425-46	0.07
W1	M	Mid-Flood	30425-47	0.09
W1	B	Mid-Flood	30425-48	0.06
G1	S	Mid-Ebb	30425-49	0.05
G1	M	Mid-Ebb	30425-50	0.07
G1	B	Mid-Ebb	30425-51	0.04
F2	S	Mid-Ebb	30425-52	0.05
F2	M	Mid-Ebb	30425-53	0.07
F2	B	Mid-Ebb	30425-54	0.17
F4	S	Mid-Ebb	30425-55	0.00
F4	M	Mid-Ebb	30425-56	<0.01
F4	B	Mid-Ebb	30425-57	0.01
CR9	S	Mid-Ebb	30425-58	0.02
CR9	M	Mid-Ebb	30425-59	0.02
CR9	B	Mid-Ebb	30425-60	0.03
F3	S	Mid-Ebb	30425-61	0.06
F3	M	Mid-Ebb	30425-62	0.05
F3	B	Mid-Ebb	30425-63	0.06
G1	S	Mid-Flood	30425-64	0.06
G1	M	Mid-Flood	30425-65	0.04
G1	B	Mid-Flood	30425-66	0.08
F2	S	Mid-Flood	30425-67	0.07
F2	M	Mid-Flood	30425-68	0.07
F2	B	Mid-Flood	30425-69	0.10
F4	S	Mid-Flood	30425-70	0.00
F4	M	Mid-Flood	30425-71	0.00
F4	B	Mid-Flood	30425-72	0.01
CR9	S	Mid-Flood	30425-73	0.02
CR9	M	Mid-Flood	30425-74	<0.01
CR9	B	Mid-Flood	30425-75	0.02
F3	S	Mid-Flood	30425-76	0.06
F3	M	Mid-Flood	30425-77	0.06
F3	B	Mid-Flood	30425-78	0.06

Remarks: <0.01 means the instrumental value of NH<sub>3</sub> ≤ 0

**Contract No. SPW 09 / 2018**

**Environmental Team Baseline Surveys for Sha Tin Cavern Sewage Treatment Works**

**Appendix F - Instrumental Value of Total Ammonia Nitrogen (19 December 2018)**

Sample ID	Sampling Depth	Tide	Sample No.	NH <sub>3</sub>
F1	S	Mid-Ebb	30445-1	0.03
F1	M	Mid-Ebb	30445-2	
F1	B	Mid-Ebb	30445-3	0.02
W2	S	Mid-Ebb	30445-4	0.12
W2	M	Mid-Ebb	30445-5	
W2	B	Mid-Ebb	30445-6	0.08
CR1	S	Mid-Ebb	30445-7	0.04
CR1	M	Mid-Ebb	30445-8	
CR1	B	Mid-Ebb	30445-9	0.05
CR15	S	Mid-Ebb	30445-10	0.03
CR15	M	Mid-Ebb	30445-11	0.06
CR15	B	Mid-Ebb	30445-12	0.03
C1	S	Mid-Ebb	30445-13	0.03
C1	M	Mid-Ebb	30445-14	0.05
C1	B	Mid-Ebb	30445-15	0.06
CR16	S	Mid-Ebb	30445-16	0.03
CR16	M	Mid-Ebb	30445-17	0.05
CR16	B	Mid-Ebb	30445-18	0.05
CR17	S	Mid-Ebb	30445-19	0.05
CR17	M	Mid-Ebb	30445-20	0.04
CR17	B	Mid-Ebb	30445-21	0.05
W1	S	Mid-Ebb	30445-22	0.08
W1	M	Mid-Ebb	30445-23	0.06
W1	B	Mid-Ebb	30445-24	0.06
F1	S	Mid-Flood	30445-25	0.05
F1	M	Mid-Flood	30445-26	
F1	B	Mid-Flood	30445-27	0.03
W2	S	Mid-Flood	30445-28	0.09
W2	M	Mid-Flood	30445-29	
W2	B	Mid-Flood	30445-30	0.06
CR1	S	Mid-Flood	30445-31	0.07
CR1	M	Mid-Flood	30445-32	
CR1	B	Mid-Flood	30445-33	0.07
CR15	S	Mid-Flood	30445-34	0.05
CR15	M	Mid-Flood	30445-35	0.04
CR15	B	Mid-Flood	30445-36	0.01
C1	S	Mid-Flood	30445-37	0.07
C1	M	Mid-Flood	30445-38	0.04
C1	B	Mid-Flood	30445-39	0.02
CR16	S	Mid-Flood	30445-40	0.06
CR16	M	Mid-Flood	30445-41	0.05
CR16	B	Mid-Flood	30445-42	0.05
CR17	S	Mid-Flood	30445-43	0.05

Shaded cells mean no measurement was made due to shallow depth (<6m).

**Contract No. SPW 09 / 2018****Environmental Team Baseline Surveys for Sha Tin Cavern Sewage Treatment Works****Appendix F - Instrumental Value of Total Ammonia Nitrogen (19 December 2018)**

Sample ID	Sampling Depth	Tide	Sample No.	NH <sub>3</sub>
CR17	M	Mid-Flood	30445-44	0.04
CR17	B	Mid-Flood	30445-45	0.04
W1	S	Mid-Flood	30445-46	0.06
W1	M	Mid-Flood	30445-47	0.05
W1	B	Mid-Flood	30445-48	0.06
G1	S	Mid-Ebb	30445-49	0.06
G1	M	Mid-Ebb	30445-50	0.02
G1	B	Mid-Ebb	30445-51	0.02
F2	S	Mid-Ebb	30445-52	0.03
F2	M	Mid-Ebb	30445-53	0.01
F2	B	Mid-Ebb	30445-54	0.01
F4	S	Mid-Ebb	30445-55	0.02
F4	M	Mid-Ebb	30445-56	<0.01
F4	B	Mid-Ebb	30445-57	<0.01
CR9	S	Mid-Ebb	30445-58	0.00
CR9	M	Mid-Ebb	30445-59	<0.01
CR9	B	Mid-Ebb	30445-60	<0.01
F3	S	Mid-Ebb	30445-61	0.01
F3	M	Mid-Ebb	30445-62	<0.01
F3	B	Mid-Ebb	30445-63	<0.01
G1	S	Mid-Flood	30445-64	0.01
G1	M	Mid-Flood	30445-65	0.02
G1	B	Mid-Flood	30445-66	0.02
F2	S	Mid-Flood	30445-67	0.00
F2	M	Mid-Flood	30445-68	0.01
F2	B	Mid-Flood	30445-69	0.01
F4	S	Mid-Flood	30445-70	0.01
F4	M	Mid-Flood	30445-71	0.02
F4	B	Mid-Flood	30445-72	0.01
CR9	S	Mid-Flood	30445-73	0.00
CR9	M	Mid-Flood	30445-74	0.01
CR9	B	Mid-Flood	30445-75	<0.01
F3	S	Mid-Flood	30445-76	0.01
F3	M	Mid-Flood	30445-77	0.00
F3	B	Mid-Flood	30445-78	<0.01

Remarks: <0.01 means the instrumental value of NH<sub>3</sub>  $\leq$ 0



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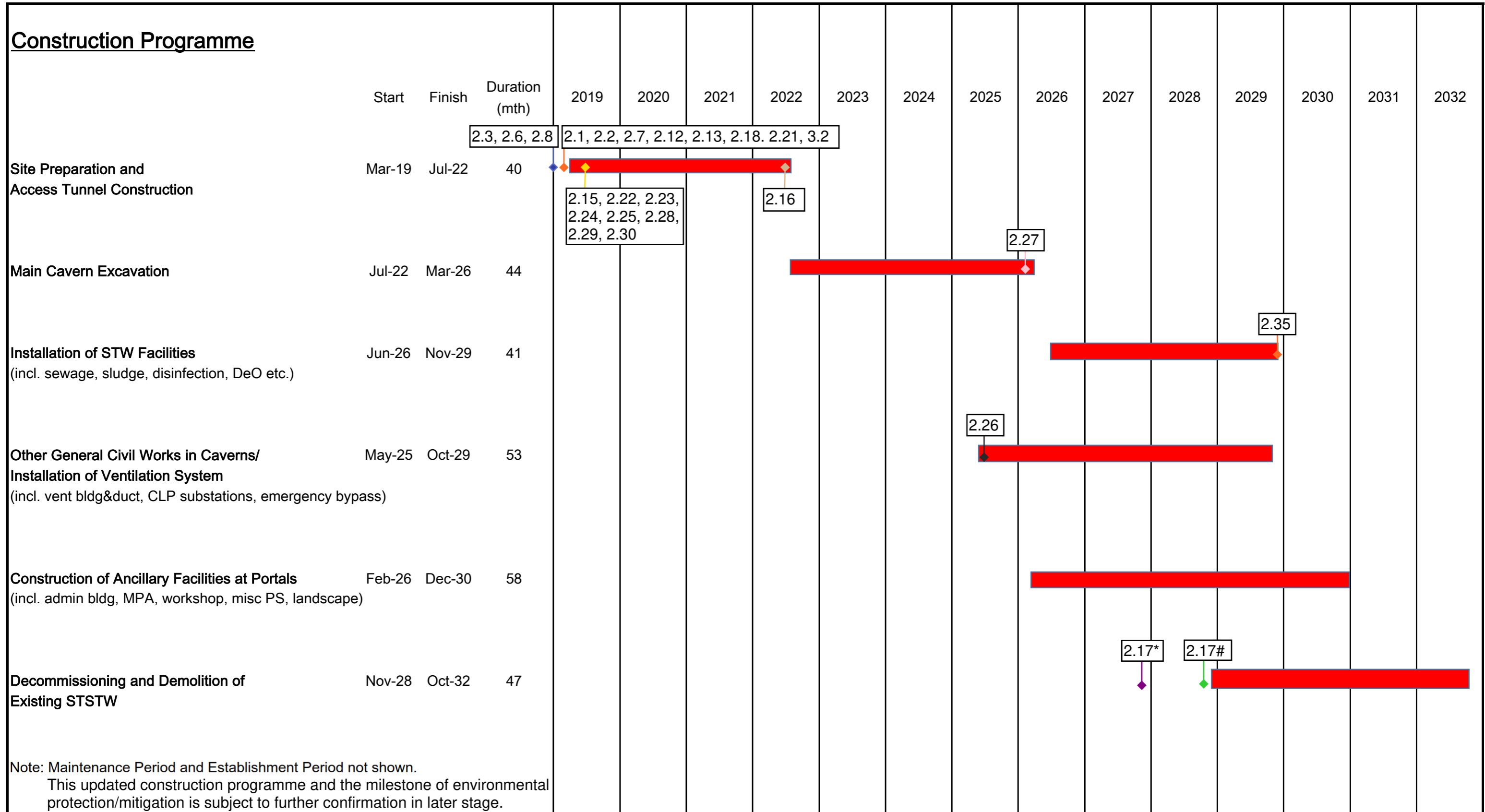
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**APPENDIX F  
UPDATED CONSTRUCTION  
PROGRAMME**

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# Relocation of Sha Tin Sewage Treatment Works to Caverns



**Legend:**



Construction Activities

2.1



Referring to the milestone of environmental protection/mitigation activities as stated in relevant EP Conditions. (as summarized in the attached table below)

2.17\*



Submission of Baseline Survey Report on Egretty

2.17#



Submission of Report on the Survey Results with Appropriate Measures to Minimise the Impacts on Egretty

EIAO-EP\_Project Title: Sha Tin Cavern Sewage Treatment Works  
(Application No. AEP-533/2017)

EP Conditions	Measures/Actions	Milestones of Environmental Protection/Mitigation Activities
2.1	Setting up of Community Liaison Group(s)	no later than <u>1 month before the commencement of construction of the Project</u>
2.2	Setting up a Telephone Hotline	at least <u>2 weeks before the commencement of construction of the Project</u>
2.3	Employment of ET (full time on-site)	no later than <u>3 months before the commencement of construction of the Project</u>
2.6	Employment of Qualified Ecologist(s)	no later than <u>3 months before the commencement of construction of the Project</u>
2.7	Employment of Registered Landscape Architect	no later than <u>1 month before the commencement of construction of the Project</u>
2.8	Employment of IEC (full time on-site)	no later than <u>3 months before the commencement of construction of the Project</u>
2.12	Submission of Management Organizations	no later than <u>1 month before the commencement of construction of the Project</u>
2.13	Submission of Detailed Vegetation Survey Report and Protection and Transplantation Proposal	no later than <u>1 month before the commencement of site clearance works</u>
2.15	Submission of Detailed Woodland Compensation Plan	no later than <u>3 months before the commencement of compensatory woodland planting</u>
2.16	Monitoring by Local Ecologist with Experience in Maintenance Works	<u>Upon completion of compensatory planting</u> (monthly within the first year of planting)
2.17	Submission of Baseline Survey Report on Egret	no later than <u>one year before the demolition of the existing STSTW</u>
2.17	Submission of Report on the Survey Results with Appropriate Measures to Minimise the Impacts on Egret	no later than <u>one month before the start of the demolition of the existing STSTW</u>
2.18	Submission of Landscape and Visual Mitigation and Tree Preservation Plan(s)	no later than <u>one month before the commencement of construction of relevant part(s) of the Project</u>
2.21	Submission of Supplementary CAP	<u>before the commencement of demolition/construction of the Project when access to the concerned site(s)</u> identified in Appendix 6.01 of the approved
2.22	Measures to Mitigate Traffic Noise from Ma On Shan Road	no later than <u>1 month before construction of the Project</u>
2.23	Measures to Minimise Vibration	<u>during the construction of the Project</u> to minimise the vibrations generated by the blasting works on and below ground level
2.24	Measures to Mitigate Construction Noise Impact	<u>during construction of access road</u>
2.25	Measures to Minimise the Noise Impact During Examination Period(s)	obtain the <u>examination schedule</u> to avoid noisy construction activities <u>in the examination period(s)</u>
2.26 & 2.27	<u>Measures to Mitigate Water Quality Impacts</u> i) Construction of New Pipelines from the CSTW underneath Shing Mun River ii) THEES Connection Works (split into sections)	reported in the EM&A programme required in the EM&A Manual <u>in the following month of the associated works taken</u> by trenchless method with a view to avoiding any disturbance to the riverbed i) each section shall be <u>no more than once per year</u> during the <u>construction of the Project</u> ii) conducted <u>within the regular THEES maintenance windows</u> for a duration <u>not longer than 4 weeks each</u> and <u>outside the algae blooming season</u> (i.e.
2.28	Measures to Mitigate Air Quality Impacts	dust collector with dust removal efficiency of 99% shall be provided at the exhaust of the rock crusher <u>during rock crushing</u>
2.29	<u>Measures to Protect Species of Conservation Importance</u> i) To Protect the Freshwater Crab Species	reported in the EM&A programme required in the EM&A Manual <u>in the following month of the associated works taken</u> i) follow the topography level of the existing steep natural terrain as far as practicable to avoid potential extensive excavation works of hilly terrain ii) to minimise slope cutting and vegetation removal and shall be elevated across stream section(s) in order to protect the natural stream habitat
2.30	Measures to Minimise Risk Due to the Use and Transport of Explosives	i) return of unused explosives to the magazine shall be avoided as far as practicable ii) a minimum of 10 minutes headway between two consecutive explosives carrying vehicles shall be maintained
3.2	<u>Logging and Keeping Records of the Details of</u> i) Conducting Baseline Environmental Monitoring ii) Conducting Impact Monitoring iii) Carrying Out Remedial Actions	within <u>3 working days</u> of the <u>collection of data or completion of remedial action(s)</u> , for the purpose of preparing and submitting the monthly EM&A Reports and to make available the information for inspection on site
2.35	<u>Measure to Mitigate Operation Noise Impacts</u> i) A Commissioning Test Shall be Conducted for the Ventilation Building(s), Ventilation Shaft, Ventilation Fan for Chiller Plant Room at Administration Building and Cooling Tower at the Administration Building ii) Report Showing the Compliance with the Relevant Design Maximum Sound Power Levels Determined in the Approved EIA Report	not later than <u>one month before the commencement of operation of the Project</u>  no later than <u>2 weeks after completion of the commissioning test</u>

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**APPENDIX G  
BASELINE WATER QUALITY  
CONDITIONS FOR WATER QUALITY  
AND WATER QUALITY OBJECTIVES**

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Appendix G - Baseline Water Quality Conditions and Water Quality Objectives for Water Quality

Parameter (unit)	Baseline Water Quality Conditions	WQOs (Tolo Harbour and Channel WCZ)
THEES Maintenance Discharge and emergency during construction and operation phase of this Project		
Dissolved Oxygen in mg/L	Surface, Middle and Bottom 5%-ile of baseline water quality conditions	Surface and Middle (All stations): Not less than 4mg/L
		Bottom: <u>Harbour Subzone</u> Station W1, W2, C1, F1, CR1, CR15, CR16, CR17 & G1 Not less than 2mg/L
		<u>Buffer Subzone</u> Station F2 Not less than 3mg/L
		<u>Channel Subzone</u> Station F3, F4 & CR9 Not less than 4mg/L
Turbidity in NTU (Depth-averaged)	95%-ile of baseline water quality conditions , or	NIL^
	20% exceedance of value at any impact station compared with corresponding data from control station	
SS in mg/L (Depth-averaged)	95%-ile of baseline water quality conditions , or	NIL^
	20% exceedance of value at any impact station compared with corresponding data from control station	
Salinity in ppt (Depth-averaged)	Below 91% of baseline water quality conditions, or	Change due to waste discharge not to be greater than +/- 3ppt.
	9% less than value at any impact station compared with corresponding data from control station	
Biochemical Oxygen Demand in mg/L (Depth-average)	95%-ile of baseline water quality conditions , or	NIL^
	20% exceedance of value at any impact station compared with corresponding data from control station	
Ammonia Nitrogen in mg/L (Depth-average)	95%-ile of baseline water quality conditions , or	NIL^
	20% exceedance of value at any impact station compared with corresponding data from control station	
Unionized ammonia in mg/L (Depth-average)	95%-ile of baseline water quality conditions , or	NIL^
	20% exceedance of value at any impact station compared with corresponding data from control station	
Total inorganic nitrogen in mg/L (Depth-average)	95%-ile of baseline water quality conditions	NIL^
<i>E.coli</i> CFU/100mL (Depth averaged)	95%-ile of baseline water quality conditions	Annual geometric mean not to exceed 610 cfu/100ml
Chlorophyll-a in mg/m <sup>3</sup> (Depth averaged)	95%-ile of baseline water quality conditions, or 20% exceedance of value at any impact station compared with corresponding data from control station	<u>Harbour Subzone</u> Station W1, W2, C1, F1, CR1, CR15, CR16, CR17 & G1 Not to exceed 20mg/m <sup>3</sup> (µg/L) calculated as running arithmetic mean of 5 daily measurements for any location and depth.
		<u>Buffer Subzone</u> Station F2 Not to exceed 10mg/m <sup>3</sup> (µg/L) calculated as running arithmetic mean of 5 daily measurements for any location and depth.
		<u>Channel Subzone</u> Station F3, F4 & CR9 Not to exceed 6mg/m <sup>3</sup> (µg/L) calculated as running arithmetic mean of 5 daily measurements for any location and depth.

^ No specific criteria was given to Tolo Harbour and Channel WCZ in the Summary of Water Quality Objectives (WQOs) for marine waters of Hong Kong published by EPD

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**APPENDIX H  
CALCULATED BASELINE WATER  
QUALITY CONDITIONS**

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**Dissolved Oxygen in mg/L**  
**Mid-Ebb**

Station	Subzone	Depth	Baseline Water Quality Conditions	WQO
C1	Harbour	Surface	<5.9mg/L	Not less than 4 mg/L
		Middle	<1.6mg/L	Not less than 4 mg/L
		Bottom	<0.6mg/L	Not less than 2 mg/L
CR1	Harbour	Surface	<6.3mg/L	Not less than 4 mg/L
		Middle	<5.5mg/L	Not less than 4 mg/L
		Bottom	<1mg/L	Not less than 2 mg/L
CR9	Channel	Surface	<6.2mg/L	Not less than 4 mg/L
		Middle	<3.5mg/L	Not less than 4 mg/L
		Bottom	<2.1mg/L	Not less than 4 mg/L
CR15	Harbour	Surface	<6.3mg/L	Not less than 4 mg/L
		Middle	<1.8mg/L	Not less than 4 mg/L
		Bottom	<0.6mg/L	Not less than 2 mg/L
CR16	Harbour	Surface	<5.7mg/L	Not less than 4 mg/L
		Middle	<2.1mg/L	Not less than 4 mg/L
		Bottom	<0.7mg/L	Not less than 2 mg/L
CR17	Harbour	Surface	<5.5mg/L	Not less than 4 mg/L
		Middle	<1.6mg/L	Not less than 4 mg/L
		Bottom	<0.7mg/L	Not less than 2 mg/L
F1	Channel	Surface	<6.2mg/L	Not less than 4 mg/L
		Middle	<4.7mg/L	Not less than 4 mg/L
		Bottom	<1.5mg/L	Not less than 4 mg/L
F2	Buffer	Surface	<4.9mg/L	Not less than 4 mg/L
		Middle	<3.1mg/L	Not less than 4 mg/L
		Bottom	<1mg/L	Not less than 3 mg/L
F3	Channel	Surface	<5.6mg/L	Not less than 4 mg/L
		Middle	<3mg/L	Not less than 4 mg/L
		Bottom	<1.5mg/L	Not less than 4 mg/L
F4	Channel	Surface	<6.7mg/L	Not less than 4 mg/L
		Middle	<3.9mg/L	Not less than 4 mg/L
		Bottom	<3.2mg/L	Not less than 4 mg/L
G1	Harbour	Surface	<6.9mg/L	Not less than 4 mg/L
		Middle	<2.5mg/L	Not less than 4 mg/L
		Bottom	<1.2mg/L	Not less than 2 mg/L
W1	Harbour	Surface	<5.6mg/L	Not less than 4 mg/L
		Middle	<1.5mg/L	Not less than 4 mg/L
		Bottom	<0.6mg/L	Not less than 2 mg/L
W2	Harbour	Surface	<5.9mg/L	Not less than 4 mg/L
		Middle	---	Not less than 4 mg/L
		Bottom	<0.8mg/L	Not less than 2 mg/L

**Dissolved Oxygen in mg/L**  
**Mid-Flood**

Station	Subzone	Depth	Baseline Water Quality Conditions	WQO
C1	Harbour	Surface	<5.9mg/L	Not less than 4 mg/L
		Middle	<2.1mg/L	Not less than 4 mg/L
		Bottom	<0.6mg/L	Not less than 2 mg/L
CR1	Harbour	Surface	<6.2mg/L	Not less than 4 mg/L
		Middle	<4.4mg/L	Not less than 4 mg/L
		Bottom	<1.1mg/L	Not less than 2 mg/L
CR9	Channel	Surface	<5.9mg/L	Not less than 4 mg/L
		Middle	<3.7mg/L	Not less than 4 mg/L
		Bottom	<2.4mg/L	Not less than 4 mg/L
CR15	Harbour	Surface	<6.4mg/L	Not less than 4 mg/L
		Middle	<1.9mg/L	Not less than 4 mg/L
		Bottom	<0.6mg/L	Not less than 2 mg/L
CR16	Harbour	Surface	<6.1mg/L	Not less than 4 mg/L
		Middle	<1.2mg/L	Not less than 4 mg/L
		Bottom	<0.6mg/L	Not less than 2 mg/L
CR17	Harbour	Surface	<5.3mg/L	Not less than 4 mg/L
		Middle	<2.7mg/L	Not less than 4 mg/L
		Bottom	<0.7mg/L	Not less than 2 mg/L
F1	Channel	Surface	<5.7mg/L	Not less than 4 mg/L
		Middle	<5.3mg/L	Not less than 4 mg/L
		Bottom	<1.6mg/L	Not less than 4 mg/L
F2	Buffer	Surface	<4.8mg/L	Not less than 4 mg/L
		Middle	<2.6mg/L	Not less than 4 mg/L
		Bottom	<1mg/L	Not less than 3 mg/L
F3	Channel	Surface	<5.8mg/L	Not less than 4 mg/L
		Middle	<3.5mg/L	Not less than 4 mg/L
		Bottom	<1.8mg/L	Not less than 4 mg/L
F4	Channel	Surface	<6.3mg/L	Not less than 4 mg/L
		Middle	<4.7mg/L	Not less than 4 mg/L
		Bottom	<3.4mg/L	Not less than 4 mg/L
G1	Harbour	Surface	<6mg/L	Not less than 4 mg/L
		Middle	<2.6mg/L	Not less than 4 mg/L
		Bottom	<1.5mg/L	Not less than 2 mg/L
W1	Harbour	Surface	<5.5mg/L	Not less than 4 mg/L
		Middle	<1.2mg/L	Not less than 4 mg/L
		Bottom	<0.7mg/L	Not less than 2 mg/L
W2	Harbour	Surface	<6.2mg/L	Not less than 4 mg/L
		Middle	---	Not less than 4 mg/L
		Bottom	<1.5mg/L	Not less than 2 mg/L

Note 1: For samples that are below LOR, the value is substituted with LOR to allow for calculation.

\*As only 1 sampling date had tides higher than 6m at Station W2, no fair statistic could be established.





**Salinity in ppt (Depth-average)**

Station	Subzone	Mid-Ebb Baseline Water Quality Conditions	Mid-Flood Baseline Water Quality Conditions	WQO
C1	Harbour	<-31.6 or 9% less than value at any impact station compared with corresponding data from control station	<-31.4 or 9% less than value at any impact station compared with corresponding data from control station	Change due to waste discharge not to be greater than +/- 3ppt
CR1	Harbour	<-31.3 or 9% less than value at any impact station compared with corresponding data from control station	<-31.4 or 9% less than value at any impact station compared with corresponding data from control station	
CR9	Channel	<-31.8 or 9% less than value at any impact station compared with corresponding data from control station	<-31.2 or 9% less than value at any impact station compared with corresponding data from control station	
CR15	Harbour	<-31.4 or 9% less than value at any impact station compared with corresponding data from control station	<-31.4 or 9% less than value at any impact station compared with corresponding data from control station	
CR16	Harbour	<-32 or 9% less than value at any impact station compared with corresponding data from control station	<-31.5 or 9% less than value at any impact station compared with corresponding data from control station	
CR17	Harbour	<-31.5 or 9% less than value at any impact station compared with corresponding data from control station	<-31.1 or 9% less than value at any impact station compared with corresponding data from control station	
F3	Channel	<-31.5 or 9% less than value at any impact station compared with corresponding data from control station	<-31.3 or 9% less than value at any impact station compared with corresponding data from control station	
F2	Buffer	<-32.3 or 9% less than value at any impact station compared with corresponding data from control station	<-32.5 or 9% less than value at any impact station compared with corresponding data from control station	
F3	Channel	<-33.2 or 9% less than value at any impact station compared with corresponding data from control station	<-32.8 or 9% less than value at any impact station compared with corresponding data from control station	
F4	Channel	<-33.7 or 9% less than value at any impact station compared with corresponding data from control station	<-33.2 or 9% less than value at any impact station compared with corresponding data from control station	
G1	Harbour	<-33.2 or 9% less than value at any impact station compared with corresponding data from control station	<-33.2 or 9% less than value at any impact station compared with corresponding data from control station	
W1	Harbour	<-31.6 or 9% less than value at any impact station compared with corresponding data from control station	<-31.1 or 9% less than value at any impact station compared with corresponding data from control station	
W2	Harbour	<-31.1 or 9% less than value at any impact station compared with corresponding data from control station	<-31.1 or 9% less than value at any impact station compared with corresponding data from control station	

**Biochemical Oxygen Demand in mg/L (Depth-average)**

Station	Subzone	Mid-Ebb Baseline Water Quality Conditions	Mid-Flood Baseline Water Quality Conditions	WQO
C1	Harbour		<2 or 20% exceedance of value at any impact station compared with corresponding data from control station	Nil <sup>a</sup>
CR1	Harbour		<2 or 20% exceedance of value at any impact station compared with corresponding data from control station	Nil <sup>a</sup>
CR15	Harbour		<2 or 20% exceedance of value at any impact station compared with corresponding data from control station	Nil <sup>a</sup>
CR16	Harbour		<2 or 20% exceedance of value at any impact station compared with corresponding data from control station	Nil <sup>a</sup>
CR17	Harbour		<2 or 20% exceedance of value at any impact station compared with corresponding data from control station	Nil <sup>a</sup>
F3	Channel		<2 or 20% exceedance of value at any impact station compared with corresponding data from control station	Nil <sup>a</sup>
F2	Buffer		<2 or 20% exceedance of value at any impact station compared with corresponding data from control station	Nil <sup>a</sup>
F3	Channel		<2 or 20% exceedance of value at any impact station compared with corresponding data from control station	Nil <sup>a</sup>
F4	Channel		<2 or 20% exceedance of value at any impact station compared with corresponding data from control station	Nil <sup>a</sup>
G1	Harbour		<2 or 20% exceedance of value at any impact station compared with corresponding data from control station	Nil <sup>a</sup>
W1	Harbour		<2 or 20% exceedance of value at any impact station compared with corresponding data from control station	Nil <sup>a</sup>
W2	Harbour		<2 or 20% exceedance of value at any impact station compared with corresponding data from control station	Nil <sup>a</sup>

**Unionized ammonia in mg/L (Depth-average)**

Station	Subzone	Mid-Ebb Baseline Water Quality Conditions	Mid-Flood Baseline Water Quality Conditions	WQO
C1	Harbour	>0.005 or 20% exceedance of value at any impact station compared with corresponding data from control station	>0.005 or 20% exceedance of value at any impact station compared with corresponding data from control station	Nil <sup>a</sup>
CR1	Harbour	>0.018 or 20% exceedance of value at any impact station compared with corresponding data from control station	>0.022 or 20% exceedance of value at any impact station compared with corresponding data from control station	Nil <sup>a</sup>
CR15	Harbour	>0.005 or 20% exceedance of value at any impact station compared with corresponding data from control station	>0.004 or 20% exceedance of value at any impact station compared with corresponding data from control station	Nil <sup>a</sup>
CR16	Harbour	>0.004 or 20% exceedance of value at any impact station compared with corresponding data from control station	>0.005 or 20% exceedance of value at any impact station compared with corresponding data from control station	Nil <sup>a</sup>
CR17	Harbour	>0.006 or 20% exceedance of value at any impact station compared with corresponding data from control station	>0.005 or 20% exceedance of value at any impact station compared with corresponding data from control station	Nil <sup>a</sup>
F3	Channel	>0.014 or 20% exceedance of value at any impact station compared with corresponding data from control station	>0.005 or 20% exceedance of value at any impact station compared with corresponding data from control station	Nil <sup>a</sup>
F2	Buffer	>0.005 or 20% exceedance of value at any impact station compared with corresponding data from control station	>0.005 or 20% exceedance of value at any impact station compared with corresponding data from control station	Nil <sup>a</sup>
F3	Channel	>0.004 or 20% exceedance of value at any impact station compared with corresponding data from control station	>0.003 or 20% exceedance of value at any impact station compared with corresponding data from control station	Nil <sup>a</sup>
F4	Channel	>0.005 or 20% exceedance of value at any impact station compared with corresponding data from control station	>0.003 or 20% exceedance of value at any impact station compared with corresponding data from control station	Nil <sup>a</sup>
G1	Harbour	>0.005 or 20% exceedance of value at any impact station compared with corresponding data from control station	>0.003 or 20% exceedance of value at any impact station compared with corresponding data from control station	Nil <sup>a</sup>
W1	Harbour	>0.006 or 20% exceedance of value at any impact station compared with corresponding data from control station	>0.005 or 20% exceedance of value at any impact station compared with corresponding data from control station	Nil <sup>a</sup>
W2	Harbour	>0.037 or 20% exceedance of value at any impact station compared with corresponding data from control station	>0.019 or 20% exceedance of value at any impact station compared with corresponding data from control station	Nil <sup>a</sup>

**F. coli CFU/100ml (Depth-average)**

Station	Subzone	Mid-Ebb Baseline Water Quality Conditions	Mid-Flood Baseline Water Quality Conditions	WQO
C1	Harbour	>108.1	>119.21	Annual geometric mean not to exceed 610 cfu/100ml
CR1	Harbour	>361.6	>360.4	
CR15	Harbour	>167.57	>155.52	
CR16	Harbour	>101.91	>48.28	
CR17	Harbour	>56.14	>23.43	
F3	Channel	>45.79	>36.2	
F2	Buffer	>6.34	>21.07	
F3	Channel	>4.4	>4.74	
F4	Channel	>1.57	>1.77	
G1	Harbour	>9.58	>16.94	
W1	Harbour	>62.45	>80.07	
W2	Harbour	>1566.69	>548.05	

<sup>a</sup> No specific criteria was given to Tolo harbour and Channel WCZ in the Summary of Water Quality Objectives (WQOs) for marine waters of Hong Kong published by EPD  
Note 1: For samples that are below LOR, the value is substituted with LOR to allow for calculation.