

**JOB No.: TCS01325/23**

**CONTRACT NO. EP/SP/186/21**


**WEST NEW TERRITORIES LANDFILL EXTENSION  
(WENTX)**

**BASELINE MONITORING REPORT**

**(VERSION 7)**

**PREPARED FOR**

**HONG KONG RESOURCES RECOVERY PARK**

<b>Date</b>	<b>Reference No.</b>	<b>Certified By</b>
12 August 2025	TCS01325/23/600/R0027v7	 Tam Tak Wing (Environmental Team Leader)

<b>Version</b>	<b>Date</b>	<b>Remarks</b>
1	14 February 2024	First Submission
2	13 June 2024	Second Submission
3	27 September 2024	Amended according to EPD's comments
4	10 March 2025	Amended according to EPD's comments
5	6 June 2025	Amended according to EPD's comments
6	20 June 2025	Amended according to EPD's comments
7	12 August 2025	Amended according to EPD's comments

Our Ref: TCS01325/23/300/L0135

**Hong Kong Resources Recovery Park**  
29/F China Overseas Building,  
139 Hennessy Road, Hong Kong

Attn: Mr. Kenneth Lau

19 August 2025  
By email

Dear Sir,

**Re: Contract No. EP/SP/186/21**  
**West New Territories Landfill (WENT) Extension**  
**EP-393/2010/A and FEP-01/393/2010/A Condition 3.4**  
**ETL's Certification Letter for Baseline Monitoring Report (Version 7)**

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With reference to the Baseline Monitoring Report (TCS01325/23/600/R0027v7), we hereby certify this submission in accordance with Condition 3.4 of EP-393/2010/A and FEP-01/393/2010/A.

Should you have any queries or require further information, please feel free to the undersigned at Tel: 2959-6059 or Fax: 2959-6079.

Yours sincerely,

For and on Behalf of

**Action-United Environmental Services & Consulting**



Tam Tak Wing  
Environmental Team Leader



Environmental Protection Department  
2nd floor, West Wing  
Island West Transfer Station  
88 Victoria Road  
Kennedy Town  
Hong Kong

Your reference:

Our reference: HKEPD259/50/110720

Date: 19 August 2025

Attention: Ms Kins Lo

**BY EMAIL & POST**  
**(email: [wklo@epd.gov.hk](mailto:wklo@epd.gov.hk))**

Dear Sirs

Quotation Ref. 23-02230  
Provision of Independent Environmental Checker Consultancy Services for  
West New Territories Landfill Extension  
Baseline Monitoring Report (Version 7)

We refer to emails of 12, 18 and 19 August 2025 from Hong Kong Resources Recovery Park attaching the Baseline Monitoring Report (Version 7) of the captioned.

We have no further comment and hereby verify the captioned report in accordance with Clause 3.4 of the Environmental Permit (EP No.: EP-393/2010/A) and Further Environmental Permit (FEP No. FEP-01/393/2010/A).

Should you have any queries, please do not hesitate to contact the undersigned or our Mr Ricky Lau at 2618 2831.

Yours faithfully  
ANewR CONSULTING LIMITED

James Choi  
Independent Environmental Checker

CPSJ/LCCR/csym

## EXECUTIVE SUMMARY

- ES.01 The West New Territories Landfill Extension (WENTX) is classified as a Designated Project (DP) under Schedule 2, Part I of the Environmental Impact Assessment Ordinance (EIAO) (Cap. 499). The Environmental Impact Assessment (EIA) Report (AEIAR-147/2009) of WENTX was approved in November 2009 and the respective Environmental Permit no. EP-393/2010 was granted in June 2010. For the WENTX development scheme adopted in the WENTX-EIA in 2009 (hereby referred to the Original Scheme), an area of about 188 hectares of land adjacent to the existing WENT landfill was considered that to be provided approximately 81 million m<sup>3</sup> (Mm<sup>3</sup>) of additional landfill capacity.
- ES.02 In consideration of the interfacing projects, commitments and neighbourhood enhancement initiatives were proposed and in conjunction with the project, the reference design and implementation programme for the WENTX (hereby referred to the Enhanced Scheme) has been revised. Under the Enhanced Scheme, the boundary of WENTX has been reduced and the waste filling area and landfill capacity has been updated to 94 ha and 76 Mm<sup>3</sup> respectively. Variation of Environmental Permit (application number VEP-617/2022) was applied by the project proponent and EP-393/2010/A was issued by Environmental Protection Department (EPD) on 29 July 2022 subsequently.
- ES.03 In August 2023, Hong Kong Resources Recovery Park (hereinafter named “HKRRP”) was awarded the Design, Build and Operate (DBO) Contract of WENTX (hereinafter named “the Project”). Further Environmental Permit (FEP-01/393/2010/A) was granted to HKRRP from EPD on 6 October 2023. In addition, Ove Arup & Partners Hong Kong Ltd will be the Service Manager (SM) of the Project and they will perform the same role / same as the Independent Consultant as recommended in the EIA report.
- ES.04 Action-United Environmental Services & Consulting (hereinafter called “AUES”) was appointed by HKRRP as the Environmental Team (the “ET”) to implement environmental monitoring and auditing (EM&A) programme for the initial phase of the Project.
- ES.05 In accordance with the updated Environmental Monitoring and Audit Manual (hereinafter named as “updated EM&A Manual”, baseline monitoring such as air quality, background noise, surface water quality shall be conducted at all the designated or any alternative monitoring stations to obtain the baseline condition before commencement the Project. According to EP-393/2010/A and FEP-01/393/2010/A Condition 3.4, the Baseline Monitoring Report shall be submitted to the Director of Environmental Protection (the Director) at least 2 weeks before commencement of the construction of the Project.
- ES.06 Baseline monitoring for air quality and background noise were conducted from 3 January 2024 to 31 March 2024 by the ET at all the designated or any alternative monitoring locations in accordance with the updated EM&A Manual. In addition, surface water quality baseline monitoring was conducted from 20 February to 2 March 2024. During the baseline monitoring period, no construction activities related to the Project or other external influencing factors of significant concern were observed.
- ES.07 This is the Baseline Monitoring Report presents the baseline data of air quality, background noise and surface water quality and determines a set of Action and Limit Levels (A/L Levels) for the construction phase of the Project.

Air Quality

ES.08 1-hour and 24-hour TSP of baseline air quality monitoring were conducted at all air monitoring stations prior to the commissioning of major construction work. The monitoring frequency for 24-hour TSP was daily for 14 consecutive days and for 1-hour TSP is at least 3 times per day for 14 consecutive days. The location and date of baseline air quality monitoring is summarized in **Table ES-01**.

**Table ES-01 Summary of Baseline Air Quality Monitoring**

Monitoring Station ID	Description of Location	Baseline Monitoring Period	
		1-hour TSP	24-hour TSP
AM(D)1	Village house at Ha Pak Nai	26 January to 8 February 2024	27 January to 9 February 2024
AM(D)2	Village house at Ha Pak Nai	26 January to 8 February 2024	29 January to 11 February 2024
AM(D)3	Village house at Ha Pak Nai	26 January to 8 February 2024	27 January to 9 February 2024
AM(D)5	Lung Kwu Sheung Tan	26 January to 8 February 2024	27 January to 9 February 2024
(#) AM(D)5a	Lung Kwu Sheung Tan	16 to 29 March 2024	18 to 31 March 2024
(*) AM(D)6a	Rooftop of T · PARK Workshop	31 January to 13 February 2024	31 January to 13 February 2024
(*) AM(D)7a	Site boundary of Middle Tsang Tsui Ash Lagoon	26 January to 8 February 2024	10 to 23 February 2024

(\*) Alternative location proposed in the updated EM&A Manual.

(#) As the baseline level for 24-hour TSP at AM(D)5 during 26 January to 9 February 2024 exceeded the limit level, and the exceedances were due to the local traffic. In accordance with the updated EM&A Manual, ET had conducted a second set of baseline monitoring at new location AM(D)5a, which was positioned at a separation distance of 30m from the original station AM(D)5 and closer to the WENTX site.

ES.09 The derived Action and Limit Levels of air quality monitoring are given in **Table ES-02** below.

**Table ES-02 Action and Limit Levels of Air Quality**

Monitoring Station	1-hour TSP		24-hour TSP	
	Action Level (µg /m <sup>3</sup> )	Limit Level (µg /m <sup>3</sup> )	Action Level (µg /m <sup>3</sup> )	Limit Level (µg /m <sup>3</sup> )
AM(D)1	317	500	155	260
AM(D)2	313	500	156	260
AM(D)3	334	500	155	260
AM(D)5	394	500	260 <sup>Note 1</sup>	260
(#) AM(D)5a	371	500	238	260
AM(D)6a	294	500	159	260
AM(D)7a	331	500	215	260

Note 1 - The Average dust concentration of baseline monitoring result exceeded 260µg/m<sup>3</sup> of Limit Level, hence Action Level is the same as Limit Level.

(#) As the baseline level for 24-hour TSP at AM(D)5 during 26 January to 9 February 2024 exceeded the limit level, and the exceedances were due to the local traffic. In accordance with the updated EM&A Manual, ET had conducted a second set of baseline monitoring at new location AM(D)5a, which was positioned at a separation distance of 30m from the original station AM(D)5 and closer to the WENTX site.

Noise

ES.10 Baseline monitoring of background noise for the A-weighted levels  $L_{eq}$ ,  $L_{10}$  and  $L_{90}$  was conducted at the designated noise monitoring station NM1 from 3 to 16 January 2024 for 2 weeks prior to the commencement of the construction works. The background noise monitoring is summarized in **Table ES-03**.

**Table ES-03 Summary of Background Noise Monitoring**

Monitoring Station ID	Description of Location	Baseline Monitoring Period
NM1	Village house at Ha Pak Nai	3 to 16 January 2024

ES.11 During the background noise monitoring period, there was not any major construction activities under the Project in the vicinity of the monitoring station. However, ET observed that social noise from the village shall be possible influencing factors which may be to affect the baseline monitoring results.

ES.12 The derived Action and Limit Levels for construction noise are given in **Tables ES-04**.

**Table ES-04 Action and Limit Levels of Construction Noise Monitoring**

Monitoring Location ID	Action Level	Limit Level in dB(A)
	Time Period: 0700-1900 hours on normal weekdays	
NM1	When one or more documented complaints are received	75 dB(A)
<i>Note: If works are to be carried out during restricted hours, the conditions stipulated in the construction noise permit issued by the NCA have to be followed.</i>		

Water Quality

ES.13 Surface water quality baseline monitoring was carried out at the designated monitoring station WM1 before commencement of the construction works to obtain the background condition. As monitoring requirement has not been specified in the approved Final EM&A Manual, the baseline monitoring frequency has been consulted and agreed with the Service Manager (SM) & Independent Environmental Checker (IEC) before commencement of baseline monitoring. Two weeks surface water quality baseline monitoring, with a total of ten monitoring days, were performed to collect sufficient background information to establish the Action and Limit Levels. The surface water quality baseline monitoring is summarized in **Table ES-05**.

**Table ES-05 Summary of Surface Water Monitoring**

Monitoring Station ID	Description of Location	Baseline Monitoring Period
WM1	Tai Shui Hang River	20 February to 2 March 2024

ES.14 In accordance with the updated EM&A Manual and baseline monitoring data, the derived Action and Limit Levels for surface water are given in **Table ES-06**.

**Table ES-06 Action and Limit Levels of Surface Water Quality Monitoring (WM1)**

Monitoring Parameter	Action Level	Limit Level
<b>Construction Phase</b>		
DO, mg L <sup>-1</sup>	6.4	4.0
pH, (unit)	Beyond the range of 6.5 to 8.5	Beyond the range of 6 to 9
Turbidity, NTU	23.4	34.1
SS, mg L <sup>-1</sup>	47.3	50.0

- ES.15 In cases where the Action and Limit Levels criteria are exceeded, specific actions should be undertaken in accordance with the Event and Action Plan as shown the Updated EM&A Manual.
- ES.16 For landscape & visual baseline, photographic records of the Landscape Character Area (LCA), Landscape Resource (LR) and Visual Sensitive Receiver (VSR) affected by the Project were taken by the Contractor prior the commencement of works. Apart from the development within the Tsang Tsui ash lagoon, the conversion of agricultural land into open storage and changes in the vegetation characteristics alongside the tidal creek south of the ash lagoon, as a whole, there is no major change in the landscape and visual baseline conditions comparing to those presented in the approved EIA Report and supporting document for VEP-617/2022. In addition to the Landscape Plan, it revealed that the LR-2 Public Utilities and LR-7 Agricultural are outside the revised project boundary under FEP No. FEP-01/393/2010A.

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## **1 INTRODUCTION**

### **1.1 BACKGROUND**

- 1.1.1 The West New Territories Landfill Extension (WENTX) is classified as a Designated Project (DP) under Schedule 2, Part I of the Environmental Impact Assessment Ordinance (EIAO) (Cap. 499). The Environmental Impact Assessment (EIA) Report (AEIAR-147/2009) of WENTX was approved in November 2009 and the respective Environmental Permit no. EP-393/2010 was granted in June 2010. For the WENTX development scheme adopted in the WENTX-EIA in 2009 (hereby referred to the Original Scheme), an area of about 188 hectares of land adjacent to the existing WENT landfill was considered that to be provided approximately 81 million m<sup>3</sup> (Mm<sup>3</sup>) of additional landfill capacity.
- 1.1.2 In consideration of the interfacing projects, commitments and neighbourhood enhancement initiatives were proposed and in conjunction with the project, the reference design and implementation programme for the WENTX (hereby referred to the Enhanced Scheme) has been revised. Under the Enhanced Scheme, the boundary of WENTX has been reduced and the waste filling area and landfill capacity has been updated to 94 ha and 76 Mm<sup>3</sup> respectively. Variation of Environmental Permit (application number VEP-617/2022) was applied by the project proponent and EP-393/2010/A was issued by Environmental Protection Department (EPD) on 29 July 2022 subsequently. The general plan of Enhanced Scheme is shown on **Figure 1.1**.
- 1.1.3 In August 2023, Hong Kong Resources Recovery Park (hereinafter named “HKRRP”) was awarded the Design, Build and Operate (DBO) Contract of WENTX (hereinafter named “the Project”). Further Environmental Permit (FEP-01/393/2010/A) was granted by HKRRP from EPD on 6 October 2023. In addition, Ove Arup & Partners Hong Kong Ltd will be the Service Manager of the Project and they will perform the same role / same as the Independent Consultant as recommended in the EIA report.

### **1.2 DESCRIPTION OF THE PROJECT**

#### **General Description of the Project**

- 1.2.1 The development of the WENT Landfill Extension will involve the following works:
- Site formation, drainage diversion and preparation;
  - Installation of liner system;
  - Installation of leachate collection, treatment and disposal facilities;
  - Installation of landfill gas collection, utilization and management facilities;
  - Operation and environmental monitoring of landfill;
  - Restoration and aftercare.

### **1.3 IMPLEMENTATION OF EM&A PROGRAMME**

- 1.3.1 Action United Environmental Services & Consulting (hereinafter called “AUES”) was appointed by HKRRP as the Environmental Team (the “ET”) to implement environmental monitoring and auditing (EM&A) programme for the initial phase of the Project.
- 1.3.2 In accordance with EP-393/2010/A and FEP-01/393/2010/A Condition 3.1, an updated EM&A Manual is prepared to include the latest EM&A requirement in accordance with the information and recommendation described in the EIA Report and by taking into account any specific site conditions that may be changed before the construction of the Project. It outlines the monitoring and audit programme for the Project for the construction phase and provided systematic procedures for monitoring, auditing and minimizing environmental impacts ensure compliance with the EIA recommendations.

- 1.3.3 In accordance with the updated EM&A Manual, baseline monitoring for background noise air quality and surface water quality shall be conducted at the designated monitoring stations or any alternative monitoring station(s) to obtain the baseline condition before commencement the Project. According to EP-393/2010/A and FEP-01/393/2010/A Condition 3.4, the Baseline Monitoring Report shall be submitted to the Director at least 2 weeks before commencement of the construction of the Project.
- 1.3.4 Baseline monitoring for air quality and background noise were conducted from 3 January 2024 to 31 March 2024 by the ET at all the designated or any alternative monitoring locations in accordance with the updated EM&A Manual. In addition, surface water quality baseline monitoring was conducted from 20 February to 2 March 2024. During the baseline monitoring period, no construction activities related to the Project or other external influencing factors of significant concern were observed.
- 1.3.5 This is Baseline Monitoring Report for the Project to present the baseline data and determine a set of Action and Limit Levels (A/L Levels) for the construction phase of the Project.

#### **1.4 REPORT STRUCTURE**

- 1.4.1 The Baseline Monitoring Report is structured into the following sections:-

<b>Section 1</b>	Introduction
<b>Section 2</b>	Air Quality
<b>Section 3</b>	Noise
<b>Section 4</b>	Water Quality
<b>Section 5</b>	Landscape and Visual
<b>Section 6</b>	Conclusions and Recommendations

## 2 AIR QUALITY

### 2.1 MONITORING REQUIREMENT

- 2.1.1 According to the updated EM&A Manual, baseline monitoring at all of the designated monitoring locations shall be carried out for prior to the commencement of the construction works to obtain background. 1-hour TSP 3 times per day and 24-hour TSP for daily of air quality sampling are taken at least 14 consecutive days while highest dust impact time period. During baseline monitoring, there should not be any construction or dust generation activities under the Project in the vicinity of the monitoring stations.
- 2.1.2 In case the baseline monitoring cannot be carried out at the designated monitoring locations during the baseline monitoring period, the ET Leader shall carry out the monitoring at alternative locations which can effectively represent the baseline conditions at the impact monitoring locations. The alternative baseline monitoring locations shall be approved by the Service Manager (SM) and Independent Environmental Checker (IEC) and agreed with EPD.
- 2.1.3 In exceptional case, when insufficient baseline monitoring data or questionable results are obtained, the ET Leader shall liaise with EPD to agree on an appropriate set of data to be used as a baseline reference and submit to SM and IEC for approval.

### 2.2 MONITORING PARAMETER, FREQUENCY AND DURATION

- 2.2.1 Monitoring frequency for air quality baseline monitoring is as follows:
- 1-hour TSP            3 sets of 1-hour TSP monitoring shall be carried out daily for a period of at least 14 consecutive days
  - 24-hour TSP         24- hour TSP monitoring shall be carried out daily for a period of at least 14 consecutive days

### 2.3 MONITORING EQUIPMENT

#### 1-hour TSP

- 2.3.1 Portable direct reading dust meters brand named “Sibata LD-3B Laser Dust monitor Particle Mass Profiler & Counter” and “Sidepak Personal Aerosol Monitor AM510” were used to 1-hour TSP measurement. These portable direct reading dust meters provided a real time 1-hour TSP measurement based on 90° light scattering.
- 2.3.2 The portable direct reading dust meters were used within the valid period following manufacturer’s Operation and Service Manual. It was calibrated annually and determined periodically by the calibrated High-Volume Sampler to check the validity and accuracy of the results measured by direct reading method. The proposed use of portable direct reading dust meters was submitted to the IEC and obtained agreement and stated in **Section 4.3** of the Updated EM&A Manual.
- 2.3.3 The portable direct reading dust meters used for baseline air quality monitoring are listed in **Table 2-1**. The copies of calibration certificates for 1-hour TSP air quality monitoring equipment are shown in **Appendix A1**.

**Table 2-1         1-hour TSP Air Quality Monitoring Equipment**

Equipment	Model	Serial No.
Portable Dust Meter of Particle Mass Profiler & Counter	Sidepak Personal Aerosol Monitor AM510	11008060 (AUES Equipment No. EQ101)
	Sibata LD-3B Laser Dust monitor	2X6145 (AUES Equipment No. EQ105)
		366407 (AUES Equipment No. EQ107)
		366418 (AUES Equipment No. EQ108)

Equipment	Model	Serial No.
		366410 (AUES Equipment No. EQ110)

24-hour TSP

2.3.4 The 24-hour TSP levels shall be measured by following the standard high volume sampling method as set out in the *Title 40 of the Code of Federal Regulations, Chapter 1 (Part 50), Appendix B*. The filter paper of 24-hour TSP measurement shall be provided and determined by HOKLAS accredited laboratory. Equipment used for 24-hour TSP of baseline air quality monitoring is listed in **Table 2-2**.

**Table 2-2 24-hour TSP Air Quality Monitoring Equipment**

Equipment	Model
High Volume Air Sampler	TISCH High Volume Air Sampler, HVS Model TE-5170
Calibration Kit	TISCH Model TE-5028A

2.3.5 The equipment used for 24-hour TSP measurement is a Tisch Environmental, Inc. Model TE-5170 TSP high volume air sampling system, which complied with EPA Code of Federal Regulation, Appendix B to Part 50. The High Volume Air Sampler (HVS) consists of the following:

- (i) An anodized aluminum shelter;
- (ii) A 8"x10" stainless steel filter holder;
- (iii) A blower motor assembly;
- (iv) A continuous flow/pressure recorder;
- (v) A motor speed-voltage control/elapsed time indicator;
- (vi) A 7-day mechanical timer, and
- (vii) A power supply of 220v/50 Hz

2.3.6 Prior to the 24-hour TSP monitoring, the HVS was calibrated in accordance with the manufacturer's instruction using the NIST-certified standard calibrator (Tisch Calibration Kit Model TE-5028A). Valid calibration certificate of the calibration kit with the certificate of HVS calibrated are attached in **Appendix A1**.

Wind Data Monitoring Equipment

2.3.7 In consideration of the safety concerns of setting up wind sensor at 10m above ground, ETL would propose alternative method to obtain representative wind data. Meteorological information as extracted from "the Hong Kong Observatory Lau Fau Shan Station" is alternative method to obtain representative wind data. Lau Fau Shan Station is located nearby the Project site. Moreover, Lau Fau Shan station is located at 31m above mean sea level which in compliance with the general setting up requirement. This station can also provide other meteorological information include air temperature, relative humidity, wind direction, wind speed and mean sea level pressure. Adoption of meteorological information from Hong Kong Observatory is a common alternative method for a lot of EM&A projects in Hong Kong.

**2.4 MONITORING PROCEDURES**

1-hour TSP

2.4.1 The portable direct reading dust meters brand named "Sibata LD-3B Laser Dust monitor Particle Mass Profiler & Counter" and "Sidepak Personal Aerosol Monitor AM510" was used for baseline monitoring. It is a portable, battery-operated laser photometer and provides a real time 1-hour TSP measurement based on 90° light scattering.

2.4.2 The 1-hour TSP meter used is within the valid period, calibrated by the manufacturer prior to purchasing. Zero response of the instrument was checked before and after each monitoring event. Operation of the 1-hour TSP meter was follow manufacturer's Operation and Service Manual.

24- hour TSP

2.4.3 Prior of 24-hour TSP monitoring, the HVS was calibrated in accordance with the manufacturer's instruction using the NIST-certified standard calibrator (Tisch Calibration Kit Model TE-5028A). The 24-hour TSP Monitoring using the HVS was also processed in accordance with the manufacturer's Operations Manual.

2.4.4 A filter paper of 24- hour TSP on filters of HVS collected by the ET would be delivered to ALS Technichem (HK) Pty Ltd (ALS) carry out quantifies. Also, ALS will keeps all the sampled 24-hour TSP filter papers in normal air conditioned room conditions, i.e. 70% HR (Relative Humidity) and 25°C, for six months prior to disposal.

**2.5 MONITORING LOCATIONS**

2.5.1 Five dust monitoring locations have been recommended in the approved Final EM&A Manual and two additional monitoring stations (AM(D)6 and AM(D)7) were suggested in VEP supporting document, and they are the nearest air sensitive receiver (ASRs) from the Project boundary. Joint site visits by Contractor and Environment Team have been conducted at the recommended locations to verify their status and obtain agreement to install dust monitoring equipment for before the baseline EM&A Programme.

AM(D)4

2.5.2 A formal email has been sent to Black Point Power Station on 27 December 2023 for access authorization to the premise in order to carry out dust monitoring. The corresponding team of Black Point Power Station replied that due to the safety and security reason, they rejected to provide access for dust monitoring activities in their premise.

2.5.3 After AM(D)4 (Black Point Power Station Office and Control Room) rejected the proposal of installing dust monitoring equipment within their premises, alternative locations were sought which included locations near the Lung Kwu Sheung Tan Village Supply Tank and Lung Kwu Sheung Tan Service Reservoir. Visits to the above two locations were made for 4 weeks after the rejection from Black Point Power Station on 18 January 2024. It was concluded that there was no site personnel permanently stationed at these two locations and these premises are probably visited by personnel on an ad-hoc basis. Furthermore, it was observed that these premises have no window and air conditioning equipped, no site personnel was on duty at the building during site visit. With the implementation of the dust suppression measures stipulated in Air Pollution Control (Construction Dust) Regulation, adverse air quality impact is not anticipated at these two locations, and there are no other ASRs on the west side of the Project site. Thus, it was concluded that no further alternative location can be considered.

AM(D)6

2.5.4 Site visit and meeting with T · PARK was held on 15 January 2024 and it is concluded and agreed that air quality monitoring equipment should be relocated to the rooftop of T · PARK workshop instead of the T · PARK office, which is the best available alternative monitoring location in the facility. The distance between T · PARK office and workshop is approximately 100m. They are both located to the north of the site boundary and experiencing the same prevailing meteorological conditions.

AM(D)7

- 2.5.5 A site visit was conducted at AM(D)7 on 28 December 2023, after discussion with the management representative of premises, access authorization to carry out dust monitoring was rejected due to unsuitable conditions.
- 2.5.6 An alternative location has been sought based on the recommended criteria. It is proposed to relocate the monitoring location (north facing) to the site boundary of Middle Tsang Tsui Ash Lagoon and at location avoid the emission of the premises (east facing). The proposed monitoring location is approximately 10 meters away from AM(D)7. Both locations are situated to the north-west of the site boundary and experiencing the same prevailing meteorological conditions. The Southern boundary of the Tsang Tsui Columbarium site such as the entrance area has been explored subsequently, but it is not feasible without stable electricity.
- 2.5.7 The updated dust monitoring locations have been included in the updated EM&A Manual. The proposed dust monitoring locations for baseline monitoring are shown in **Table 2-3** and illustrated in **Figure 2.1**.

**Table 2-3 Dust Monitoring Locations**

Station ID	ASR ID	Location	Land use
AM(D)1	A1-1	Ha Pak Nai	Residential
AM(D)2	A1-2	Ha Pak Nai	Residential
AM(D)3	A1-3	Ha Pak Nai	Residential
AM(D)5a (#)	A4-1	Lung Kwu Sheung Tan	Place of Worship
AM(D)6a	A3-1	rooftop of T·PARK workshop	Office
AM(D)7a	A5-2	Site boundary of Middle Tsang Tsui Ash Lagoon	Community

*Remark: (#) As the baseline level for 24-hour TSP at AM(D)5 during 26 Jan to 9 Feb 2024 exceeded the limit level, and the exceedances were due to the local traffic. In accordance with the updated EM&A Manual, ET had conducted a second set of baseline monitoring at new location AM(D)5a, which was positioned at a separation distance of 30m from the original station AM(D)5 and closer to the WENTX site.*

**2.6 RESULTS OF AIR QUALITY MONITORING**

- 2.6.1 Baseline air quality monitoring was conducted at all air quality monitoring stations in phases during the period of 26 January to 23 February 2024. The 1-hour and 24-hour TSP baseline monitoring results are summarized in **Table 2-4**. The detailed 1-hour and 24-hour TSP monitoring data are shown in **Appendix A2**. Graphical presentation of the baseline 1-hour and 24-hour TSP data at each monitoring stations are shown in **Appendix A3**. Photographic records for air quality monitoring stations are shown in **Appendix A4**.

**Table 2-4 Summary Baseline Air Quality Monitoring Results**

Monitoring Station	1-Hour TSP Concentration (µg/m <sup>3</sup> )			24-Hour TSP Concentration (µg/m <sup>3</sup> )				
	Monitoring Period	Min.	Ave.	Max.	Monitoring Period	Min.	Ave.	Max.
AM(D)1 - Village house at Ha Pak Nai	26 Jan to 8 Feb 2024	43	103	254	27 Jan to 9 Feb 2024	10	39	78
AM(D)2 - Village house at Ha Pak Nai	26 Jan to 8 Feb 2024	45	97	253	29 Jan to 11 Feb 2024	12	40	77
AM(D)3 - Village house at Ha Pak Nai	26 Jan to 8 Feb 2024	57	129	365	27 Jan to 9 Feb 2024	11	39	63
AM(D)5 - Lung Kwu Sheung Tan	26 Jan to 8 Feb 2024	38	222	464	27 Jan to 9 Feb 2024	22	355	803
AM(D)6a - Rooftop of T·PARK Workshop	31 Jan to 13 Feb 2024	41	67	123	31 Jan to 13 Feb 2024	14	45	64

Monitoring Station	1-Hour TSP Concentration ( $\mu\text{g}/\text{m}^3$ )			24-Hour TSP Concentration ( $\mu\text{g}/\text{m}^3$ )				
	Monitoring Period	Min.	Ave.	Max.	Monitoring Period	Min.	Ave.	Max.
AM(D)7a - Site boundary of Middle Tsang Tsui Ash Lagoon	26 Jan to 8 Feb 2024	51	125	348	10 to 23 Feb 2024	50	130	264

2.6.2 During the baseline air quality monitoring period, there were not any major construction or dust generation activities in the vicinity of the monitoring stations. However, it was observed that road traffic dust would be the influencing factors which may affect the results of baseline monitoring.

2.6.3 Specifically at AM(D)5, it has been observed that 9 out of 14 monitoring days recorded 24-hour TSP levels exceeding the Limit Level ( $260\mu\text{g}/\text{m}^3$ ). Investigation was conducted to identify cause of high 24-hour TSP result, and it is considered that the frequent passage of heavy vehicles, particularly on the unpaved access road to the nearby warehouses, was the main contributing factor to the elevated 24-hour TSP levels.

2.6.4 As the baseline level for 24-hour TSP at AM(D)5 exceeded the limit level, and the exceedances were due to the local traffic. In accordance with the updated EM&A Manual, ET had conducted a second set of baseline monitoring at new location AM(D)5a, which was positioned at a separation distance of 30m from the original station AM(D)5 and closer to the WENTX site, to demonstrate a more representative data on dust impact associated from WENTX (hereinafter named AM(D)5a) for the parameters of 1-hour and 24-hour TSPs from 16 to 31 March 2024. **Table 2-5** summarized the 1-hour and 24-hour TSP baseline monitoring results for AM(D)5a.

**Table 2-5 Baseline Air Quality Monitoring Results Summary obtained on AM(D)5a between 16 and 31 March, 2024**

Monitoring Station	1-Hour TSP Concentration ( $\mu\text{g}/\text{m}^3$ )			24-Hour TSP Concentration ( $\mu\text{g}/\text{m}^3$ )				
	Monitoring Period	Min.	Ave.	Max.	Monitoring Period	Min.	Ave.	Max.
AM(D)5a - Lung Kwu Sheung Tan	16 to 29 Mar 2024	52	187	483	18 to 31 Mar 2024	48	166	415

2.6.5 The detailed 1-hour and 24-hour TSP monitoring data and graphical plot of AM(D)5a are shown in **Appendixes A2 and A3** respectively. Photographic of monitoring position shown in **Appendix A4**.

2.6.6 The meteorological data during the air quality baseline monitoring period are summarized in **Appendix A5**.

**Action/Limit Levels for Air Quality**

2.6.7 Guidelines for establishing the Action and Limit Levels for air quality monitoring during the construction of the Project are presented in **Table 2-6**.

**Table 2-6 Guidelines for establishing Action and Limit Levels for Air Quality**

Parameters	Action Level	Limit Level
1-hour TSP Level in $\mu\text{g}/\text{m}^3$	<ul style="list-style-type: none"> <li>For baseline level <math>\leq 384 \mu\text{g}/\text{m}^3</math>, Action level = (baseline level * 1.3 + Limit level)/2;</li> <li>For baseline level <math>&gt; 384 \mu\text{g}/\text{m}^3</math>, Action level = Limit level</li> </ul>	500 $\mu\text{g}/\text{m}^3$
24-hour TSP Level in $\mu\text{g}/\text{m}^3$	<ul style="list-style-type: none"> <li>For baseline level <math>\leq 200 \mu\text{g}/\text{m}^3</math>, Action level = (baseline level * 1.3 + Limit level)/2;</li> <li>For baseline level <math>&gt; 200 \mu\text{g}/\text{m}^3</math>,</li> </ul>	260 $\mu\text{g}/\text{m}^3$

Parameters	Action Level	Limit Level
	Action level = Limit level	

2.6.8 Following the guidelines for establishing the Action and Limit Levels for air quality monitoring, the Action and Limit Levels of the Project are presented in **Table 2-7**.

**Table 2-7 Action and Limit Levels for Air Quality Monitoring**

Monitoring Station	1-hour TSP		24- hour TSP	
	Action Level ( $\mu\text{g}/\text{m}^3$ )	Limit Level ( $\mu\text{g}/\text{m}^3$ )	Action Level ( $\mu\text{g}/\text{m}^3$ )	Limit Level ( $\mu\text{g}/\text{m}^3$ )
AM(D)1	317	500	155	260
AM(D)2	313	500	156	260
AM(D)3	334	500	155	260
AM(D)5	394	500	260 <sup>Note 1</sup>	260
(#) AM(D)5a	371	500	238	260
AM(D)6a	294	500	159	260
AM(D)7a	331	500	215	260

*Note 1: The Average dust concentration of baseline monitoring result exceeded  $260\mu\text{g}/\text{m}^3$  of Limit Level, hence Action Level is the same as Limit Level.*

(#) *As the baseline level for 24-hour TSP at AM(D)5 during 26 January to 9 February 2024 exceeded the limit level, and the exceedances were due to the local traffic. In accordance with the updated EM&A Manual, ET had conducted a second set of baseline monitoring at new location AM(D)5a, which was positioned at a separation distance of 30m from the original station AM(D)5 and closer to the WENTX site.*

2.6.9 Due to ambient conditions may vary seasonally, the air quality baseline monitoring was conducted during typical dry season in Hong Kong. So, the baseline conditions review may need to be conducted regularly, in particular during seasonal to change. If the changes in baseline conditions are evident, the environmental performance criteria should be re-established by agreement of the SM and IEC and submitted for EPD endorsement.

### 3 NOISE

#### 3.1 MONITORING REQUIREMENT

3.1.1 The ET shall carry out baseline noise monitoring prior to the commencement of the operation of landfill. The continuous baseline monitoring shall be carried out daily for a period of at least two weeks in a sample period of 5 minutes or 30 minutes. A schedule on the baseline monitoring has been submitted to the SM, Contractor and IEC for approval before the monitoring starts.

3.1.2 In exceptional case, when insufficient baseline monitoring data or questionable results are obtained, the ET Leader shall liaise with the SM, IEC and EPD to agree on an appropriate set of data to be used as a baseline reference and submit to SM for approval.

#### 3.2 MONITORING PARAMETER, FREQUENCY AND DURATION

3.2.1 Continuous baseline noise monitoring for the A-weighted levels  $L_{eq}$ ,  $L_{10}$  and  $L_{90}$  shall be carried out daily for a period of at least two weeks in a sample period of 30 minutes between 0700 and 1900, and 5 minutes between 1900 and 0700.

#### 3.3 MONITORING EQUIPMENT

3.3.1 As referred to in the Technical Memorandum (TM) issued under the NCO, sound level meters in compliance with the International Electrotechnical Commission Publications 651: 1979 (Type 1) and 804: 1985 (Type 1) specifications were used for carrying out the noise monitoring. Immediately prior to and following each noise measurement, the accuracy of the sound level meter was checked using an acoustic calibrator generating a known sound pressure level at a known frequency. Measurements would be accepted as valid only if the calibration level from before and after the noise measurement agrees to within 1.0 dB.

3.3.2 Noise measurements were made in accordance with standard acoustical principles and practices in relation to weather conditions. Weather information such as wind speed and wind direction would be extracted from Lau Fau Shan weather station during the baseline monitoring.

3.3.3 The ET was responsible for the provision, installation, operation, maintenance, dismantle of the monitoring equipment. Sufficient noise measuring equipment and associated instrumentation are available for carrying out the baseline monitoring. The equipment and associated instrumentation have been clearly labelled.

3.3.4 Noise monitoring equipment used for baseline monitoring is listed in *Table 3-1*.

**Table 3-1 Noise Monitoring Equipment**

Equipment	Model	Serial No.
Integrating Sound Level Meter	Rion NL-52	00921191
Calibrator	Rion NC-74	34657231

3.3.5 Sound level meter listed above comply with the International Electrotechnical Commission Publications 651: 1979 (Type 1) and 804: 1985 (Type 1) specifications, as recommended in Technical Memorandum (TM) issued under the Noise Control Ordinance (NCO), which was used for baseline noise monitoring. The copies of calibration certificates of noise monitoring equipment were shown in *Appendix B1*.

#### 3.4 MONITORING REQUIREMENT

3.4.1 The microphone of the sound level meter was set at a height of about 1.5m subject to site condition and oriented pointed to the site, with the microphone facing perpendicular to the

line of sight. Moreover, the microphone was positioned away from any reflective surface, and a correction of +3 dB(A) has been made for the free field measurements.

- 3.4.2 Background noise monitoring was carried out continuously for 24 hours during the 14 days baseline monitoring period. Monitoring data were recorded and stored automatically within the sound level meter system. At the end of the monitoring period, noise levels in term of  $L_{eq}$ ,  $L_{90}$  and  $L_{10}$  were recorded.
- 3.4.3 Prior background noise measurement, the accuracy of the sound level meter was checked using an acoustic calibrator generating a known sound pressure level at a known frequency. The calibration level from before and after the noise measurement agrees to within 1.0dB.
- 3.4.4 All the monitoring data stored in the sound level meter system were downloaded through the computer software, and all these data were checked and reviewed on computer.

### 3.5 MONITORING LOCATION

- 3.5.1 According to the updated EM&A Manual, the ET shall carry out noise monitoring during the construction and operation phases at the designated monitoring station as shown in **Table 3-2** and illustrated in **Figure 3.1**.

**Table 3-2 Noise Monitoring Station**

Monitoring ID	EIA NSR Ref	Location	Type of Monitoring	Monitoring Parameters	Supplementary Information
NM1	NSR-1	Village house at Ha Pak Nai	Construction & Operation	30mins and or 5mins of $L_{Aeq}$	$L_{A10}$ and $L_{A90}$

- 3.5.2 Background noise monitoring was conducted at the designated monitoring stations before commencement of construction works of the Project.

### 3.6 RESULTS OF BACKGROUND NOISE MONITORING

- 3.6.1 Background noise monitoring conducted at the designated noise monitoring station is under free field condition during the period of 3 to 16 January 2024. The background noise monitoring results are summarized in **Table 3-3**. The detailed background noise monitoring data are shown in **Appendix B2**. Graphical presentation of background noise monitoring data of existing NSR is shown in **Appendix B3**. Photographic record for noise monitoring station is shown in **Appendix B4**.

**Table 3-3 Summaries of Background Noise Monitoring Results at NM1**

Time Period	A-weighted Equivalent Continuous Sound Level ( $L_{Aeq}$ ), dB(A)		
	Average	Min	Max
Daytime (0700-1900) of normal weekdays $L_{eq(30min)}$	49.5	42.0	59.7
Restricted hours of Public Holidays or Sundays on daytime (0700-1900), $L_{eq(5min)}$	47.6	39.8	60.6
Restricted hours on evening time (1900-2300), $L_{eq(5min)}$	42.9	33.3	59.0
Restricted hours of night time (2300-0700), $L_{eq(5min)}$	40.2	31.6	57.5

*Noted: Since background noise is free field measurement, so façade correction (+3 dB(A)) is added according to acoustical principles and EPD guidelines*

3.6.2 During the background noise monitoring period, the weather was generally sunny and cloudy. There were not any major construction activities in the vicinity of the monitoring stations. However, it was observed that road traffic and social noise in the village would be the possible influencing factors which may affect the baseline monitoring results, especially during the evening time. The weather information during baseline monitoring is shown in *Appendix B5*.

**Action/Limit Levels**

3.6.3 Following the Action and Limit Levels for construction noise established in the updated EM&A Manual. Action and Limit Levels of the Project are presented in *Table 3-4*.

**Table 3-4 Action and Limit Levels of Construction Noise Monitoring**

Monitoring Location	Action Level	Limit Level in dB(A)
	Time Period: 0700-1900 hours on normal weekdays	
NM1	When one or more documented complaints are received	75 dB(A)
<i>Note: If works are to be carried out during restricted hours, the conditions stipulated in the construction noise permit issued by the NCA have to be followed.</i>		

## 4 WATER QUALITY

### 4.1 MONITORING REQUIREMENT

4.1.1 According to the updated EM&A Manual, surface water quality baseline monitoring shall be conducted at the designated monitoring station WM1 to obtain the baseline condition before commencement the Project. During the baseline monitoring, there should not be any construction activities under the Project in the vicinity of the monitoring station.

4.1.2 According to general water quality monitoring criteria, water sampling depth should be:

- If the water depth during sampling is exceeded 6m, three depths: 1m below water surface, 1m above river/stream bed and mid-depth.
- If the water depth during sampling is exceeded 3m but less than 6m, two depths: 1m below water surface and 1m above river/stream bed.
- If the water depth is less than 3m, one depth: perform at mid-depth.

4.1.3 Duplicate samples and repeat in-situ measurement shall be taken from each sampling depth.

### 4.2 MONITORING FREQUENCY AND DURATION

4.2.1 As monitoring requirement has not been specified in the approved Final EM&A Manual, the baseline monitoring frequency has been consulted and agreed with the SM and IEC before commencement of baseline monitoring. Two weeks surface water quality baseline monitoring, with a total of ten monitoring days, were performed to collect sufficient background information to establish the Action and Limit Levels.

4.2.2 In exceptional case, when insufficient baseline monitoring data or questionable results are obtained, the ET Leader shall liaise with EPD to agree on an appropriate set of data to be used as a baseline reference and submit to SM and IEC for approval.

### 4.3 LOCATION OF SURFACE WATER MONITORING STATION

4.3.1 The baseline surface water monitoring should be carried out at the specified point WM1 in accordance with the updated EM&A Manual, which is shown in **Figure 4.1**, unless otherwise agreed by IEC and approved by the SM.

### 4.4 ANALYSIS PARAMETERS

4.4.1 According to Section 5.5 of the updated EM&A Manual, the parameters of surface water monitoring included in-situ measurement and laboratory analysis are listed below.

A. In-situ measurement:

Temperature (°C), pH (unit), Salinity (ppt), Turbidity (NTU), Dissolved Oxygen (DO) (mg/L) & Dissolved Oxygen Saturation (DOS) (%), Electrical Conductivity (µS/cm), Water Flow direction (degree) / speed (m/s) and Water depth (m).

B. Laboratory Analysis (mg/L):

Alkalinity, Chemical Oxygen Demand (COD), 5-day Biochemical Oxygen Demand (BOD<sub>5</sub>), Total Organic Carbon (TOC), Suspended Solids (SS), Ammonia Nitrogen (NH<sub>3</sub>-N), Total kjeldahl nitrogen, Nitrate (NO<sub>3</sub>), Sulphate & Sulphite, Phosphate, Chloride and Oil & Grease.

C. Laboratory Analysis:

Sodium (µg/L) and Coliform Count (cfu/100mL)

D. Heavy Metals Analysis(µg/L):

Magnesium (Mg), Calcium (Ca), Potassium (K), Iron (Fe), Nickel (Ni), Zinc (Zn), Manganese (Mn), Copper (Cu), Lead (Pb) and Cadmium (Cd).

#### 4.5 MONITORING EQUIPMENT

4.5.1 Water quality monitoring equipment used for baseline monitoring is listed in *Table 4-1*.

**Table 4-1 Surface Water Monitoring Instrument**

Equipment	Model
A Digital Global Positioning System	Garmin eTrex
Thermometer & DO meter	YSI Professional DSS Multifunctional Meter
pH meter	
Turbidimeter	
Salinometer	
Conductivity meter	
Current Meter	Valeport Current Meter 106CM
Sample Container	High density polythene bottles provided by laboratory
Storage Container	'Willow' 33-liter plastic cool box with ice pad

4.5.2 All in-situ measurement instruments such as DO measuring instruments, turbidity measuring instruments, salinometer and A portable pH meter, would be calibrated by HOKLAS accredited laboratory at three-month intervals. Valid calibration certificates are attached in *Appendix C1*.

#### 4.6 LABORATORY ANALYSIS

4.6.1 A local HOKLAS-accredited laboratory (ALS Technichem (HK) Pty Ltd HOKLAS registration number: HOKLAS 066) would be appointed as a testing laboratory to carry out chemical analytical. The HOKLAS accredited certificate of laboratory is shown in *Appendix C2*. The determination was started within 24 hours or recommended hold time of collection of water samples. The method of chemicals analysis is shown below *Table 4-2*.

**Table 4-2 Test Method and Reporting Limit of Chemicals Analysis**

Analyte Description	ALS Method Code	Method Reference	Limit of Reporting (LOR)
pH value @25°C	EA002	APHA 4500 H: B	0.1 pH Unit
Conductivity @25°C	EA010	APHA 2510 B	1µS/cm
Suspended Solids	EA025-LL**	APHA 2540 D	0.1mg/L
Total Alkalinity as CaCO <sub>3</sub>	ED037	APHA 4500 H: B	1mg/L
Sulphate as SO <sub>4</sub>	ED041K	USEPA 375.4	1mg/L
Chloride	ED045K	USEPA 325.1	0.5mg/L
Cadmium	EG020 T	USEPA 6020	0.2µg/L
Copper			1µg/L
Lead			1µg/L
Manganese			1µg/L
Nickel			1µg/L
Zinc			10µg/L
Calcium	EG032 T	USEPA 6010	50µg/L
Iron			10µg/L
Magnesium			50µg/L
Potassium			50µg/L
Sodium			50µg/L
Ammonia as N	EK055K	APHA 4500 NH3 G	0.01mg/L
Nitrate as N	EK058A	APHA 4500 NO3: I	0.01mg/L
Total Kjeldahl Nitrogen as N	EK061A	APHA 4500 Norg: D; USEPA 1688	0.1mg/L
Reactive Phosphorus as P	EK071K	APHA 4500 P: B & F	0.01mg/L
Sulphite as SO <sub>3</sub> <sup>2-</sup>	EK086 **	APHA 4500 SO3: B	2mg/L
Total Organic Carbon	EP005	APHA 5310 B	1mg/L

Analyte Description	ALS Method Code	Method Reference	Limit of Reporting (LOR)
Oil and Grease	EP020	APHA 5520 B	5mg/L
Chemical Oxygen Demand (COD) (Closed Reflux method)	EP026C	APHA 5220 C	5mg/L
Biochemical Oxygen Demand (BOD)	EP030	APHA 5210 B	2mg/L
Total Coliforms	EM003	DoE section 7.8, 7.9.4.1 & 3	1 CFU/100mL

Remarks: Except \*\* Item, all the methods as quoted is HOKLAS accredited

#### 4.7 MONITORING PROCEDURES

- 4.7.1 Prior to conducting in-situ measurement and water sampling, general information such as the sampling date, time, weather conditions and the personnel responsible for the monitoring would be recorded on the field data sheet. The location of water quality monitoring station was confirmed using GPS prior to in-situ monitoring and sampling. Moreover, the water depth at the monitoring station will be measured using a portable echo sounder.
- 4.7.2 In order to collect sufficient baseline data, surface water monitoring will be conducted at two specific tide points: mid-ebb and one mid-flood.
- 4.7.3 Before the surface water sampling, water flow and distance would be measured by Valeport Current Meter 106CM. Moreover, water temperature, DO & DOS, pH, salinity, conductivity and turbidity were taken by YSI Professional DSS Multifunctional Meter. These measurement results would be downloaded from instruments and recorded.
- 4.7.4 As the water depth was less than 3m, in-situ measurement and water sampling was conducted at mid-depth only. Water samples were collected repeatedly using the water sampler to obtain adequate water volumes for laboratory analysis. All the obtained water volumes would be directly filling into sample container as provided by the testing laboratory. Also, sample container would be pre-labeled with date, location, tide, depth, parameters and replicate information of the sample. The water sampler would be rinsed using local marine water before it used to collect marine water sample. Container is sealed with a screw cap after completed water filling then packed in cool box (maintain 4°C without being frozen) and delivered to the laboratory on the same day of sample collection for analysis. Also, the water sample filled into container until no remaining air space and then the lid securely screwed on. Where samples are to be preserved with acid or alkalis prior to transport to the laboratory, the sample bottles would be filled to the specified level which advised by the testing laboratory.
- 4.7.5 Before each round of monitoring, the dissolved oxygen probe would be calibrated by wet bulb method; a zero check in distilled water would be performed with the turbidity and salinity probes; 4 and 10 values of the standard solution would be undertaken to check the accuracy of pH value.
- 4.7.6 Additionally, the laboratory will retain all water samples after analysis for a period of 3 months, allowing for the possibility of repeat analysis if needed.

#### 4.8 DATA MANAGEMENT AND QUALITY ASSURANCE (QA)/QUALITY CONTROL (QC)

- 4.8.1 All monitoring data would be handled by AUES's in-house data recording and management system. The monitoring data recorded in the equipment would be downloaded directly from the equipment at the end of each monitoring day and input into a computerized database maintained by the AUES. The laboratory results would be input

directly into the computerized database and checked by personnel other than those who input the data.

- 4.8.2 For monitoring parameters that require laboratory analysis, the testing laboratory would be according with the QA/QC requirements as set out under the HOKLAS scheme for the relevant laboratory tests.

#### 4.9 RESULTS OF SURFACE WATER QUALITY MONITORING

- 4.9.1 Surface water quality baseline monitoring was conducted from 20 February to 2 March 2024, with a total of ten monitoring days. During the baseline monitoring period, no construction activities related to the Project or other external influencing factors of significant concern were observed.

- 4.9.2 As the water depth at WM1 was less than 3m, in-situ measurement and water sample collection were conducted at mid-depth.

- 4.9.3 The results of in-situ measurement and laboratory analysis are presented in *Tables 4-3 and 4-4* respectively. The detailed monitoring results are shown in *Appendix C3* and graphical plots of the monitoring results for each parameter are shown in *Appendix C4*. Photographic record for surface water quality monitoring station is shown in *Appendix C5*. The weather information during baseline monitoring shown in *Appendix C6*.

**Table 4-3 In-situ Measurement Results of Surface Water Summary**

Parameter of In-situ Measurement	Maximum	Mean	Minimum
pH (unit)	8.04	7.94	7.83
Salinity (ppt)	33.59	29.60	25.76
Turbidity (NTU)	34.10	12.78	4.23
(DO) (mg/L)	7.90	7.10	6.44
(DOS) (%)	105.30	91.93	83.80
Electrical Conductivity (µS/cm)	4.41E+04	4.08E+04	3.73E+04

**Table 4-4 Laboratory Results of Surface Water Summary**

Parameter of Laboratory Analytical	Maximum	Mean	Minimum
pH (@25°C) value	8.00	7.89	7.80
Conductivity @25°C (µS/cm)	4.55E+04	4.17E+04	3.64E+04
Alkalinity (mg/L)	108.00	104.68	101.00
Chemical Oxygen Demand (COD) (mg/L)	Below Reporting Limit		
Biochemical Oxygen Demand (BOD <sub>5</sub> ) (mg/L)	2.00		
Total Organic Carbon (TOC) (mg/L)	Below Reporting Limit		
Suspended Solids (SS) (mg/L)	50.40	21.46	6.30
Ammonia Nitrogen (NH <sub>3</sub> -N) (mg/L)	0.180	0.121	0.070
Total kjeldahl nitrogen (mg/L)	0.600	0.465	0.300
Nitrate (NO <sub>3</sub> ) (mg/L)	0.855	0.636	0.470
Phosphate (mg/L)	0.080	0.044	0.010
Sulphate (mg/L)	2.90E+03	2.39E+03	1.83E+03
Sulphite (mg/L)	Below Reporting Limit		
Chloride (mg/L)	1.90E+04	1.61E+04	1.28E+04
Sodium (µg/L)	1.04E+07	7.48E+06	6.02E+06
Coliform Count (cfu/100mL)	2.50E+05	1.23E+04	3.00E+00
Oil and Grease (mg/L)	Below Reporting Limit		
Magnesium (Mg) (µg/L)	1.36E+06	1.00E+06	8.72E+05
Calcium (Ca) (µg/L)	6.70E+05	4.09E+05	3.42E+05
Potassium (K) (µg/L)	4.16E+05	3.18E+05	2.57E+05

Parameter of Laboratory Analytical	Maximum	Mean	Minimum
Iron (Fe) (µg/L)	1.83E+03	5.49E+02	3.00E+01
Nickel (Ni) (µg/L)	Below Reporting Limit		
Zinc (Zn) (µg/L)	Below Reporting Limit		
Manganese (Mn) (µg/L)	76.00	39.60	<10
Copper (Cu) (µg/L)	13.50		
Lead (Pb) (µg/L)	10		
Cadmium (Cd) (µg/L)	2.35	1.90	<1

**Action/Limit Levels for Surface Water Quality**

4.9.4 According to the Updated EM&A Manual *Section 5.6*, guidelines for establishing the Action and Limit Levels for surface water quality monitoring during the construction and operation phases of the Project are presented in **Table 4-5**.

**Table 4-5 Guidelines for establishing Action and Limit Levels for Water Quality**

Monitoring Parameter	Action Level	Limit Level
<b>Construction Phase</b>		
DO (Surface & Middle), mg L <sup>-1</sup>	5 %-ile of baseline data	4 mg L <sup>-1</sup> or 1%-ile of baseline data
DO (Bottom), mg L <sup>-1</sup>	5 %-ile of baseline data	2 mg L <sup>-1</sup> or 1%-ile of baseline data
pH (Depth Averaged), (unit)	Beyond the range of 6.5 to 8.5	Beyond the range of 6 to 9
Turbidity (Depth Averaged), NTU	95%-ile of baseline data <i>or</i> <u>120% of upstream control station'</u>	99%-ile of baseline data <i>or</i> <u>130% of upstream control station'</u>
SS (Depth Averaged), mg L <sup>-1</sup>	95%-ile of baseline data <i>or</i> <u>120% of upstream control station'</u>	99%-ile of baseline data <i>or</i> <u>130% of upstream control station'</u>
<b>Operation Phase</b>		
BOD, COD, Ammonia-nitrogen	---	Ammonia-nitrogen: 0.5mg/L COD: 30 mg/L BOD: 20 mg/L
SS, mg/L <sup>-1</sup>	---	20mg/L

4.9.5 Following above guidelines for establishing the Action and Limit Levels for surface water quality monitoring, the Action and Limit Levels of the Project are presented in **Table 4-6**.

**Table 4-6 Action and Limit Levels for Surface Water Monitoring during Construction Phase**

Monitoring Parameter	Action Level	Limit Level
<b>Construction Phase</b>		
DO, mg L <sup>-1</sup>	6.4	4.0
pH, (unit)	Beyond the range of 6.5 to 8.5	Beyond the range of 6 to 9
Turbidity, NTU	23.4	34.1
SS, mg L <sup>-1</sup>	47.3	50.0

4.9.6 During each tidal event of surface water quality baseline monitoring occasions, water flow included speed and direction were recorded in accordance with the Updated EM&A Manual stipulation and which are shown in **Appendix C3**.

4.9.7 If significant changes in baseline conditions are observed, the environmental performance criteria should be reassessed and agreed upon by the SM and IEC. The revised criteria should then be submitted to the EPD for endorsement.

## 5 LANDSCAPE & VISUAL

### 5.1 PURPOSE OF MONITORING

5.1.1 According to **Section 8.2** of the updated EM&A Manual, i.e. Landscape and Visual Monitoring, in order to monitor the landscape and visual impact after providing mitigation measures effectively, all the specified and affected landscape character areas, landscape resources and visually sensitive receivers should be monitored on a monthly basis from the commencement of works; and this submission presents the results of the baseline monitoring to address the pertinent requirements of the EM&A Manual.

### 5.2 MONITORING REQUIREMENT

5.2.1 According to the **Section 8.2** of the updated EM&A Manual of the Project, photographic records of the project site should be taken at the time when the Contractor take over the site, which should be approved by the SM. The approved photographic records should be submitted to the Project Proponent, SM, IEC and EPD.

### 5.3 MONITORING METHODOLOGY

5.3.1 The Landscape Character Areas (LCAs), Landscape Resources (LRs), as well as the Visual Sensitive Receivers (VSRs) identified in the approved EIA Report/ supporting document for VEP-617/2022 has been reviewed to comprehend wherever applicable their types, distributions and locations within the monitoring area, which in principle comprises the area within 500m from the proposed development boundary. Photographic records of the LCA, LR, and views of WENTX from the visual sensitive receivers were taken by the Contractor prior the commencement of the Works as far as practicable, and they are critically reviewed to verify if there are any major changes in the landscape baseline with reference to the approved EIA Report/ supporting document for VEP-617/2022.

5.3.2 In addition, the Landscape Plan has been conducted by Landscape Consultant to address and update the landscape and visual impact arising from the project and hence to suggest relevant mitigation measures in accordance with the recommendation from the EIA Report/ supporting document for VEP-617/2022 and EM&A Manual.

### 5.4 RESULTS

#### Landscape Character Areas (LCA)

5.4.1 A total of six LCAs were identified and described in the approved EIA report and they are listed in **Table 5-1** below. Despite the development of the T · PARK and Tsang Tsui Columbarium and Garden of Remembrance have not been planned or envisaged during the time the EIA was conducted, areas where these two facilities are located, i.e., the Tsang Tsui ash lagoon, has already classified as “LCA3 - Industrial Urban Landscape” in the approved EIA Report, as such the LCA and LCA plan presented in the approved EIA report would remain valid. The Landscape Character Area Plan has been attached in **Appendix D1** and the photographic records showing the baseline conditions of the LCAs are included in **Appendix D2**.

**Table 5-1 Landscape Character Areas (LCAs) Affected by the Project**

Reference	Type	Description
LCA1	Landfill Landscape (Existing WENT Landfill Site)	The landscape character is of typical degraded land made up of mainly the existing WENT landfill site under operation, together with their associated access haul roads, artificial cut and fill slopes, modified surface drainage system, waste reception area and leachate treatment system.
LCA2	Inter-tidal Coast	Lies between the high and low water tide levels at the

Reference	Type	Description
	Landscape (Deep Bay)	coastal line of Deep Bay and Nim Wan and this area is an open and expansive coastal landscape with mud flats.
LCA3	Industrial Urban Landscape (Black Point Power Station, Tsang Tsui Ash Lagoons, Tsang Tsui Columbarium and Garden of Remembrance and T-Park)	Lies on low-lying areas of reclaimed land (Tsang Tsui Ash Lagoons and Black Point Power Station) of the coastal line of Deep Bay and comprises industrial buildings with areas of vacant land at the same time.
LCA4	Upland and Hillside Landscape (Tsing Shan)	Natural steep hillside slope covered by vegetation and comprises hillsides, knolls, ridges and spurs with rocky outcrops or boulder fields.
LCA5	Settled Valley Landscape (Tsang Tsui)	The valley possesses a distinct valley floor with thickly woodland areas and open storage area.
LCA6	Coastal Upland and Hillside Landscape (Lan Kok Tsui)	It is a large-scale upland and hillside landscape area adjacent to Urmston Road waterfront; and contains hillsides, knolls, ridges and spurs covered by low scrub or grassland with rocky outcrops or boulder fields.

**Landscape Resources (LR)**

- 5.4.2 A total of 13 LR were identified within the Study Area in the approved EIA report (see Table 5-2); according to the submitted Landscape Plan, LR7 - Agricultural in between the Tsang Tui ash lagoon and Nim Wan Road has already converted into “Built-up Land” and no longer existed within the Project’s boundary and applicable in the monitoring. Moreover, with reference to the Landscape Plan, LR2 and LR7 are outside the revised project boundary under FEP No. FEP-01/393/2010A.
- 5.4.3 On the other hand, it should also be noted that part of the Tsang Tsui ash lagoon (LR1) has been converted to the T · PARK and Y · PARK and Tsang Tsui Columbarium and Garden of Remembrance, where the latter three are all “Community Facilities” and should be fall within the category LR9. The Landscape Resources Plan has been attached in **Appendix D1**; and the photographic records showing the baseline conditions of all the landscape resources (LR) are presented in **Appendix D3**.

**Table 5-2 Landscape Resources (LRs) Affected by the Project**

Reference	Type	Description
LR1	Built-up Land	Built-up land area refers to the site of Tsang Tsui Ash Lagoons which provides a temporary storage site for ash generated from the adjacent power plant, as well as other area industrial use area such as stockyard and open storage.
LR2 <sup>#</sup>	Public Utilities	With reference to Landscape Plan, LR2 were not found within the landscape assessment boundary.
LR3	Seawater	Seawater area refers to the scenic coastal water facing Deep Bay; and covers the waterfront along existing WENT Landfill site, Tsang Tsui Ash Lagoon and Black Point Power Station.
LR5	Shrub land	Shrubland areas appear at barren hillside areas of the study area; and occasionally small pioneer trees like <i>Macaranga tanarius</i> and <i>Leucaena leucocephala</i> are found.
LR6	Badlands	Badland area refers to the portion of hillside lands without vegetation cover, including bare outcrop or rocky surfaces
LR7 <sup>#</sup>	Agricultural	Not applicable due to outside the revised project boundary under FEP No. FEP-01/393/2010A

Reference	Type	Description
LR8	Grassland	Large portion of grassland covers the hillside lands within the study area; and those located at steeper slopes forming a sense of remoteness.
LR9	Government, Institution & Community Facilities (GIC)*	The area refers to the reception area of existing WENT Landfill site and contains site office buildings, entrance and so on; as well as the T · PARK and Tsang Tsui Columbarium and Garden of Remembrance.
LR10	Landfill (Construction in progress)	The area refers to the existing WENT Landfill site containing industrial nature lands, construction plants and equipment, smells and so on.
LR11	Roads	Nim Wan Road, Yung Long Road and Lung Kwu Tan Road form the road areas of the study area.
LR12	Woodland*	The area refers to woodland located along the tidal creek at the foothill and at the edge of the east Tsang Tsui Ash Lagoon.
LR13	Stream	The area refers to Tsang Kok Stream, a stream linked to Tsang Tsui Ash Lagoons, and as well as another stream on Castle Peak adjacent to Nim Wan Road.

\* Nomenclature and/or Description from the AEIAR updated

# According to the Landscape plan such landscape resources are outside the revised project boundary under FEP No. FEP-01/393/2010A

### **Visual Sensitive Receivers (VSRs)**

5.4.4 In addition to the 7 VSRs identified in the approved EIA report, 2 additional VSR11 and VSR12 were included in the supporting document for VEP617/2022 as listed in **Table 5-3** below. It should be noted that, as stated in the approved EIA Report, VSR7 is outside the visual envelope so that it is not visible to WENTX. The VSR Plan has been attached in **Appendix D4**; and the photographic records showing the baseline conditions of all the VSRs are presented in **Appendix D5**.

**Table 5-3 Visual Sensitive Receivers (VSRs) Affected by the Project**

Reference	Type	Description
VSR1	Black Point Power Station	The user/staff of this infrastructure facility
VSR2	Existing WENT Landfill Site	A glimpse to the Project site by the user/staff through a saddle located along a ridgeline to the north of the site.
VSR3	Castle Peak*	Workers and Staff within the Project Site
VSR4	Marine Traffic	Partial view of the Project Site from passengers
VSR5	Nim Wan Road	Similar to VSR2 by road users but in a longer distance
VSR6	Ha Pak Nai	Residents of a village at the eastern side of the Project Site
VSR7	Lung Kwu Tang	Residents of a village at the southern side of the Project Site
VSR11	Columbarium	Workers and visitors
VSR12	T-Park	Workers and visitors

\* Description from the AEIAR updated

## **5.5 CONCLUSION**

5.5.1 As required under the baseline monitoring of the EM&A Manual of the Project, photographic records of the Landscape Character Area (LCA), Landscape Resource (LR) and Visual Sensitive Receiver (VSR) affected by the Project were taken by the Contractor prior to the commencement of works in late 2023. Apart from the development within the Tsang Tsui ash lagoon, the conversion of agricultural land into open storage and changes in the vegetation characteristics alongside the tidal creek south of the ash lagoon, as a whole, there is no major change in the landscape and visual baseline conditions comparing to those presented in the approved EIA Report and supporting document for

VEP-617/2022. In addition to the Landscape Plan, it revealed that the LR-2 Public Utilities and LR-7 Agricultural are outside the revised project boundary under FEP No. FEP-01/393/2010A.

## 6 CONCLUSIONS AND RECOMMENDATIONS

### 6.1 CONCLUSIONS

- 6.1.1 Baseline monitoring for air quality and background noise were conducted from 3 January 2024 to 31 March 2024 by the ET at all the designated or any alternative monitoring locations in accordance with the updated EM&A Manual. In addition, surface water quality baseline monitoring was conducted from 20 February to 2 March 2024. During the baseline monitoring period, no construction activities related to the Project or other external influencing factors of significant concern were observed.
- 6.1.2 Based on the baseline monitoring results, the recommended environmental performance criteria for air quality and construction noise are summarized as follows:

#### Recommended Action & Limit Levels for Air Quality

Monitoring Station	1-hour TSP ( $\mu\text{g}/\text{m}^3$ )		24-hour TSP ( $\mu\text{g}/\text{m}^3$ )	
	Action Level	Limit Level	Action Level	Limit Level
AM(D)1	317	500	155	260
AM(D)2	313	500	156	260
AM(D)3	334	500	155	260
AM(D)5	394	500	260 <sup>Note 1</sup>	260
(#) AM(D)5a	371	500	238	260
AM(D)6a	294	500	159	260
AM(D)7a	331	500	215	260

*Note 1*

Since Baseline Average level exceeded  $260\mu\text{g}/\text{m}^3$ , Action Level is same as Limit Level.

(#) As the baseline level for 24-hour TSP at AM(D)5 during 26 Jan to 9 Feb 2024 exceeded the limit level, and the exceedances were due to the local traffic. In accordance with the updated EM&A Manual, ET had conducted a second set of baseline monitoring at new location AM(D)5a, which was positioned at a separation distance of 30m from the original station AM(D)5 and closer to the WENTX site.

#### Recommended Action & Limit Levels for Construction Noise on Normal Weekdays between 0700 and 1900 hours

Monitoring Station	Action Level	Limit Level
NM1	When one or more documented complaints are received	75 dB(A)
	<i>If works are to be carried out during restricted hours, the conditions stipulated in the construction noise permit issued by the NCA have to be followed.</i>	

#### Recommended Action & Limit Levels for Surface Water Quality During Construction Period

Monitoring Parameter	Action Level	Limit Level
<i>Construction Phase</i>		
DO, $\text{mg L}^{-1}$	6.4	4.0
pH, (unit)	Beyond the range of 6.5 to 8.5	Beyond the range of 6 to 9
Turbidity, NTU	23.4	34.1
SS, $\text{mg L}^{-1}$	47.3	50.0

**Recommended Action & Limit Levels for Surface Water Quality  
 During Operation Period**

<b>Monitoring Station</b>	<b>Parameter</b>	<b>Action Level</b>	<b>Limit Level</b>
WM1	BOD, COD, Ammonia-nitrogen	---	Ammonia-nitrogen: 0.5mg/L COD: 30 mg/L BOD: 20 mg/L
	SS, mg L-1	---	20mg/L

6.1.3 For landscape & visual as required under the baseline monitoring of the EM&A Manual of the Project, photographic records of the LCA, LR and VSR affected by the Project were taken by the Contractor prior the commencement of works in late 2023. Apart from the development within the Tsang Tsui ash lagoon, the conversion of agricultural land into open storage and changes in the vegetation characteristics alongside the tidal creek south of the ash lagoon, as a whole, there is no major change in the landscape and visual baseline conditions comparing to those presented in the approved EIA Report and supporting document for VEP-617/2022. In addition to the Landscape Plan, it revealed that the LR-2 Public Utilities and LR-7 Agricultural are outside the revised project boundary under FEP No. FEP-01/393/2010A.

**6.2 RECOMMENDATIONS**

- 6.2.1 If the changes in baseline conditions are evident, the environmental performance criteria should be re-established by agreement of the SM and IEC and submitted for EPD endorsement.
- 6.2.2 WENTX will be to implemented to three phases such as construction, operation and Aftercare, the proposed A/L Level of EM&A programme for air quality, construction/operation noise and surface water quality will be subject to review and adjustment over time.

## **Figures**



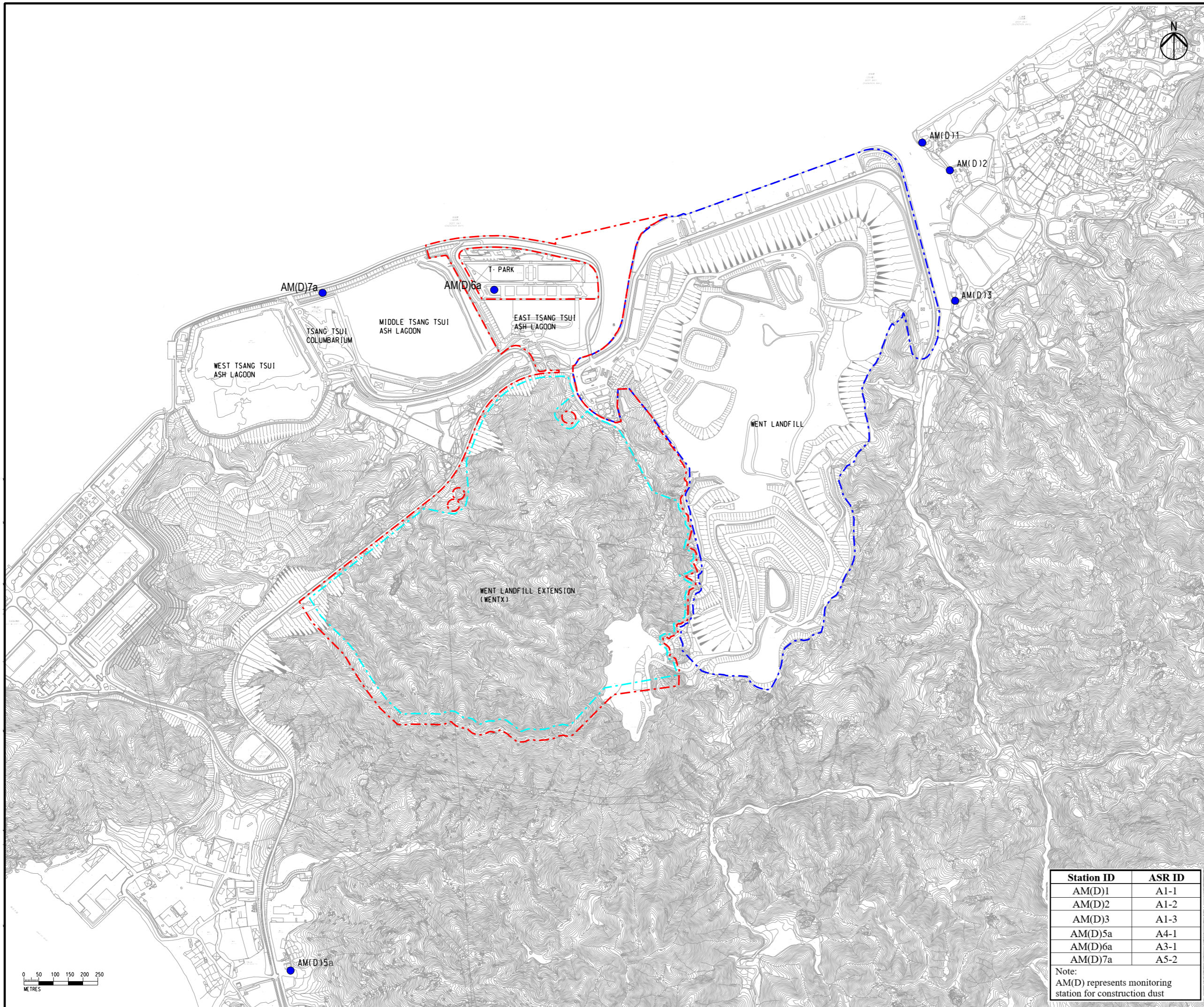
- LEGEND**
- WENT LANDFILL EXTENSION (WENTX) BOUNDARY
  - WENTX WASTE BOUNDARY
  - LANDFILL INFRASTRUCTURE FOR WENTX
  - WENT LANDFILL BOUNDARY
  - TREE PLANTING BUFFER

Project title  
**Contract No. EP/SP/186/21  
 West New Territories  
 Landfill Extension**

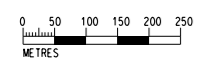
Drawing title  
**GENERAL PLAN  
 OF ENHANCED SCHEME**

**FIGURE 1.1**

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- LEGEND**
- - - WENT LANDFILL EXTENSION (WENTX) BOUNDARY
  - - - WENTX WASTE BOUNDARY
  - - - WENT LANDFILL BOUNDARY
  - AIR QUALITY MONITORING LOCATIONS



Station ID	ASR ID
AM(D)1	A1-1
AM(D)2	A1-2
AM(D)3	A1-3
AM(D)5a	A4-1
AM(D)6a	A3-1
AM(D)7a	A5-2

Note:  
AM(D) represents monitoring station for construction dust

Consultant

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Project title  
Contract No. EP/SP/186/21  
West New Territories Landfill Extension

---

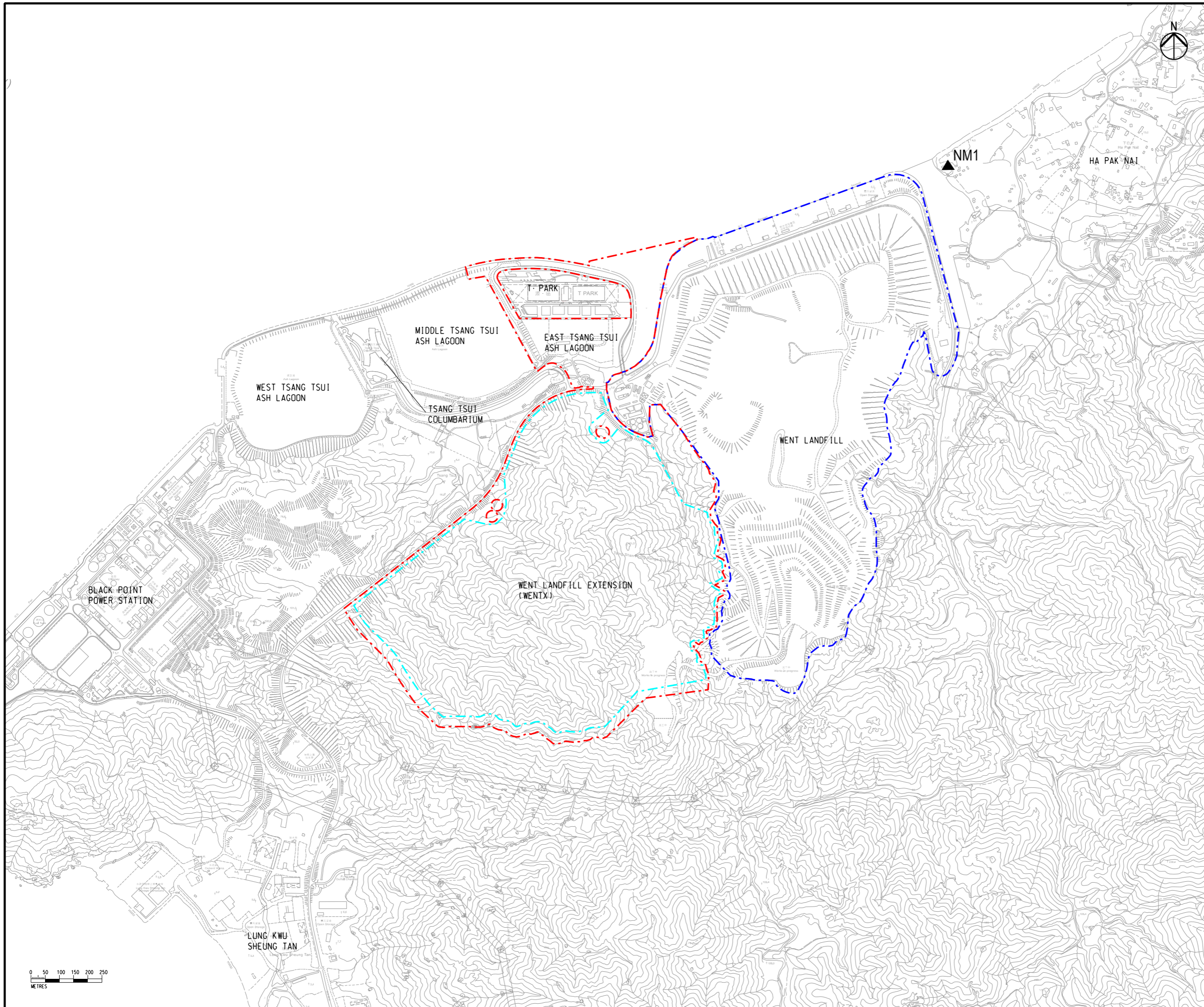
Drawing title  
LOCATIONS OF AIR QUALITY MONITORING

---

Figure 2.1

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- LEGEND**
- - - WENT LANDFILL EXTENSION (WENTX) BOUNDARY
  - - - WENTX WASTE BOUNDARY
  - - - WENT LANDFILL BOUNDARY
  - ▲ NOISE MONITORING LOCATION

NM1

HA PAK NAI

BLACK POINT POWER STATION

WEST TSANG TSUI ASH LAGOON

MIDDLE TSANG TSUI ASH LAGOON

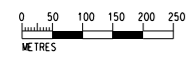
EAST TSANG TSUI ASH LAGOON

TSANG TSUI COLUMBARIUM

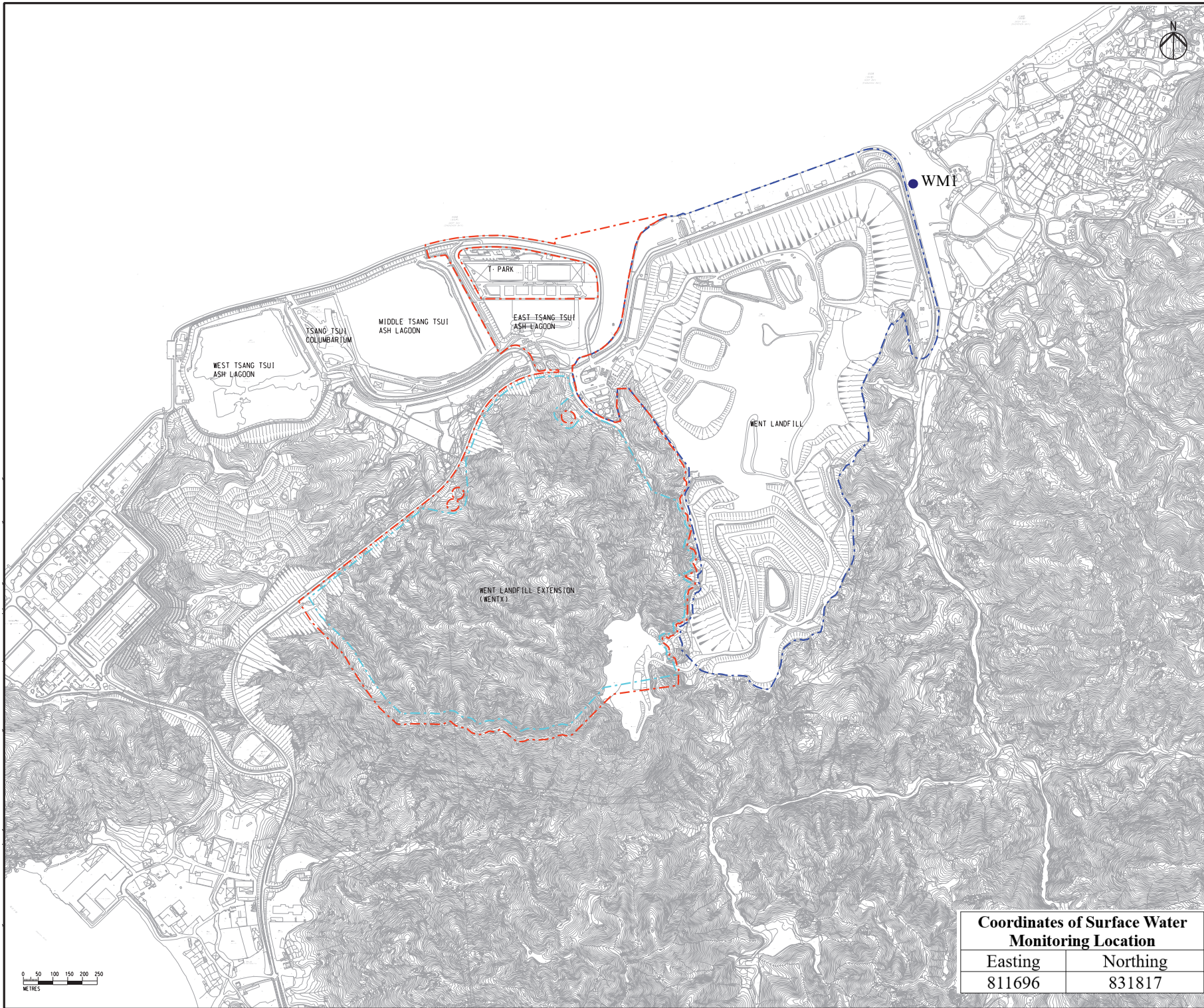
WENT LANDFILL EXTENSION (WENTX)

WENT LANDFILL

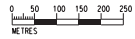
LUNG KWU SHEUNG TAN



Consultant	
Project title Contract No. EP/SP/186/21 West New Territories Landfill Extension	
Drawing title LOCATION OF NOISE MONITORING	
Drawing no.	Figure 3.1



- LEGEND**
- - - WENT LANDFILL EXTENSION (WENTX) BOUNDARY
  - - - WENTX WASTE BOUNDARY
  - - - WENT LANDFILL BOUNDARY
  - SURFACE WATER MONITORING STATION



Coordinates of Surface Water Monitoring Location	
Easting	Northing
811696	831817

Consultant

Project title  
**Contract No. EP/SP/186/21  
 West New Territories  
 Landfill Extension**

Drawing title  
**LOCATION OF SURFACE WATER  
 QUALITY MONITORING**

**FIGURE 4.1**

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## **Appendix A1**

### **Calibration Certificates for Air Quality Monitoring Instruments**



## ALS Laboratory Group

ANALYTICAL CHEMISTRY & TESTING SERVICES

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### SUB-CONTRACTING REPORT

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CONTACT	: MR BEN TAM	WORK ORDER	: <b>HK2404340</b>
CLIENT	: ACTION-UNITED ENVIRONMENTAL SERVICES & CONSULTING		
ADDRESS	: RM A 20/F., GOLD KING IND BLDG, NO. 35-41 TAI LIN PAI ROAD, KWAI CHUNG, N.T.	SUB-BATCH	: 1
		DATE RECEIVED	: 25-JAN-2024
		DATE OF ISSUE	: 5-FEB-2024
PROJECT	: ----	NO. OF SAMPLES	: 1
		CLIENT ORDER	: ----

---

#### General Comments

- Sample information (Project name, Sample ID, Sampling date/time, etc.) is provided by client.
  - Result(s) of sample(s) is/are reported on as received basis, unless otherwise specified. The result(s) is/are related only to the item(s) tested.
  - Sample(s) was/ were submitted by client. Sample(s) arrived laboratory in ambient condition.
  - Calibration was subcontracted to and analysed by Action United Environmental Services & Consulting.
- 

#### Signatories

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

*Signatories*

*Position*

Richard Fung

Managing Director

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

All pages of this report have been checked and approved for release.

**ALS Technichem (HK) Pty Ltd**  
Part of the **ALS Laboratory Group**

11/F. Chung Shun Knitting Centre 1 - 3 Wing Yip Street Kwai Chung N.T. Hong Kong  
Tel. +852 2610 1044 Fax. +852 2610 2021 [www.alsglobal.com](http://www.alsglobal.com)

WORK ORDER : HK2404340  
SUB-BATCH : 1  
CLIENT : ACTION-UNITED ENVIRONMENTAL SERVICES & CONSULTING  
PROJECT : ----



ALS Lab ID	Client's Sample ID	Sample Type	Sample Date	External Lab Report No.
HK2404340-001	S/N: 11008060 (EQ101)	AIR	25-Jan-2024	S/N: 11008060

# Equipment Verification Report (TSP)

## Equipment Calibrated:

Type: Laser Dust monitor  
Manufacturer: TSI AM510  
Serial No. 11008060  
Equipment Ref: EQ101

## Standard Equipment:

Standard Equipment: Higher Volume Sampler (TSP)  
Location & Location ID: Site boundary of Middle Tsang Tsui Ash Lagoon  
Equipment Ref: HVS 022  
Last Calibration Date: 16 January 2024

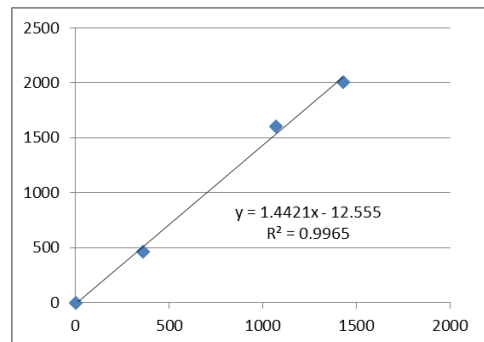
## Equipment Verification Results:

Verification Date: 16 January 2024

Date	Hour	Time	Mean Temp °C	Mean Pressure (hPa)	Concentration in mg/m <sup>3</sup> (Standard Equipment)	Concentration in mg/m <sup>3</sup> (Calibrated Equipment)	Tolerance (mg/m <sup>3</sup> )
16-Jan-24	1hr 14min	12:07 ~ 13:21	18.7	1022.1	2004.6	1430.0	-574.6
16-Jan-24	1hr 07min	13:40 ~ 14:47	18.7	1022.1	1604.7	1070.0	-534.7
16-Jan-24	1hr 07min	14:49 ~ 15:56	18.7	1022.1	464.8	360.0	-104.8

### Linear Regression of Y or X

Slope (K-factor): 1.4421 (µg/m<sup>3</sup>)  
Correlation Coefficient (R): 0.9982  
Date of Issue: 25 January 2024



### Remarks:

- Strong** Correlation ( $R > 0.8$ )
- Factor 1.4421 (µg/m<sup>3</sup>) should be apply for TSP monitoring

\*If  $R < 0.5$ , repair or re-verification is required for the equipment

Operator : Gary Ng Signature : [Signature] Date : 25 January 2024

QC Reviewer : Ben Tam Signature : [Signature] Date : 25 January 2024

## TSP SAMPLER CALIBRATION CALCULATION SPREADSHEET

Location : Site boundary of Middle Tsang Tsui Ash Lagoon  
 Location ID : AM(D)7a

Date of Calibration: 16 Jan 24  
 Next Calibration Date: 16 Mar 24

### CONDITIONS

Sea Level Pressure (hPa)	1022.1	Corrected Pressure (mm Hg)	766.575
Temperature (°C)	18.7	Temperature (K)	292

### CALIBRATION ORIFICE

Make->	TISCH	Qstd Slope ->	2.13163
Model->	5025A	Qstd Intercept ->	-0.03523
Calibration Date->	15-Dec-23	Expiry Date->	15-Dec-24

### CALIBRATION

Plate No.	H2O (L) (in)	H2O (R) (in)	H2O (in)	Qstd (m3/min)	I (chart)	IC corrected	LINEAR REGRESSION		
							Slope =	Intercept =	Corr. coeff. =
18	3.8	-8	11.8	1.652	58	58.88	Slope = 37.0901 Intercept = -1.8561 Corr. coeff. = 0.9977		
13	2.6	-6.8	9.4	1.477	52	52.79			
10	1.4	-5.7	7.1	1.285	46	46.69			
8	0.4	-4.5	4.9	1.071	38	38.57			
5	-0.4	-3.6	3.2	0.868	29	29.44			

**Calculations :**

$$Qstd = 1/m[\text{Sqrt}(H2O(Pa/Pstd)(Tstd/Ta))-b]$$

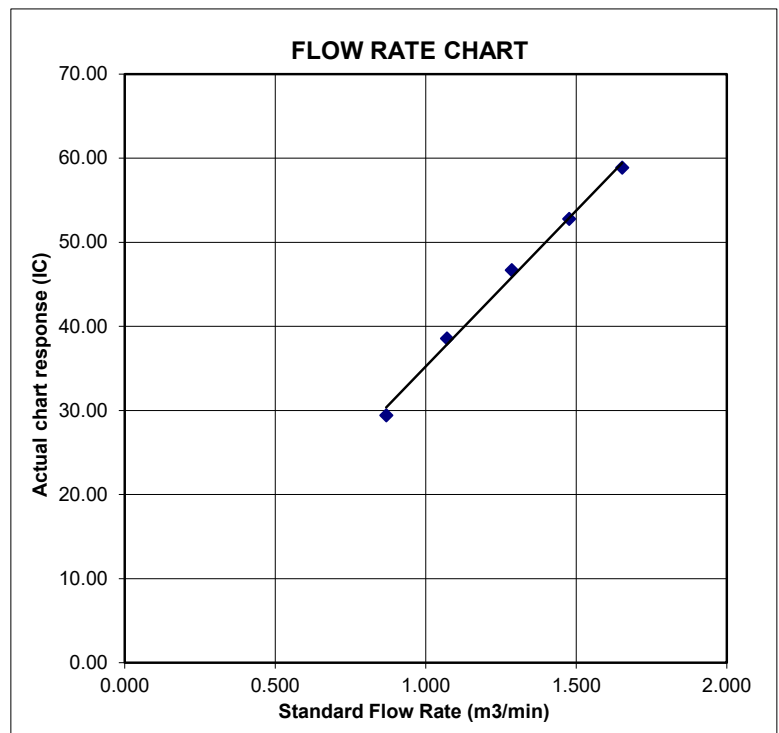
$$IC = I[\text{Sqrt}(Pa/Pstd)(Tstd/Ta)]$$

Qstd = standard flow rate  
 IC = corrected chart responses  
 I = actual chart response  
 m = calibrator Qstd slope  
 b = calibrator Qstd intercept  
 Ta = actual temperature during calibration ( deg K )  
 Pstd = actual pressure during calibration ( mm Hg )

**For subsequent calculation of sampler flow:**

$$1/m(( I )[\text{Sqrt}(298/Tav)(Pav/760)]-b)$$

m = sampler slope  
 b = sampler intercept  
 I = chart response  
 Tav = daily average temperature  
 Pav = daily average pressure



# Certificate of Calibration

Calibration Certification Information			
Cal. Date: December 15, 2023	Rootsmeter S/N: 438320	Ta: 295	°K
Operator: Jim Tisch		Pa: 748.5	mm Hg
Calibration Model #: TE-5025A	Calibrator S/N: <b>1941</b>		

Run	Vol. Init (m3)	Vol. Final (m3)	ΔVol. (m3)	ΔTime (min)	ΔP (mm Hg)	ΔH (in H2O)
1	1	2	1	1.4590	3.2	2.00
2	3	4	1	1.0360	6.4	4.00
3	5	6	1	0.9260	8.0	5.00
4	7	8	1	0.8840	8.9	5.50
5	9	10	1	0.7290	12.9	8.00

Data Tabulation					
Vstd (m3)	Qstd (x-axis)	$\sqrt{\Delta H \left( \frac{Pa}{Pstd} \right) \left( \frac{Tstd}{Ta} \right)}$ (y-axis)	Va	Qa (x-axis)	$\sqrt{\Delta H (Ta/Pa)}$ (y-axis)
0.9907	0.6790	1.4106	0.9957	0.6825	0.8878
0.9864	0.9522	1.9949	0.9914	0.9570	1.2556
0.9843	1.0630	2.2304	0.9893	1.0684	1.4037
0.9831	1.1121	2.3393	0.9881	1.1178	1.4723
0.9778	1.3413	2.8213	0.9828	1.3481	1.7756
<b>QSTD</b>	<b>m=</b>	<b>2.13163</b>	<b>QA</b>	<b>m=</b>	<b>1.33479</b>
	<b>b=</b>	<b>-0.03523</b>		<b>b=</b>	<b>-0.02217</b>
	<b>r=</b>	<b>0.99999</b>		<b>r=</b>	<b>0.99999</b>

Calculations	
Vstd= $\Delta Vol((Pa-\Delta P)/Pstd)(Tstd/Ta)$	Va= $\Delta Vol((Pa-\Delta P)/Pa)$
Qstd= $Vstd/\Delta Time$	Qa= $Va/\Delta Time$
<b>For subsequent flow rate calculations:</b>	
Qstd= $1/m \left( \left( \sqrt{\Delta H \left( \frac{Pa}{Pstd} \right) \left( \frac{Tstd}{Ta} \right)} \right) - b \right)$	Qa= $1/m \left( \left( \sqrt{\Delta H (Ta/Pa)} \right) - b \right)$

Standard Conditions	
Tstd:	298.15 °K
Pstd:	760 mm Hg
Key	
ΔH:	calibrator manometer reading (in H2O)
ΔP:	rootsmeter manometer reading (mm Hg)
Ta:	actual absolute temperature (°K)
Pa:	actual barometric pressure (mm Hg)
b:	intercept
m:	slope

RECALIBRATION
US EPA recommends annual recalibration per 1998 40 Code of Federal Regulations Part 50 to 51, Appendix B to Part 50, Reference Method for the Determination of Suspended Particulate Matter in the Atmosphere, 9.2.17, page 30



## ALS Laboratory Group

ANALYTICAL CHEMISTRY & TESTING SERVICES

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### SUB-CONTRACTING REPORT

---

CONTACT	: MR BEN TAM	WORK ORDER	: <b>HK2404342</b>
CLIENT	: ACTION-UNITED ENVIRONMENTAL SERVICES & CONSULTING		
ADDRESS	: RM A 20/F., GOLD KING IND BLDG, NO. 35-41 TAI LIN PAI ROAD, KWAI CHUNG, N.T.	SUB-BATCH	: 1
		DATE RECEIVED	: 25-JAN-2024
		DATE OF ISSUE	: 5-FEB-2024
PROJECT	: ----	NO. OF SAMPLES	: 1
		CLIENT ORDER	: ----

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#### General Comments

- Sample information (Project name, Sample ID, Sampling date/time, etc.) is provided by client.
  - Result(s) of sample(s) is/are reported on as received basis, unless otherwise specified. The result(s) is/are related only to the item(s) tested.
  - Calibration was subcontracted to and analysed by Action United Environmental Services & Consulting.
  - Sample(s) was/ were submitted by client. Sample(s) arrived laboratory in ambient condition.
- 

#### Signatories

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

*Signatories*

*Position*

Richard Fung

Managing Director

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

All pages of this report have been checked and approved for release.

**ALS Technichem (HK) Pty Ltd**  
Part of the **ALS Laboratory Group**

11/F. Chung Shun Knitting Centre 1 - 3 Wing Yip Street Kwai Chung N.T. Hong Kong  
Tel. +852 2610 1044 Fax. +852 2610 2021 [www.alsglobal.com](http://www.alsglobal.com)

WORK ORDER : HK2404342  
SUB-BATCH : 1  
CLIENT : ACTION-UNITED ENVIRONMENTAL SERVICES & CONSULTING  
PROJECT : ----



ALS Lab ID	Client's Sample ID	Sample Type	Sample Date	External Lab Report No.
HK2404342-001	S/N: 2X6145 (EQ105)	AIR	25-Jan-2024	S/N: 2X6145

## Equipment Verification Report (TSP)

### Equipment Calibrated:

Type: Laser Dust monitor  
Manufacturer: Sibata LD-3B  
Serial No. 2X6145  
Equipment Ref: EQ105

### Standard Equipment:

Standard Equipment: Higher Volume Sampler (TSP)  
Location & Location ID: Site boundary of Middle Tsang Tsui Ash Lagoon  
Equipment Ref: HVS 022  
Last Calibration Date: 16 January 2024

### Equipment Verification Results:

Verification Date: 16 January 2024

Date	Hour	Time	Mean Temp °C	Mean Pressure (hPa)	Concentration in ug/m <sup>3</sup> (Standard Equipment)	Total Count (Calibrated Equipment)	Count/Minute (Total Count/min)
16-Jan-24	1hr 14min	12:07 ~ 13:21	18.7	1022.1	2004.6	107246	1453.2
16-Jan-24	1hr 07min	13:40 ~ 14:47	18.7	1022.1	1604.7	66880	995.2
16-Jan-24	1hr 07min	14:49 ~ 15:56	18.7	1022.1	464.8	31140	463.4

Sensitivity Adjustment Scale Setting (Before Calibration) 586 (CPM)

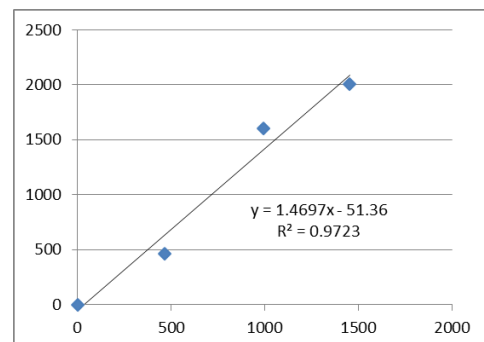
Sensitivity Adjustment Scale Setting (After Calibration) 586 (CPM)

### Linear Regression of Y or X

Slope (K-factor): 1.4697 (µg/m<sup>3</sup>)/CPM

Correlation Coefficient (R) 0.9861

Date of Issue 25 January 2024



### Remarks:

- Strong** Correlation ( $R > 0.8$ )
- Factor 1.4697 (µg/m<sup>3</sup>)/CPM should be apply for TSP monitoring

\*If  $R < 0.5$ , repair or re-verification is required for the equipment

Operator : Gary Ng Signature : [Signature] Date : 25 January 2024

QC Reviewer : Ben Tam Signature : [Signature] Date : 25 January 2024

## TSP SAMPLER CALIBRATION CALCULATION SPREADSHEET

Location : Site boundary of Middle Tsang Tsui Ash Lagoon  
 Location ID : AM(D)7a

Date of Calibration: 16 Jan 24  
 Next Calibration Date: 16 Mar 24

### CONDITIONS

Sea Level Pressure (hPa)	1022.1	Corrected Pressure (mm Hg)	766.575
Temperature (°C)	18.7	Temperature (K)	292

### CALIBRATION ORIFICE

Make->	TISCH	Qstd Slope ->	2.13163
Model->	5025A	Qstd Intercept ->	-0.03523
Calibration Date->	15-Dec-23	Expiry Date->	15-Dec-24

### CALIBRATION

Plate No.	H2O (L) (in)	H2O (R) (in)	H2O (in)	Qstd (m3/min)	I (chart)	IC corrected	LINEAR REGRESSION		
							Slope =	Intercept =	Corr. coeff. =
18	3.8	-8	11.8	1.652	58	58.88	Slope = 37.0901 Intercept = -1.8561 Corr. coeff. = 0.9977		
13	2.6	-6.8	9.4	1.477	52	52.79			
10	1.4	-5.7	7.1	1.285	46	46.69			
8	0.4	-4.5	4.9	1.071	38	38.57			
5	-0.4	-3.6	3.2	0.868	29	29.44			

**Calculations :**

$$Qstd = 1/m[\text{Sqrt}(H2O(Pa/Pstd)(Tstd/Ta))-b]$$

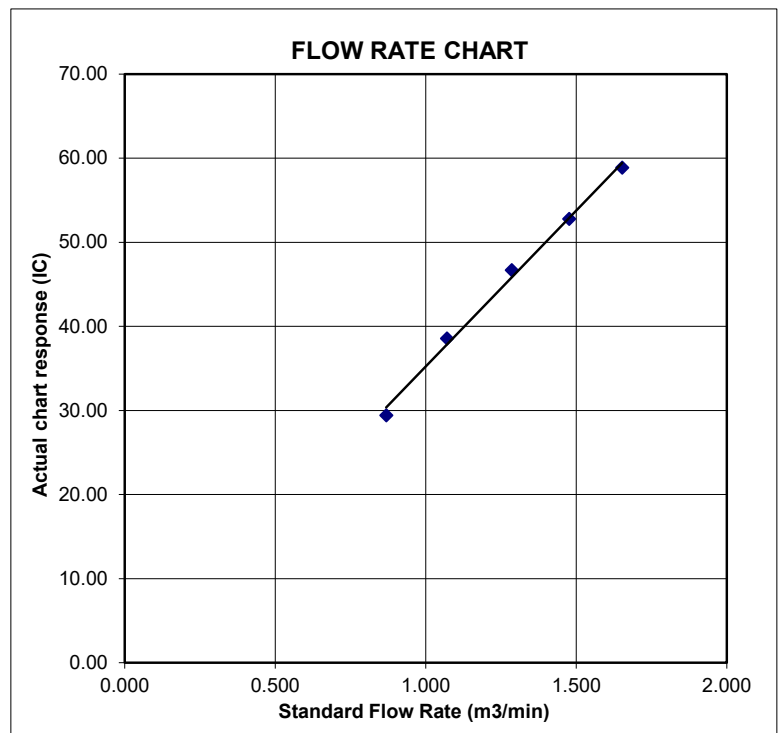
$$IC = I[\text{Sqrt}(Pa/Pstd)(Tstd/Ta)]$$

Qstd = standard flow rate  
 IC = corrected chart responses  
 I = actual chart response  
 m = calibrator Qstd slope  
 b = calibrator Qstd intercept  
 Ta = actual temperature during calibration ( deg K )  
 Pstd = actual pressure during calibration ( mm Hg )

**For subsequent calculation of sampler flow:**

$$1/m(( I )[\text{Sqrt}(298/Tav)(Pav/760)]-b)$$

m = sampler slope  
 b = sampler intercept  
 I = chart response  
 Tav = daily average temperature  
 Pav = daily average pressure



# Certificate of Calibration

Calibration Certification Information			
Cal. Date: December 15, 2023	Rootsmeter S/N: 438320	Ta: 295	°K
Operator: Jim Tisch		Pa: 748.5	mm Hg
Calibration Model #: TE-5025A	Calibrator S/N: <b>1941</b>		

Run	Vol. Init (m3)	Vol. Final (m3)	ΔVol. (m3)	ΔTime (min)	ΔP (mm Hg)	ΔH (in H2O)
1	1	2	1	1.4590	3.2	2.00
2	3	4	1	1.0360	6.4	4.00
3	5	6	1	0.9260	8.0	5.00
4	7	8	1	0.8840	8.9	5.50
5	9	10	1	0.7290	12.9	8.00

Data Tabulation					
Vstd (m3)	Qstd (x-axis)	$\sqrt{\Delta H \left( \frac{Pa}{Pstd} \right) \left( \frac{Tstd}{Ta} \right)}$ (y-axis)	Va	Qa (x-axis)	$\sqrt{\Delta H (Ta/Pa)}$ (y-axis)
0.9907	0.6790	1.4106	0.9957	0.6825	0.8878
0.9864	0.9522	1.9949	0.9914	0.9570	1.2556
0.9843	1.0630	2.2304	0.9893	1.0684	1.4037
0.9831	1.1121	2.3393	0.9881	1.1178	1.4723
0.9778	1.3413	2.8213	0.9828	1.3481	1.7756
<b>QSTD</b>	<b>m=</b>	<b>2.13163</b>	<b>QA</b>	<b>m=</b>	<b>1.33479</b>
	<b>b=</b>	<b>-0.03523</b>		<b>b=</b>	<b>-0.02217</b>
	<b>r=</b>	<b>0.99999</b>		<b>r=</b>	<b>0.99999</b>

Calculations	
Vstd= $\Delta Vol((Pa-\Delta P)/Pstd)(Tstd/Ta)$	Va= $\Delta Vol((Pa-\Delta P)/Pa)$
Qstd= $Vstd/\Delta Time$	Qa= $Va/\Delta Time$
<b>For subsequent flow rate calculations:</b>	
Qstd= $1/m \left( \left( \sqrt{\Delta H \left( \frac{Pa}{Pstd} \right) \left( \frac{Tstd}{Ta} \right)} \right) - b \right)$	Qa= $1/m \left( \left( \sqrt{\Delta H (Ta/Pa)} \right) - b \right)$

Standard Conditions	
Tstd:	298.15 °K
Pstd:	760 mm Hg
Key	
ΔH:	calibrator manometer reading (in H2O)
ΔP:	rootsmeter manometer reading (mm Hg)
Ta:	actual absolute temperature (°K)
Pa:	actual barometric pressure (mm Hg)
b:	intercept
m:	slope

RECALIBRATION
US EPA recommends annual recalibration per 1998 40 Code of Federal Regulations Part 50 to 51, Appendix B to Part 50, Reference Method for the Determination of Suspended Particulate Matter in the Atmosphere, 9.2.17, page 30



## ALS Laboratory Group

ANALYTICAL CHEMISTRY & TESTING SERVICES

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### SUB-CONTRACTING REPORT

---

CONTACT	: MR BEN TAM	WORK ORDER	: <b>HK2404343</b>
CLIENT	: ACTION-UNITED ENVIRONMENTAL SERVICES & CONSULTING		
ADDRESS	: RM A 20/F., GOLD KING IND BLDG, NO. 35-41 TAI LIN PAI ROAD, KWAI CHUNG, N.T.	SUB-BATCH	: 1
		DATE RECEIVED	: 25-JAN-2024
		DATE OF ISSUE	: 5-FEB-2024
PROJECT	: ----	NO. OF SAMPLES	: 1
		CLIENT ORDER	: ----

---

#### *General Comments*

- Sample information (Project name, Sample ID, Sampling date/time, etc.) is provided by client.
  - Result(s) of sample(s) is/are reported on as received basis, unless otherwise specified. The result(s) is/are related only to the item(s) tested.
  - Calibration was subcontracted to and analysed by Action United Environmental Services & Consulting.
  - Sample(s) was/ were submitted by client. Sample(s) arrived laboratory in ambient condition.
- 

#### *Signatories*

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

*Signatories*

*Position*

Richard Fung

Managing Director

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

All pages of this report have been checked and approved for release.

**ALS Technichem (HK) Pty Ltd**  
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Tel. +852 2610 1044 Fax. +852 2610 2021 [www.alsglobal.com](http://www.alsglobal.com)

WORK ORDER : HK2404343  
SUB-BATCH : 1  
CLIENT : ACTION-UNITED ENVIRONMENTAL SERVICES & CONSULTING  
PROJECT : ----



ALS Lab ID	Client's Sample ID	Sample Type	Sample Date	External Lab Report No.
HK2404343-001	S/N: 366407 (EQ107)	AIR	25-Jan-2024	S/N: 366407

# Equipment Verification Report (TSP)

## Equipment Calibrated:

Type: Laser Dust monitor  
Manufacturer: Sibata LD-3B  
Serial No. 366407  
Equipment Ref: EQ107

## Standard Equipment:

Standard Equipment: Higher Volume Sampler (TSP)  
Location & Location ID: Site boundary of Middle Tsang Tsui Ash Lagoon  
Equipment Ref: HVS 022  
Last Calibration Date: 16 January 2024

## Equipment Verification Results:

Verification Date: 16 January 2024

Date	Hour	Time	Mean Temp °C	Mean Pressure (hPa)	Concentration in ug/m <sup>3</sup> (Standard Equipment)	Total Count (Calibrated Equipment)	Count/Minute (Total Count/min)
16-Jan-24	1hr 14min	12:07 ~ 13:21	18.7	1022.1	2004.6	108817	1474.5
16-Jan-24	1hr 07min	13:40 ~ 14:47	18.7	1022.1	1604.7	67356	1002.3
16-Jan-24	1hr 07min	14:49 ~ 15:56	18.7	1022.1	464.8	27544	409.9

Sensitivity Adjustment Scale Setting (Before Calibration) 565 (CPM)

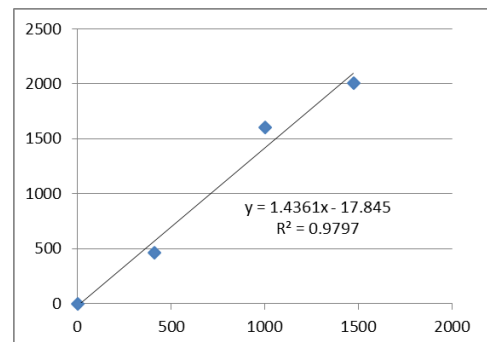
Sensitivity Adjustment Scale Setting (After Calibration) 565 (CPM)

## Linear Regression of Y or X

Slope (K-factor): 1.4361 (µg/m<sup>3</sup>)/CPM

Correlation Coefficient (R) 0.9898

Date of Issue 25 January 2024



## Remarks:

- Strong** Correlation ( $R > 0.8$ )
- Factor 1.4361 (µg/m<sup>3</sup>)/CPM should be apply for TSP monitoring

\*If  $R < 0.5$ , repair or re-verification is required for the equipment

Operator : Gary Ng Signature : [Signature] Date : 25 January 2024

QC Reviewer : Ben Tam Signature : [Signature] Date : 25 January 2024

## TSP SAMPLER CALIBRATION CALCULATION SPREADSHEET

Location : Site boundary of Middle Tsang Tsui Ash Lagoon  
 Location ID : AM(D)7a

Date of Calibration: 16 Jan 24  
 Next Calibration Date: 16 Mar 24

### CONDITIONS

Sea Level Pressure (hPa)	1022.1	Corrected Pressure (mm Hg)	766.575
Temperature (°C)	18.7	Temperature (K)	292

### CALIBRATION ORIFICE

Make->	TISCH	Qstd Slope ->	2.13163
Model->	5025A	Qstd Intercept ->	-0.03523
Calibration Date->	15-Dec-23	Expiry Date->	15-Dec-24

### CALIBRATION

Plate No.	H2O (L) (in)	H2O (R) (in)	H2O (in)	Qstd (m3/min)	I (chart)	IC corrected	LINEAR REGRESSION		
							Slope =	Intercept =	Corr. coeff. =
18	3.8	-8	11.8	1.652	58	58.88	Slope = 37.0901 Intercept = -1.8561 Corr. coeff. = 0.9977		
13	2.6	-6.8	9.4	1.477	52	52.79			
10	1.4	-5.7	7.1	1.285	46	46.69			
8	0.4	-4.5	4.9	1.071	38	38.57			
5	-0.4	-3.6	3.2	0.868	29	29.44			

**Calculations :**

$$Qstd = 1/m[\text{Sqrt}(H2O(Pa/Pstd)(Tstd/Ta))-b]$$

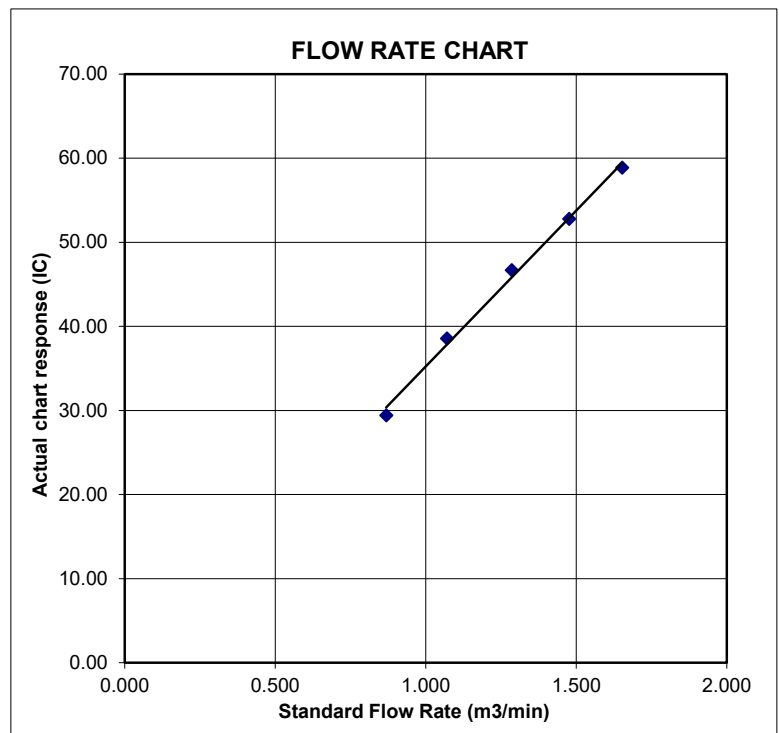
$$IC = I[\text{Sqrt}(Pa/Pstd)(Tstd/Ta)]$$

Qstd = standard flow rate  
 IC = corrected chart responses  
 I = actual chart response  
 m = calibrator Qstd slope  
 b = calibrator Qstd intercept  
 Ta = actual temperature during calibration ( deg K )  
 Pstd = actual pressure during calibration ( mm Hg )

**For subsequent calculation of sampler flow:**

$$1/m(( I )[\text{Sqrt}(298/Tav)(Pav/760)]-b)$$

m = sampler slope  
 b = sampler intercept  
 I = chart response  
 Tav = daily average temperature  
 Pav = daily average pressure



# Certificate of Calibration

Calibration Certification Information			
Cal. Date: December 15, 2023	Rootsmeter S/N: 438320	Ta: 295	°K
Operator: Jim Tisch		Pa: 748.5	mm Hg
Calibration Model #: TE-5025A	Calibrator S/N: <b>1941</b>		

Run	Vol. Init (m3)	Vol. Final (m3)	ΔVol. (m3)	ΔTime (min)	ΔP (mm Hg)	ΔH (in H2O)
1	1	2	1	1.4590	3.2	2.00
2	3	4	1	1.0360	6.4	4.00
3	5	6	1	0.9260	8.0	5.00
4	7	8	1	0.8840	8.9	5.50
5	9	10	1	0.7290	12.9	8.00

Data Tabulation					
Vstd (m3)	Qstd (x-axis)	$\sqrt{\Delta H \left( \frac{Pa}{Pstd} \right) \left( \frac{Tstd}{Ta} \right)}$ (y-axis)	Va	Qa (x-axis)	$\sqrt{\Delta H (Ta/Pa)}$ (y-axis)
0.9907	0.6790	1.4106	0.9957	0.6825	0.8878
0.9864	0.9522	1.9949	0.9914	0.9570	1.2556
0.9843	1.0630	2.2304	0.9893	1.0684	1.4037
0.9831	1.1121	2.3393	0.9881	1.1178	1.4723
0.9778	1.3413	2.8213	0.9828	1.3481	1.7756
<b>QSTD</b>	<b>m=</b>	<b>2.13163</b>	<b>QA</b>	<b>m=</b>	<b>1.33479</b>
	<b>b=</b>	<b>-0.03523</b>		<b>b=</b>	<b>-0.02217</b>
	<b>r=</b>	<b>0.99999</b>		<b>r=</b>	<b>0.99999</b>

Calculations	
Vstd= $\Delta Vol((Pa-\Delta P)/Pstd)(Tstd/Ta)$	Va= $\Delta Vol((Pa-\Delta P)/Pa)$
Qstd= $Vstd/\Delta Time$	Qa= $Va/\Delta Time$
<b>For subsequent flow rate calculations:</b>	
Qstd= $1/m \left( \left( \sqrt{\Delta H \left( \frac{Pa}{Pstd} \right) \left( \frac{Tstd}{Ta} \right)} \right) - b \right)$	Qa= $1/m \left( \left( \sqrt{\Delta H (Ta/Pa)} \right) - b \right)$

Standard Conditions	
Tstd:	298.15 °K
Pstd:	760 mm Hg
Key	
ΔH:	calibrator manometer reading (in H2O)
ΔP:	rootsmeter manometer reading (mm Hg)
Ta:	actual absolute temperature (°K)
Pa:	actual barometric pressure (mm Hg)
b:	intercept
m:	slope

RECALIBRATION
US EPA recommends annual recalibration per 1998 40 Code of Federal Regulations Part 50 to 51, Appendix B to Part 50, Reference Method for the Determination of Suspended Particulate Matter in the Atmosphere, 9.2.17, page 30



## ALS Laboratory Group

ANALYTICAL CHEMISTRY & TESTING SERVICES

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### SUB-CONTRACTING REPORT

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CONTACT	: MR BEN TAM	WORK ORDER	: <b>HK2404344</b>
CLIENT	: ACTION-UNITED ENVIRONMENTAL SERVICES & CONSULTING		
ADDRESS	: RM A 20/F., GOLD KING IND BLDG, NO. 35-41 TAI LIN PAI ROAD, KWAI CHUNG, N.T.	SUB-BATCH	: 1
		DATE RECEIVED	: 25-JAN-2024
		DATE OF ISSUE	: 5-FEB-2024
PROJECT	: ----	NO. OF SAMPLES	: 1
		CLIENT ORDER	: ----

---

#### *General Comments*

- Sample information (Project name, Sample ID, Sampling date/time, etc.) is provided by client.
  - Result(s) of sample(s) is/are reported on as received basis, unless otherwise specified. The result(s) is/are related only to the item(s) tested.
  - Calibration was subcontracted to and analysed by Action United Environmental Services & Consulting.
  - Sample(s) was/ were submitted by client. Sample(s) arrived laboratory in ambient condition.
- 

#### *Signatories*

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

*Signatories*

*Position*

Richard Fung

Managing Director

---

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

All pages of this report have been checked and approved for release.

**ALS Technichem (HK) Pty Ltd**  
Part of the **ALS Laboratory Group**

WORK ORDER : HK2404344  
SUB-BATCH : 1  
CLIENT : ACTION-UNITED ENVIRONMENTAL SERVICES & CONSULTING  
PROJECT : ----



ALS Lab ID	Client's Sample ID	Sample Type	Sample Date	External Lab Report No.
HK2404344-001	S/N: 366418 (EQ108)	AIR	25-Jan-2024	S/N: 366418

# Equipment Verification Report (TSP)

## Equipment Calibrated:

Type: Laser Dust monitor  
Manufacturer: Sibata LD-3B  
Serial No. 366418  
Equipment Ref: EQ108

## Standard Equipment:

Standard Equipment: Higher Volume Sampler (TSP)  
Location & Location ID: Site boundary of Middle Tsang Tsui Ash Lagoon  
Equipment Ref: HVS 022  
Last Calibration Date: 16 January 2024

## Equipment Verification Results:

Verification Date: 16 January 2024

Date	Hour	Time	Mean Temp °C	Mean Pressure (hPa)	Concentration in ug/m <sup>3</sup> (Standard Equipment)	Total Count (Calibrated Equipment)	Count/Minute (Total Count/min)
16-Jan-24	1hr 14min	12:07 ~ 13:21	18.7	1022.1	2004.6	101333	1373.1
16-Jan-24	1hr 07min	13:40 ~ 14:47	18.7	1022.1	1604.7	78101	1162.2
16-Jan-24	1hr 07min	14:49 ~ 15:56	18.7	1022.1	464.8	21842	325.0

Sensitivity Adjustment Scale Setting (Before Calibration) 685 (CPM)

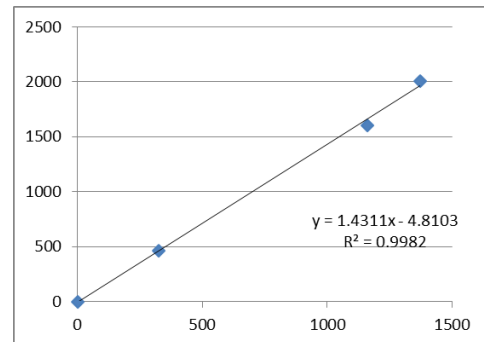
Sensitivity Adjustment Scale Setting (After Calibration) 685 (CPM)

## Linear Regression of Y or X

Slope (K-factor): 1.4311 (µg/m<sup>3</sup>)/CPM

Correlation Coefficient (R) 0.9990

Date of Issue 25 January 2024



## Remarks:

- Strong** Correlation ( $R > 0.8$ )
- Factor 1.4311 (µg/m<sup>3</sup>)/CPM should be apply for TSP monitoring

\*If  $R < 0.5$ , repair or re-verification is required for the equipment

Operator : Gary Ng Signature : [Signature] Date : 25 January 2024

QC Reviewer : Ben Tam Signature : [Signature] Date : 25 January 2024

## TSP SAMPLER CALIBRATION CALCULATION SPREADSHEET

Location : Site boundary of Middle Tsang Tsui Ash Lagoon  
 Location ID : AM(D)7a

Date of Calibration: 16 Jan 24  
 Next Calibration Date: 16 Mar 24

### CONDITIONS

Sea Level Pressure (hPa)	1022.1	Corrected Pressure (mm Hg)	766.575
Temperature (°C)	18.7	Temperature (K)	292

### CALIBRATION ORIFICE

Make->	TISCH	Qstd Slope ->	2.13163
Model->	5025A	Qstd Intercept ->	-0.03523
Calibration Date->	15-Dec-23	Expiry Date->	15-Dec-24

### CALIBRATION

Plate No.	H2O (L) (in)	H2O (R) (in)	H2O (in)	Qstd (m3/min)	I (chart)	IC corrected	LINEAR REGRESSION		
							Slope =	Intercept =	Corr. coeff. =
18	3.8	-8	11.8	1.652	58	58.88	Slope = 37.0901 Intercept = -1.8561 Corr. coeff. = 0.9977		
13	2.6	-6.8	9.4	1.477	52	52.79			
10	1.4	-5.7	7.1	1.285	46	46.69			
8	0.4	-4.5	4.9	1.071	38	38.57			
5	-0.4	-3.6	3.2	0.868	29	29.44			

**Calculations :**

$$Qstd = 1/m[\text{Sqrt}(H2O(Pa/Pstd)(Tstd/Ta))-b]$$

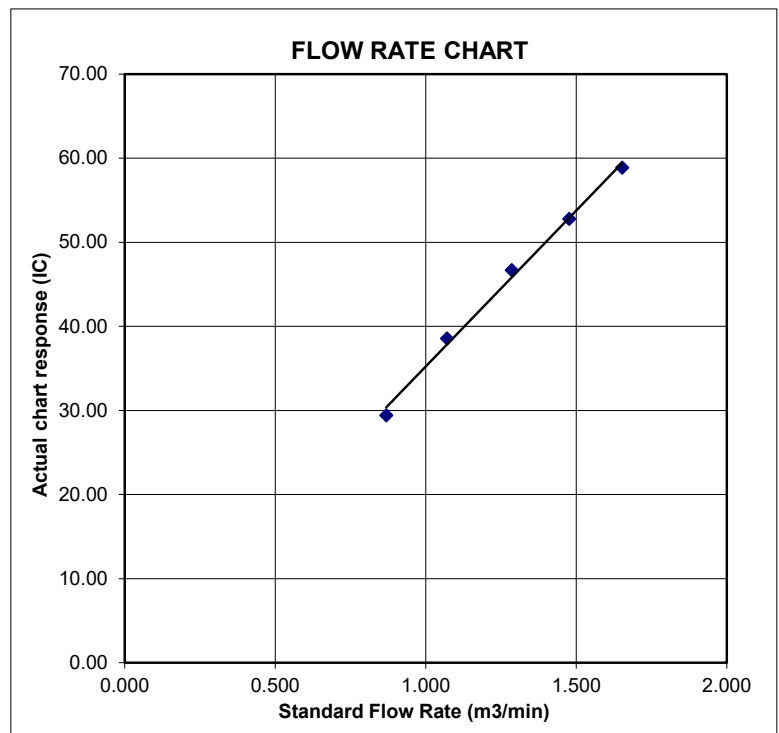
$$IC = I[\text{Sqrt}(Pa/Pstd)(Tstd/Ta)]$$

Qstd = standard flow rate  
 IC = corrected chart responses  
 I = actual chart response  
 m = calibrator Qstd slope  
 b = calibrator Qstd intercept  
 Ta = actual temperature during calibration ( deg K )  
 Pstd = actual pressure during calibration ( mm Hg )

**For subsequent calculation of sampler flow:**

$$1/m(( I )[\text{Sqrt}(298/Tav)(Pav/760)]-b)$$

m = sampler slope  
 b = sampler intercept  
 I = chart response  
 Tav = daily average temperature  
 Pav = daily average pressure



# Certificate of Calibration

Calibration Certification Information			
Cal. Date: December 15, 2023	Rootsmeter S/N: 438320	Ta: 295	°K
Operator: Jim Tisch		Pa: 748.5	mm Hg
Calibration Model #: TE-5025A	Calibrator S/N: <b>1941</b>		

Run	Vol. Init (m3)	Vol. Final (m3)	ΔVol. (m3)	ΔTime (min)	ΔP (mm Hg)	ΔH (in H2O)
1	1	2	1	1.4590	3.2	2.00
2	3	4	1	1.0360	6.4	4.00
3	5	6	1	0.9260	8.0	5.00
4	7	8	1	0.8840	8.9	5.50
5	9	10	1	0.7290	12.9	8.00

Data Tabulation					
Vstd (m3)	Qstd (x-axis)	$\sqrt{\Delta H \left( \frac{Pa}{Pstd} \right) \left( \frac{Tstd}{Ta} \right)}$ (y-axis)	Va	Qa (x-axis)	$\sqrt{\Delta H (Ta/Pa)}$ (y-axis)
0.9907	0.6790	1.4106	0.9957	0.6825	0.8878
0.9864	0.9522	1.9949	0.9914	0.9570	1.2556
0.9843	1.0630	2.2304	0.9893	1.0684	1.4037
0.9831	1.1121	2.3393	0.9881	1.1178	1.4723
0.9778	1.3413	2.8213	0.9828	1.3481	1.7756
<b>QSTD</b>	<b>m=</b>	<b>2.13163</b>	<b>QA</b>	<b>m=</b>	<b>1.33479</b>
	<b>b=</b>	<b>-0.03523</b>		<b>b=</b>	<b>-0.02217</b>
	<b>r=</b>	<b>0.99999</b>		<b>r=</b>	<b>0.99999</b>

Calculations	
Vstd= $\Delta Vol((Pa-\Delta P)/Pstd)(Tstd/Ta)$	Va= $\Delta Vol((Pa-\Delta P)/Pa)$
Qstd= $Vstd/\Delta Time$	Qa= $Va/\Delta Time$
<b>For subsequent flow rate calculations:</b>	
Qstd= $1/m \left( \left( \sqrt{\Delta H \left( \frac{Pa}{Pstd} \right) \left( \frac{Tstd}{Ta} \right)} \right) - b \right)$	Qa= $1/m \left( \left( \sqrt{\Delta H (Ta/Pa)} \right) - b \right)$

Standard Conditions	
Tstd:	298.15 °K
Pstd:	760 mm Hg
Key	
ΔH:	calibrator manometer reading (in H2O)
ΔP:	rootsmeter manometer reading (mm Hg)
Ta:	actual absolute temperature (°K)
Pa:	actual barometric pressure (mm Hg)
b:	intercept
m:	slope

RECALIBRATION
US EPA recommends annual recalibration per 1998 40 Code of Federal Regulations Part 50 to 51, Appendix B to Part 50, Reference Method for the Determination of Suspended Particulate Matter in the Atmosphere, 9.2.17, page 30



## ALS Laboratory Group

ANALYTICAL CHEMISTRY & TESTING SERVICES

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### SUB-CONTRACTING REPORT

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CONTACT	: MR BEN TAM	WORK ORDER	: <b>HK2404345</b>
CLIENT	: ACTION-UNITED ENVIRONMENTAL SERVICES & CONSULTING		
ADDRESS	: RM A 20/F., GOLD KING IND BLDG, NO. 35-41 TAI LIN PAI ROAD, KWAI CHUNG, N.T.	SUB-BATCH	: 1
		DATE RECEIVED	: 25-JAN-2024
		DATE OF ISSUE	: 5-FEB-2024
PROJECT	: ----	NO. OF SAMPLES	: 1
		CLIENT ORDER	: ----

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#### General Comments

- Sample information (Project name, Sample ID, Sampling date/time, etc.) is provided by client.
  - Result(s) of sample(s) is/are reported on as received basis, unless otherwise specified. The result(s) is/are related only to the item(s) tested.
  - Calibration was subcontracted to and analysed by Action United Environmental Services & Consulting.
  - Sample(s) was/ were submitted by client. Sample(s) arrived laboratory in ambient condition.
- 

#### Signatories

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

*Signatories*

*Position*

Richard Fung

Managing Director

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

All pages of this report have been checked and approved for release.

**ALS Technichem (HK) Pty Ltd**  
Part of the **ALS Laboratory Group**

11/F. Chung Shun Knitting Centre 1 - 3 Wing Yip Street Kwai Chung N.T. Hong Kong  
Tel. +852 2610 1044 Fax. +852 2610 2021 [www.alsglobal.com](http://www.alsglobal.com)

WORK ORDER : HK2404345  
SUB-BATCH : 1  
CLIENT : ACTION-UNITED ENVIRONMENTAL SERVICES & CONSULTING  
PROJECT : ----



ALS Lab ID	Client's Sample ID	Sample Type	Sample Date	External Lab Report No.
HK2404345-001	S/N: 366410 (EQ110)	AIR	25-Jan-2024	S/N: 366410

# Equipment Verification Report (TSP)

## Equipment Calibrated:

Type: Laser Dust monitor  
Manufacturer: Sibata LD-3B  
Serial No. 366410  
Equipment Ref: EQ110

## Standard Equipment:

Standard Equipment: Higher Volume Sampler (TSP)  
Location & Location ID: Site boundary of Middle Tsang Tsui Ash Lagoon  
Equipment Ref: HVS 022  
Last Calibration Date: 16 January 2024

## Equipment Verification Results:

Verification Date: 16 January 2024

Date	Hour	Time	Mean Temp °C	Mean Pressure (hPa)	Concentration in ug/m <sup>3</sup> (Standard Equipment)	Total Count (Calibrated Equipment)	Count/Minute (Total Count/min)
16-Jan-24	1hr 14min	12:07 ~ 13:21	18.7	1022.1	2004.6	106884	1448.3
16-Jan-24	1hr 07min	13:40 ~ 14:47	18.7	1022.1	1604.7	65450	974.0
16-Jan-24	1hr 07min	14:49 ~ 15:56	18.7	1022.1	464.8	24665	367.0

Sensitivity Adjustment Scale Setting (Before Calibration) 674 (CPM)

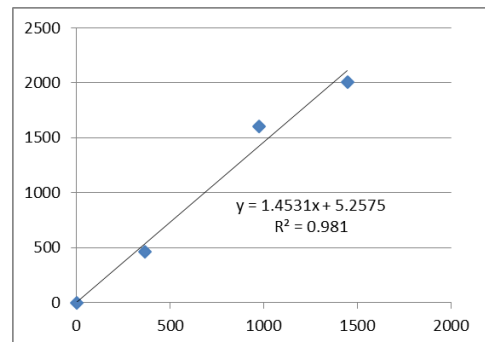
Sensitivity Adjustment Scale Setting (After Calibration) 674 (CPM)

## Linear Regression of Y or X

Slope (K-factor): 1.4531 (µg/m<sup>3</sup>)/CPM

Correlation Coefficient (R) 0.9904

Date of Issue 25 January 2024



## Remarks:

- Strong** Correlation ( $R > 0.8$ )
- Factor 1.4531 (µg/m<sup>3</sup>)/CPM should be apply for TSP monitoring

\*If  $R < 0.5$ , repair or re-verification is required for the equipment

Operator : Gary Ng Signature : [Signature] Date : 25 January 2024

QC Reviewer : Ben Tam Signature : [Signature] Date : 25 January 2024

## TSP SAMPLER CALIBRATION CALCULATION SPREADSHEET

Location : Site boundary of Middle Tsang Tsui Ash Lagoon  
 Location ID : AM(D)7a

Date of Calibration: 16 Jan 24  
 Next Calibration Date: 16 Mar 24

### CONDITIONS

Sea Level Pressure (hPa)	1022.1	Corrected Pressure (mm Hg)	766.575
Temperature (°C)	18.7	Temperature (K)	292

### CALIBRATION ORIFICE

Make->	TISCH	Qstd Slope ->	2.13163
Model->	5025A	Qstd Intercept ->	-0.03523
Calibration Date->	15-Dec-23	Expiry Date->	15-Dec-24

### CALIBRATION

Plate No.	H2O (L) (in)	H2O (R) (in)	H2O (in)	Qstd (m3/min)	I (chart)	IC corrected	LINEAR REGRESSION		
							Slope =	Intercept =	Corr. coeff. =
18	3.8	-8	11.8	1.652	58	58.88	Slope = 37.0901 Intercept = -1.8561 Corr. coeff. = 0.9977		
13	2.6	-6.8	9.4	1.477	52	52.79			
10	1.4	-5.7	7.1	1.285	46	46.69			
8	0.4	-4.5	4.9	1.071	38	38.57			
5	-0.4	-3.6	3.2	0.868	29	29.44			

**Calculations :**

$$Qstd = 1/m[\text{Sqrt}(H2O(Pa/Pstd)(Tstd/Ta))-b]$$

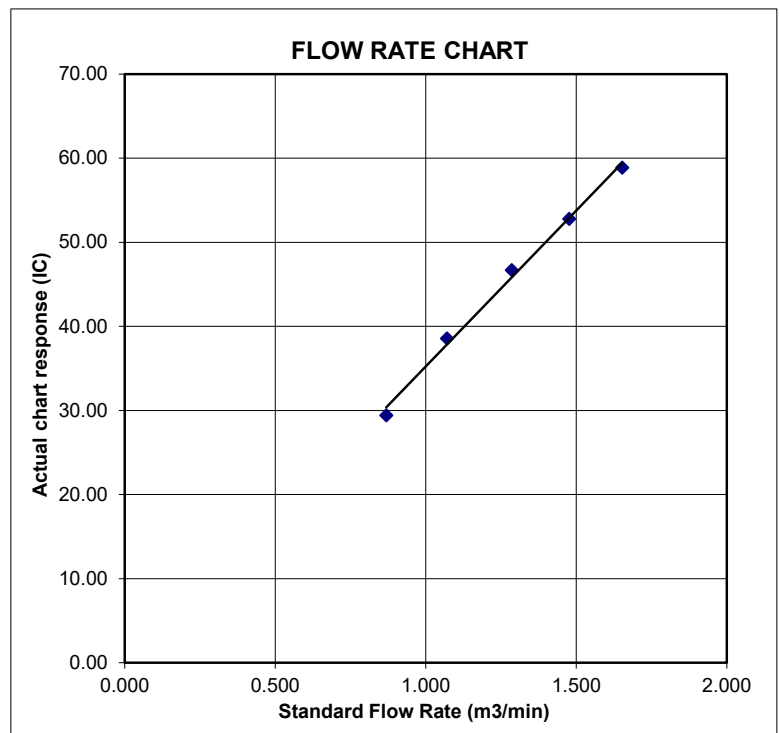
$$IC = I[\text{Sqrt}(Pa/Pstd)(Tstd/Ta)]$$

Qstd = standard flow rate  
 IC = corrected chart responses  
 I = actual chart response  
 m = calibrator Qstd slope  
 b = calibrator Qstd intercept  
 Ta = actual temperature during calibration ( deg K )  
 Pstd = actual pressure during calibration ( mm Hg )

**For subsequent calculation of sampler flow:**

$$1/m(( I )[\text{Sqrt}(298/Tav)(Pav/760)]-b)$$

m = sampler slope  
 b = sampler intercept  
 I = chart response  
 Tav = daily average temperature  
 Pav = daily average pressure



# Certificate of Calibration

Calibration Certification Information			
Cal. Date: December 15, 2023	Rootsmeter S/N: 438320	Ta: 295	°K
Operator: Jim Tisch		Pa: 748.5	mm Hg
Calibration Model #: TE-5025A	Calibrator S/N: <b>1941</b>		

Run	Vol. Init (m3)	Vol. Final (m3)	ΔVol. (m3)	ΔTime (min)	ΔP (mm Hg)	ΔH (in H2O)
1	1	2	1	1.4590	3.2	2.00
2	3	4	1	1.0360	6.4	4.00
3	5	6	1	0.9260	8.0	5.00
4	7	8	1	0.8840	8.9	5.50
5	9	10	1	0.7290	12.9	8.00

Data Tabulation					
Vstd (m3)	Qstd (x-axis)	$\sqrt{\Delta H \left( \frac{Pa}{Pstd} \right) \left( \frac{Tstd}{Ta} \right)}$ (y-axis)	Va	Qa (x-axis)	$\sqrt{\Delta H (Ta/Pa)}$ (y-axis)
0.9907	0.6790	1.4106	0.9957	0.6825	0.8878
0.9864	0.9522	1.9949	0.9914	0.9570	1.2556
0.9843	1.0630	2.2304	0.9893	1.0684	1.4037
0.9831	1.1121	2.3393	0.9881	1.1178	1.4723
0.9778	1.3413	2.8213	0.9828	1.3481	1.7756
<b>QSTD</b>	<b>m=</b>	<b>2.13163</b>	<b>QA</b>	<b>m=</b>	<b>1.33479</b>
	<b>b=</b>	<b>-0.03523</b>		<b>b=</b>	<b>-0.02217</b>
	<b>r=</b>	<b>0.99999</b>		<b>r=</b>	<b>0.99999</b>

Calculations	
Vstd= $\Delta Vol((Pa-\Delta P)/Pstd)(Tstd/Ta)$	Va= $\Delta Vol((Pa-\Delta P)/Pa)$
Qstd= $Vstd/\Delta Time$	Qa= $Va/\Delta Time$
<b>For subsequent flow rate calculations:</b>	
Qstd= $1/m \left( \left( \sqrt{\Delta H \left( \frac{Pa}{Pstd} \right) \left( \frac{Tstd}{Ta} \right)} \right) - b \right)$	Qa= $1/m \left( \left( \sqrt{\Delta H (Ta/Pa)} \right) - b \right)$

Standard Conditions	
Tstd:	298.15 °K
Pstd:	760 mm Hg
Key	
ΔH:	calibrator manometer reading (in H2O)
ΔP:	rootsmeter manometer reading (mm Hg)
Ta:	actual absolute temperature (°K)
Pa:	actual barometric pressure (mm Hg)
b:	intercept
m:	slope

RECALIBRATION
US EPA recommends annual recalibration per 1998 40 Code of Federal Regulations Part 50 to 51, Appendix B to Part 50, Reference Method for the Determination of Suspended Particulate Matter in the Atmosphere, 9.2.17, page 30

## TSP SAMPLER CALIBRATION CALCULATION SPREADSHEET

Location : Ha Pak Nai	Date of Calibration: 26 Jan 24
Location ID : AM(D)1	Next Calibration Date: 26 Mar 24
Model: TISCH High Volume Air Sampler TE-5170	Technician: Gary Ng

### CONDITIONS

Sea Level Pressure (hPa)	1027.3	Corrected Pressure (mm Hg)	770.475
Temperature (°C)	17.8	Temperature (K)	291

### CALIBRATION ORIFICE

Make->	TISCH	Qstd Slope ->	2.13163
Model->	5025A	Qstd Intercept ->	-0.03523
Serial # ->	1941		

### CALIBRATION

Plate No.	H2O (L) (in)	H2O (R) (in)	H2O (in)	Qstd (m3/min)	I (chart)	IC corrected	LINEAR REGRESSION
18	10.00	2.50	12.5	1.707	50	51.59	Slope = 36.9625 Intercept = ##### Corr. coeff. = 0.9965
13	8.90	1.20	10.1	1.536	46	47.46	
10	7.90	0.10	8.0	1.369	40	41.27	
7	6.30	-1.20	5.1	1.096	30	30.95	
5	5.30	-2.20	3.1	0.858	20	20.64	

**Calculations :**

$$Qstd = 1/m[\text{Sqrt}(H2O(Pa/Pstd)(Tstd/Ta))-b]$$

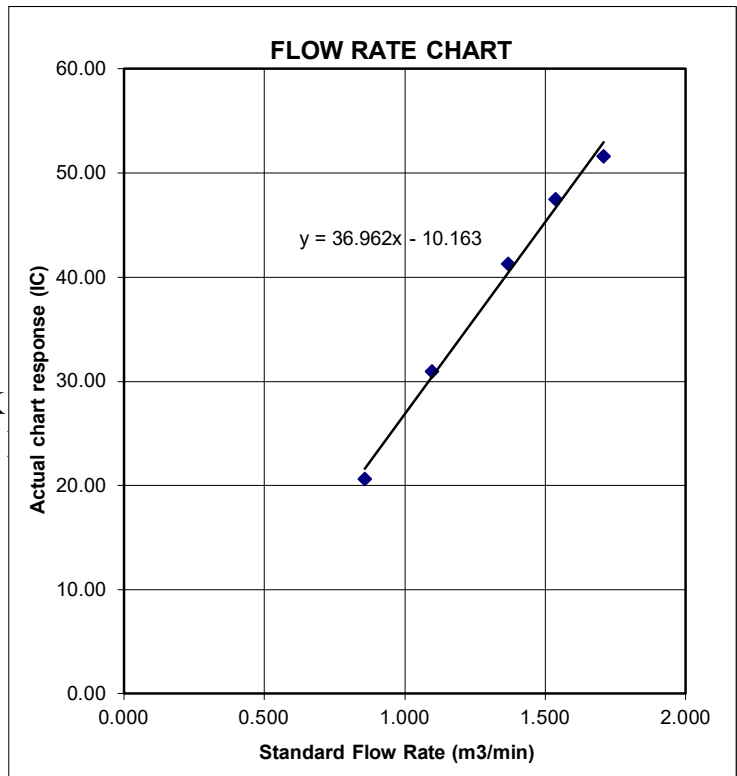
$$IC = I[\text{Sqrt}(Pa/Pstd)(Tstd/Ta)]$$

Qstd = standard flow rate  
 IC = corrected chart responses  
 I = actual chart response  
 m = calibrator Qstd slope  
 b = calibrator Qstd intercept  
 Ta = actual temperature during calibration ( deg K)  
 Pstd = actual pressure during calibration ( mm Hg)

**For subsequent calculation of sampler flow:**

$$1/m(( I )[\text{Sqrt}(298/Tav)(Pav/760)]-b)$$

m = sampler slope  
 b = sampler intercept  
 I = chart response  
 Tav = daily average temperature  
 Pav = daily average pressure



## TSP SAMPLER CALIBRATION CALCULATION SPREADSHEET

Location : Ha Pak Nai	Date of Calibration: 29 Jan 24
Location ID : AM(D)2	Next Calibration Date: 29 Mar 24
Model: TISCH High Volume Air Sampler TE-5170	Technician: Gary Ng

CONDITIONS			
Sea Level Pressure (hPa)	1023.4	Corrected Pressure (mm Hg)	767.55
Temperature (°C)	15.9	Temperature (K)	289

CALIBRATION ORIFICE			
Make->	TISCH	Qstd Slope ->	2.13163
Model->	5025A	Qstd Intercept ->	-0.03523
Serial # ->	1941		

CALIBRATION							
Plate No.	H2O (L) (in)	H2O (R) (in)	H2O (in)	Qstd (m3/min)	I (chart)	IC corrected	LINEAR REGRESSION
							Slope = 32.4627 Intercept = -0.8985 Corr. coeff. = 0.9998
18	12.80	0.40	13.2	1.756	54	55.98	
13	11.60	-0.90	10.7	1.583	49	50.79	
10	10.40	-2.00	8.4	1.404	43	44.57	
7	8.90	-3.60	5.3	1.119	34	35.24	
5	7.80	-4.50	3.3	0.886	27	27.99	

**Calculations :**

$$Qstd = 1/m[\text{Sqrt}(H2O(Pa/Pstd)(Tstd/Ta))-b]$$

$$IC = I[\text{Sqrt}(Pa/Pstd)(Tstd/Ta)]$$

Qstd = standard flow rate

IC = corrected chart responses

I = actual chart response

m = calibrator Qstd slope

b = calibrator Qstd intercept

Ta = actual temperature during calibration ( deg K

Pstd = actual pressure during calibration ( mm Hg

**For subsequent calculation of sampler flow:**

$$1/m(( I )[\text{Sqrt}(298/Tav)(Pav/760)]-b)$$

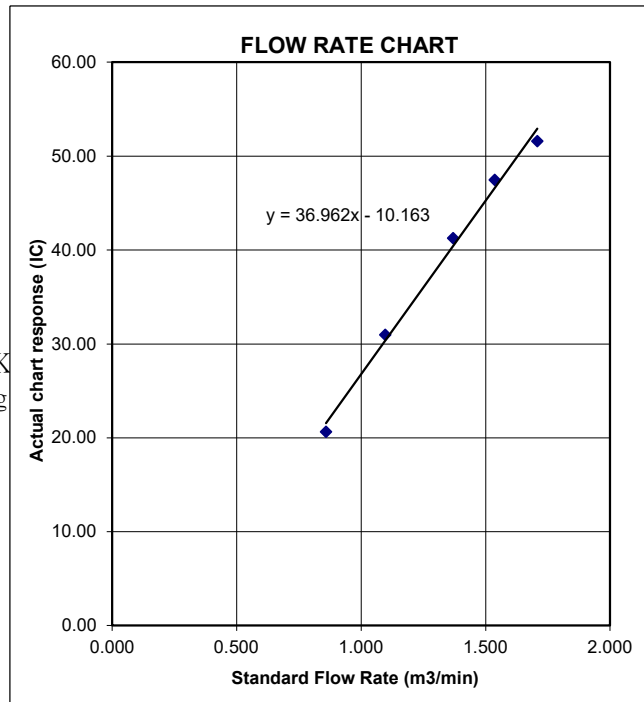
m = sampler slope

b = sampler intercept

I = chart response

Tav = daily average temperature

Pav = daily average pressure



## TSP SAMPLER CALIBRATION CALCULATION SPREADSHEET

Location : Ha Pak Nai	Date of Calibration: 27 Jan 24
Location ID : AM(D)3	Next Calibration Date: 27 Mar 24
Model: TISCH High Volume Air Sampler TE-5170	Technician: Gary Ng

CONDITIONS			
Sea Level Pressure (hPa)	1025.8	Corrected Pressure (mm Hg)	769.35
Temperature (°C)	15.5	Temperature (K)	289

CALIBRATION ORIFICE			
Make->	TISCH	Qstd Slope ->	2.13163
Model->	5025A	Qstd Intercept ->	-0.03523
Serial # ->	1941		

CALIBRATION							LINEAR REGRESSION
Plate No.	H2O (L) (in)	H2O (R) (in)	H2O (in)	Qstd (m3/min)	I (chart)	IC corrected	
18	10.70	2.50	13.2	1.759	51	53.00	Slope = 33.2081 Intercept = -4.9916 Corr. coeff. = 0.9994
13	9.50	1.10	10.6	1.578	46	47.81	
10	8.30	-0.10	8.2	1.390	40	41.57	
7	6.90	-1.50	5.4	1.131	31	32.22	
5	5.90	-2.50	3.4	0.901	24	24.94	

**Calculations :**

$$Qstd = 1/m[\text{Sqrt}(H2O(Pa/Pstd)(Tstd/Ta))-b]$$

$$IC = I[\text{Sqrt}(Pa/Pstd)(Tstd/Ta)]$$

Qstd = standard flow rate

IC = corrected chart responses

I = actual chart response

m = calibrator Qstd slope

b = calibrator Qstd intercept

Ta = actual temperature during calibration ( deg K

Pstd = actual pressure during calibration ( mm Hg

**For subsequent calculation of sampler flow:**

$$1/m(( I )[\text{Sqrt}(298/Tav)(Pav/760)]-b)$$

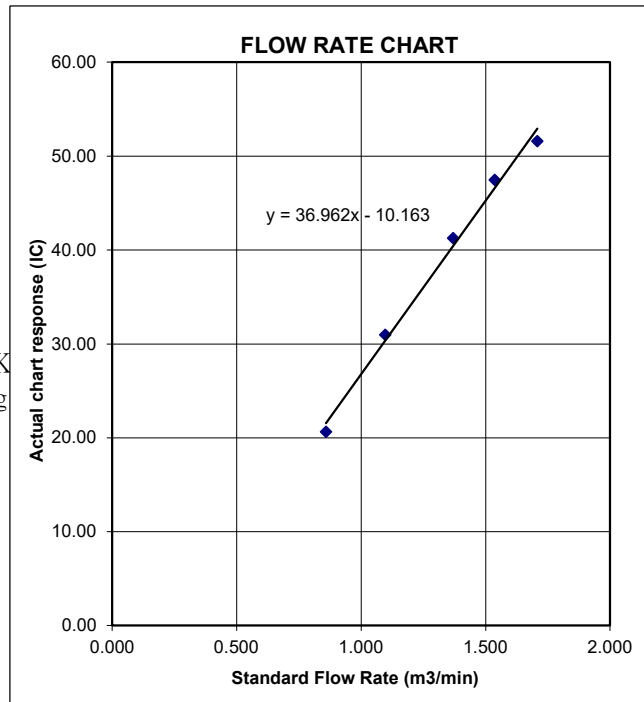
m = sampler slope

b = sampler intercept

I = chart response

Tav = daily average temperature

Pav = daily average pressure



## TSP SAMPLER CALIBRATION CALCULATION SPREADSHEET

Location : Lung Kwu Sheung Tan	Date of Calibration: 26 Jan 24
Location ID : AM(D)5	Next Calibration Date: 26 Mar 24
Model: TISCH High Volume Air Sampler TE-5170	Technician: Gary Ng

### CONDITIONS

Sea Level Pressure (hPa) <span style="float: right;">1027.3</span>	Corrected Pressure (mm Hg) <span style="float: right;">770.475</span>
Temperature (°C) <span style="float: right;">15.0</span>	Temperature (K) <span style="float: right;">288</span>

### CALIBRATION ORIFICE

Make-> TISCH	Qstd Slope -> 2.13163
Model-> 5025A	Qstd Intercept -> -0.03523
Serial # -> 1941	

### CALIBRATION

Plate No.	H2O (L) (in)	H2O (R) (in)	H2O (in)	Qstd (m3/min)	I (chart)	IC corrected	LINEAR REGRESSION
18	10.50	2.60	13.1	1.756	50	52.09	Slope = 36.0746 Intercept = -9.8494 Corr. coeff. = 0.9964
13	9.20	1.30	10.5	1.573	46	47.92	
10	8.10	0.30	8.4	1.409	40	41.67	
7	6.50	-1.20	5.3	1.123	30	31.25	
5	5.50	-2.30	3.2	0.876	20	20.84	

#### Calculations :

$$Qstd = 1/m[\text{Sqrt}(H2O(Pa/Pstd)(Tstd/Ta))-b]$$

$$IC = I[\text{Sqrt}(Pa/Pstd)(Tstd/Ta)]$$

Qstd = standard flow rate

IC = corrected chart responses

I = actual chart response

m = calibrator Qstd slope

b = calibrator Qstd intercept

Ta = actual temperature during calibration ( deg K

Pstd = actual pressure during calibration ( mm Hg

#### For subsequent calculation of sampler flow:

$$1/m(( I )[\text{Sqrt}(298/Tav)(Pav/760)]-b)$$

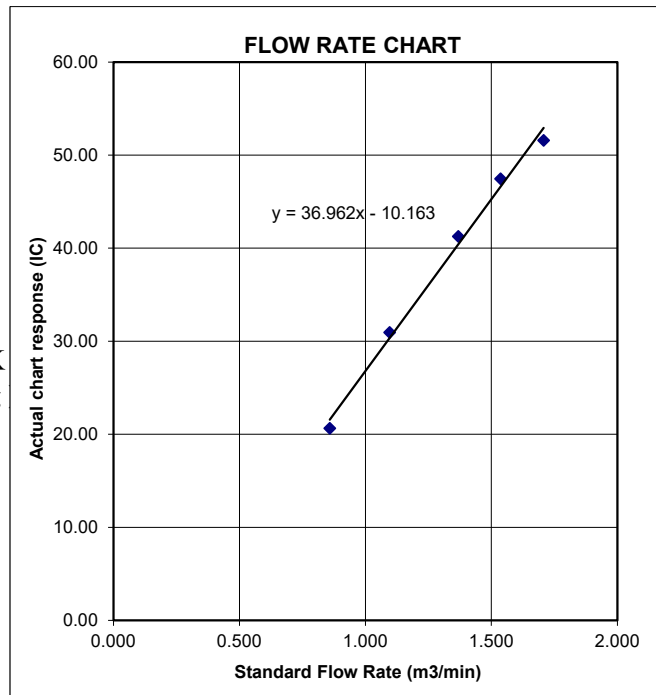
m = sampler slope

b = sampler intercept

I = chart response

Tav = daily average temperature

Pav = daily average pressure



## TSP SAMPLER CALIBRATION CALCULATION SPREADSHEET

Location : Lung Kwu Sheung Tan

Date of Calibration: 18 Mar 24

Location ID : AM(D)5a

Next Calibration Date: 18 May 24

Model:TISCH High Volume Air Sampler TE-5170

Technician: Summer Leung

### CONDITIONS

Sea Level Pressure (hPa) 1016.2  
 Temperature (°C) 21.0

Corrected Pressure (mm Hg) 762.15  
 Temperature (K) 294

### CALIBRATION ORIFICE

Make-> TISCH  
 Model-> 5025A  
 Serial # -> 1941

Qstd Slope -> 2.13163  
 Qstd Intercept -> -0.03523

### CALIBRATION

Plate No.	H2O (L) (in)	H2O (R) (in)	H2O (in)	Qstd (m3/min)	I (chart)	IC corrected	LINEAR REGRESSION		
							Slope =	Intercept =	Corr. coeff. =
18	6.90	5.70	12.6	1.695	52	52.78	Slope = 31.4983 Intercept = -0.2832 Corr. coeff. = 0.9991		
13	5.60	4.90	10.5	1.549	48	48.72			
10	4.60	3.50	8.1	1.363	42	42.63			
7	3.10	2.00	5.1	1.085	34	34.51			
5	2.10	1.10	3.2	0.863	26	26.39			

**Calculations :**

$$Qstd = 1/m[\text{Sqrt}(H2O(Pa/Pstd)(Tstd/Ta))-b]$$

$$IC = I[\text{Sqrt}(Pa/Pstd)(Tstd/Ta)]$$

Qstd = standard flow rate

IC = corrected chart responses

I = actual chart response

m = calibrator Qstd slope

b = calibrator Qstd intercept

Ta = actual temperature during calibration ( deg K

Pstd = actual pressure during calibration ( mm Hg

**For subsequent calculation of sampler flow:**

$$1/m(( I )[\text{Sqrt}(298/Tav)(Pav/760)]-b)$$

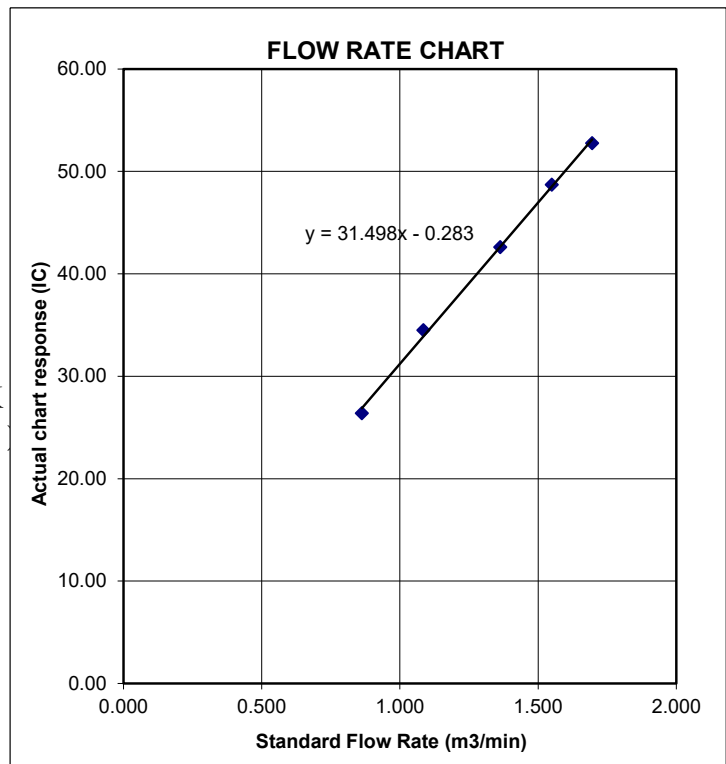
m = sampler slope

b = sampler intercept

I = chart response

Tav = daily average temperature

Pav = daily average pressure



## TSP SAMPLER CALIBRATION CALCULATION SPREADSHEET

Location : Roof Top of T-Park Workshop	Date of Calibration: 31 Jan 24
Location ID : AM(D)6a	Next Calibration Date: 31 Mar 24
Model: TISCH High Volume Air Sampler TE-5170	Technician: Gary Ng

CONDITIONS			
Sea Level Pressure (hPa)	1017.2	Corrected Pressure (mm Hg)	762.9
Temperature (°C)	20.1	Temperature (K)	293

CALIBRATION ORIFICE			
Make->	TISCH	Qstd Slope ->	2.13163
Model->	5025A	Qstd Intercept ->	-0.03523
Serial # ->	1941		

CALIBRATION							LINEAR REGRESSION
Plate No.	H2O (L) (in)	H2O (R) (in)	H2O (in)	Qstd (m3/min)	I (chart)	IC corrected	
18	5.50	7.30	12.8	1.712	50	50.93	Slope = 31.7074 Intercept = -2.2772 Corr. coeff. = 0.9948
13	4.10	5.90	10.0	1.515	46	46.86	
10	3.10	4.90	8.0	1.357	40	40.75	
7	1.60	3.30	4.9	1.066	32	32.60	
5	0.90	2.40	3.3	0.877	24	24.45	

**Calculations :**

$$Q_{std} = 1/m[\text{Sqrt}(H_{20}(P_a/P_{std})(T_{std}/T_a))-b]$$

$$IC = I[\text{Sqrt}(P_a/P_{std})(T_{std}/T_a)]$$

Qstd = standard flow rate

IC = corrected chart responses

I = actual chart response

m = calibrator Qstd slope

b = calibrator Qstd intercept

Ta = actual temperature during calibration ( deg K)

Pstd = actual pressure during calibration ( mm Hg)

**For subsequent calculation of sampler flow:**

$$1/m(( I )[\text{Sqrt}(298/T_{av})(P_{av}/760)]-b)$$

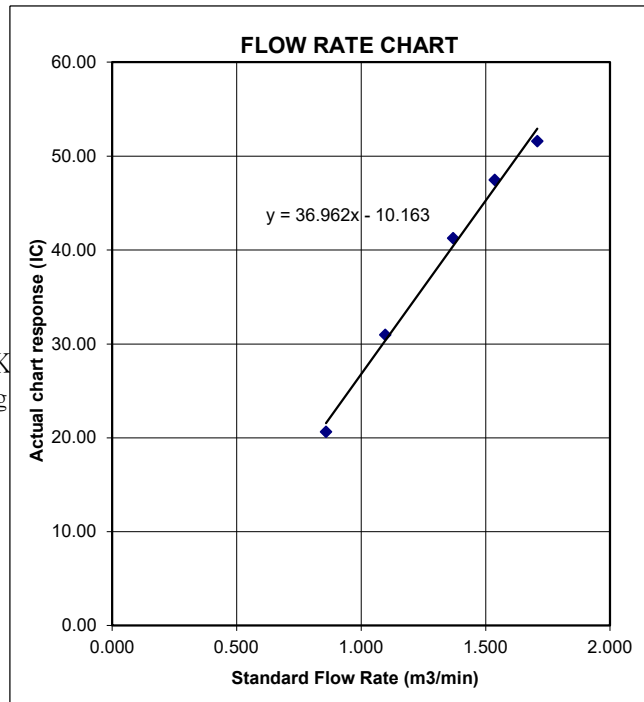
m = sampler slope

b = sampler intercept

I = chart response

Tav = daily average temperature

Pav = daily average pressure



## TSP SAMPLER CALIBRATION CALCULATION SPREADSHEET

Location : Site Boundary of Middle Ash Lagoon      Date of Calibration: 9 Feb 24  
 Location ID : AM(D)7a      Next Calibration Date: 9 Apr 24  
 Model: TISCH High Volume Air Sampler TE-5170      Technician: Gary Ng

### CONDITIONS

Sea Level Pressure (hPa) 1025.2      Corrected Pressure (mm Hg) 768.9  
 Temperature (°C) 12.4      Temperature (K) 285

### CALIBRATION ORIFICE

Make-> TISCH      Qstd Slope -> 2.13163  
 Model-> 5025A      Qstd Intercept -> -0.03523  
 Serial # -> 1941

### CALIBRATION

Plate No.	H2O (L) (in)	H2O (R) (in)	H2O (in)	Qstd (m3/min)	I (chart)	IC corrected	LINEAR REGRESSION
18	5.60	7.90	13.5	1.788	54	56.71	Slope = 29.9695 Intercept = 4.8874 Corr. coeff. = 0.9919
13	4.00	5.90	9.9	1.534	50	52.51	
10	2.80	4.80	7.6	1.346	44	46.21	
7	1.60	3.40	5.0	1.095	36	37.81	
5	0.60	2.40	3.0	0.852	28	29.41	

**Calculations :**

$$Q_{std} = 1/m[\text{Sqrt}(H_2O(P_a/P_{std})(T_{std}/T_a))-b]$$

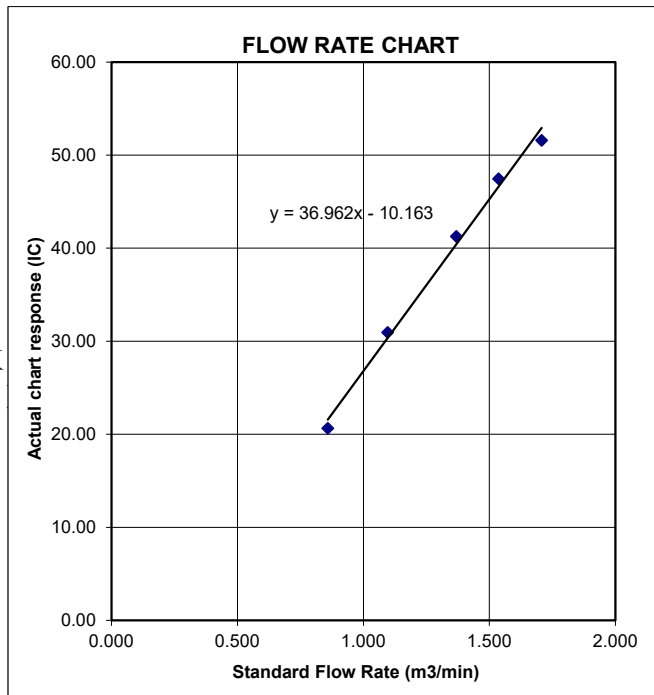
$$IC = I[\text{Sqrt}(P_a/P_{std})(T_{std}/T_a)]$$

Qstd = standard flow rate  
 IC = corrected chart responses  
 I = actual chart response  
 m = calibrator Qstd slope  
 b = calibrator Qstd intercept  
 Ta = actual temperature during calibration ( deg K)  
 Pstd = actual pressure during calibration ( mm Hg)

**For subsequent calculation of sampler flow:**

$$1/m(( I )[\text{Sqrt}(298/T_{av})(P_{av}/760)]-b)$$

m = sampler slope  
 b = sampler intercept  
 I = chart response  
 Tav = daily average temperature  
 Pav = daily average pressure



# Certificate of Calibration

Calibration Certification Information			
Cal. Date: December 15, 2023	Rootsmeter S/N: 438320	Ta: 295	°K
Operator: Jim Tisch		Pa: 748.5	mm Hg
Calibration Model #: TE-5025A	Calibrator S/N: <b>1941</b>		

Run	Vol. Init (m3)	Vol. Final (m3)	ΔVol. (m3)	ΔTime (min)	ΔP (mm Hg)	ΔH (in H2O)
1	1	2	1	1.4590	3.2	2.00
2	3	4	1	1.0360	6.4	4.00
3	5	6	1	0.9260	8.0	5.00
4	7	8	1	0.8840	8.9	5.50
5	9	10	1	0.7290	12.9	8.00

Data Tabulation					
Vstd (m3)	Qstd (x-axis)	$\sqrt{\Delta H \left( \frac{Pa}{Pstd} \right) \left( \frac{Tstd}{Ta} \right)}$ (y-axis)	Va	Qa (x-axis)	$\sqrt{\Delta H (Ta/Pa)}$ (y-axis)
0.9907	0.6790	1.4106	0.9957	0.6825	0.8878
0.9864	0.9522	1.9949	0.9914	0.9570	1.2556
0.9843	1.0630	2.2304	0.9893	1.0684	1.4037
0.9831	1.1121	2.3393	0.9881	1.1178	1.4723
0.9778	1.3413	2.8213	0.9828	1.3481	1.7756
<b>QSTD</b>	<b>m=</b>	<b>2.13163</b>	<b>QA</b>	<b>m=</b>	<b>1.33479</b>
	<b>b=</b>	<b>-0.03523</b>		<b>b=</b>	<b>-0.02217</b>
	<b>r=</b>	<b>0.99999</b>		<b>r=</b>	<b>0.99999</b>

Calculations	
Vstd= $\Delta Vol((Pa-\Delta P)/Pstd)(Tstd/Ta)$	Va= $\Delta Vol((Pa-\Delta P)/Pa)$
Qstd= $Vstd/\Delta Time$	Qa= $Va/\Delta Time$
<b>For subsequent flow rate calculations:</b>	
Qstd= $1/m \left( \left( \sqrt{\Delta H \left( \frac{Pa}{Pstd} \right) \left( \frac{Tstd}{Ta} \right)} \right) - b \right)$	Qa= $1/m \left( \left( \sqrt{\Delta H (Ta/Pa)} \right) - b \right)$

Standard Conditions	
Tstd:	298.15 °K
Pstd:	760 mm Hg
Key	
ΔH:	calibrator manometer reading (in H2O)
ΔP:	rootsmeter manometer reading (mm Hg)
Ta:	actual absolute temperature (°K)
Pa:	actual barometric pressure (mm Hg)
b:	intercept
m:	slope

RECALIBRATION
US EPA recommends annual recalibration per 1998 40 Code of Federal Regulations Part 50 to 51, Appendix B to Part 50, Reference Method for the Determination of Suspended Particulate Matter in the Atmosphere, 9.2.17, page 30

## **Appendix A2**

### **Detailed 1-hour and 24-hour TSP Air Quality Monitoring Data**

### Baseline 1-hour TSP Air Quality Monitoring Results

Date	AM(D)1					Date	AM(D)2					Date	AM(D)3					Date	AM(D)5				
	Start Time	1st hour	2nd hour	3rd hour	Equipment No.		Start Time	1st hour	2nd hour	3rd hour	Equipment No.		Start Time	1st hour	2nd hour	3rd hour	Equipment No.		Start Time	1st hour	2nd hour	3rd hour	Equipment No.
26-Jan-24	10:09	62	54	71	EQ110	26-Jan-24	13:16	64	53	79	EQ108	26-Jan-24	10:27	72	63	79	EQ105	26-Jan-24	15:15	340	209	82	EQ105
27-Jan-24	10:20	47	56	57	EQ108	27-Jan-24	10:24	73	76	96	EQ110	27-Jan-24	10:26	102	120	110	EQ101	27-Jan-24	09:35	279	304	385	EQ107
28-Jan-24	11:10	43	54	49	EQ110	28-Jan-24	11:20	54	45	67	EQ108	28-Jan-24	11:30	66	76	52	EQ107	28-Jan-24	10:05	53	62	97	EQ105
29-Jan-24	11:08	69	65	66	EQ105	29-Jan-24	10:59	92	94	96	EQ108	29-Jan-24	12:45	103	119	105	EQ107	29-Jan-24	10:00	171	158	171	EQ110
30-Jan-24	10:55	215	210	234	EQ105	30-Jan-24	10:50	212	253	199	EQ108	30-Jan-24	11:10	355	365	355	EQ107	30-Jan-24	10:00	272	279	311	EQ110
31-Jan-24	10:08	59	66	49	EQ107	31-Jan-24	10:05	50	70	57	EQ108	31-Jan-24	13:21	90	74	70	EQ108	31-Jan-24	09:20	339	414	257	EQ110
1-Feb-24	09:10	65	98	81	EQ105	1-Feb-24	12:50	84	60	62	EQ108	1-Feb-24	12:45	68	88	84	EQ105	1-Feb-24	12:00	256	464	267	EQ110
2-Feb-24	14:13	79	86	73	EQ108	2-Feb-24	14:00	158	152	178	EQ107	2-Feb-24	10:15	121	132	142	EQ107	2-Feb-24	13:00	360	205	276	EQ110
3-Feb-24	13:47	188	152	131	EQ107	3-Feb-24	10:21	80	63	66	EQ107	3-Feb-24	13:30	189	160	126	EQ108	3-Feb-24	12:37	276	337	257	EQ110
4-Feb-24	09:33	121	131	146	EQ107	4-Feb-24	13:15	53	56	56	EQ108	4-Feb-24	13:00	69	57	85	EQ107	4-Feb-24	12:00	74	38	135	EQ110
5-Feb-24	14:56	236	215	254	EQ107	5-Feb-24	15:08	218	190	235	EQ108	5-Feb-24	11:02	206	170	180	EQ108	5-Feb-24	13:36	394	212	292	EQ110
6-Feb-24	14:41	90	111	102	EQ107	6-Feb-24	11:19	77	90	97	EQ110	6-Feb-24	11:31	217	261	271	EQ107	6-Feb-24	10:10	139	103	162	EQ108
7-Feb-24	13:30	69	87	59	EQ107	7-Feb-24	13:25	64	50	79	EQ108	7-Feb-24	09:47	72	69	76	EQ107	7-Feb-24	11:51	148	162	158	EQ110
8-Feb-24	14:00	84	74	79	EQ108	8-Feb-24	13:54	66	53	56	EQ107	8-Feb-24	10:02	70	63	67	EQ107	8-Feb-24	12:48	131	133	157	EQ110
Average : 103 µg/m3						Average : 97 µg/m3						Average : 129 µg/m3						Average : 222 µg/m3					
Min : 43 µg/m3						Min : 45 µg/m3						Min : 57 µg/m3						Min : 38 µg/m3					
Max : 254 µg/m3						Max : 253 µg/m3						Max : 365 µg/m3						Max : 464 µg/m3					

Date	AM(D)5a					Date	AM(D)6a					Date	AM(D)7a				
	Start Time	1st hour	2nd hour	3rd hour	Equipment No.		Start Time	1st hour	2nd hour	3rd hour	Equipment No.		Start Time	1st hour	2nd hour	3rd hour	Equipment No.
16-Mar-24	11:20	96	74	117	EQ105	31-Jan-24	11:45	57	49	65	EQ110	26-Jan-24	13:52	105	121	154	EQ110
17-Mar-24	09:20	86	77	102	EQ105	1-Feb-24	13:50	66	78	47	EQ108	27-Jan-24	09:55	162	195	170	EQ105
18-Mar-24	11:40	134	152	150	EQ105	2-Feb-24	13:45	58	62	53	EQ110	28-Jan-24	12:30	115	108	111	EQ101
19-Mar-24	09:10	255	313	274	EQ105	3-Feb-24	14:30	81	63	60	EQ105	29-Jan-24	10:26	167	176	177	EQ101
20-Mar-24	13:40	122	140	149	EQ105	4-Feb-24	11:40	51	43	48	EQ105	30-Jan-24	10:25	317	326	348	EQ101
21-Mar-24	08:50	176	233	219	EQ105	5-Feb-24	13:50	47	43	41	EQ107	31-Jan-24	09:46	98	91	85	EQ101
22-Mar-24	11:00	110	124	152	EQ105	6-Feb-24	11:55	42	56	63	EQ105	1-Feb-24	12:22	150	131	98	EQ101
23-Mar-24	11:00	69	83	66	EQ105	7-Feb-24	12:30	44	58	41	EQ108	2-Feb-24	13:26	208	137	114	EQ101
24-Mar-24	14:20	166	180	142	EQ105	8-Feb-24	12:20	54	41	43	EQ107	3-Feb-24	13:00	56	83	70	EQ101
25-Mar-24	07:30	177	209	255	EQ105	9-Feb-24	10:51	46	53	58	EQ107	4-Feb-24	12:14	76	68	63	EQ101
26-Mar-24	08:30	304	331	295	EQ105	10-Feb-24	12:55	77	84	85	EQ107	5-Feb-24	14:28	58	72	82	EQ101
27-Mar-24	09:00	271	242	266	EQ105	11-Feb-24	09:40	98	116	123	EQ107	6-Feb-24	10:45	101	124	137	EQ101
28-Mar-24	09:15	384	483	454	EQ105	12-Feb-24	09:43	101	103	121	EQ107	7-Feb-24	12:09	60	96	76	EQ101
29-Mar-24	10:10	71	52	88	EQ105	13-Feb-24	08:50	98	101	103	EQ108	8-Feb-24	12:33	52	51	61	EQ101
Average : 187 µg/m3						Average : 67 µg/m3						Average : 125 µg/m3					
Min : 52 µg/m3						Min : 41 µg/m3						Min : 51 µg/m3					
Max : 483 µg/m3						Max : 123 µg/m3						Max : 348 µg/m3					

**Baseline Monitoring Results for 24-hour TSP at Location AM(D)1**

Date of Calibration: 26 Jan 24      Slope = 36.9625  
 Next Calibration Date: 26 Mar 24      Intercept = -10.1633

DATE	SAMPLE NUMBER	ELAPSED TIME			CHART READING			AVG TEMP (°C)	STANDARD			INITIAL FILTER WEIGHT (g)	FINAL FILTER WEIGHT (g)	WEIGHT DUST COLLECTED (g)	DUST (µg/m <sup>3</sup> ) 24-hour TSP in air Dust Concentration
		INITIAL	FINAL	ACTUAL (min)	MIN	MAX	AVG		AVG PRESS (hPa)	FLOW RATE (m <sup>3</sup> /min)	AIR VOLUME (std m <sup>3</sup> )				
27 Jan 24	20017	17493.31	17517.85	1472.40	44	46	45.0	15.5	1025.8	1.52	2238	2.7854	2.9074	0.1220	55
28 Jan 24	20028	17517.85	17541.83	1438.80	44	46	45.0	13.7	1026.4	1.52	2193	2.7815	2.8839	0.1024	47
29 Jan 24	20020	17541.83	17565.65	1429.20	44	46	45.0	15.9	1023.4	1.52	2169	2.7828	2.9521	0.1693	78
30 Jan 24	20034	17565.65	17588.84	1391.40	44	46	45.0	18.3	1020.7	1.51	2102	2.7823	2.9464	0.1641	78
31 Jan 24	20039	17588.84	17612.43	1415.40	44	46	45.0	19.3	1019.4	1.51	2134	2.7529	2.8287	0.0758	36
1 Feb 24	20044	17612.43	17636.44	1440.60	44	46	45.0	21.1	1018	1.50	2166	2.7641	2.8330	0.0689	32
2 Feb 24	20047	17636.44	17660.11	1420.20	44	46	45.0	21.7	1017.6	1.50	2133	2.7540	2.8029	0.0489	23
3 Feb 24	20055	17660.11	17683.83	1423.20	40	42	41.0	19.6	1018.8	1.40	1989	2.7760	2.8277	0.0517	26
4 Feb 24	20059	17683.83	17707.85	1441.20	44	46	45.0	19.8	1017.3	1.51	2170	2.7673	2.8448	0.0775	36
5 Feb 24	20065	17707.85	17730.94	1385.40	44	46	45.0	20.4	1018.8	1.51	2085	2.7679	2.8514	0.0835	40
6 Feb 24	20071	17730.94	17754.20	1395.60	40	42	41.0	19.1	1019.6	1.40	1952	2.7674	2.8288	0.0614	31
7 Feb 24	20076	17754.20	17778.22	1441.20	37	38	37.5	16.8	1017.3	1.31	1882	2.7627	2.7821	0.0194	10
8 Feb 24	20080	17778.22	17802.23	1440.60	44	45	44.5	13	1018.8	1.51	2171	2.7657	2.7879	0.0222	10
9-Feb-24	20088	17802.23	17826.23	1440.00	44	45	44.5	12.7	1023.5	1.51	2175	2.7614	2.8439	0.0825	38

Average	39
Min	10
Max	78
Action Level *	155
Limit Level #	260

\*For baseline level ≤ 200 µg/m<sup>3</sup>, Action level = (Baseline Level x 1.3 + Limit level)/2  
 # Limit Level = 260 µg/m<sup>3</sup>

**Baseline Monitoring Results for 24-hour TSP at Location AM(D)2**

Date of Calibration: 29 Jan 24      Slope = 32.4627  
 Next Calibration Date: 29 Mar 24      Intercept = -0.8985

DATE	SAMPLE NUMBER	ELAPSED TIME			CHART READING			AVG TEMP (°C)	STANDARD			INITIAL FILTER WEIGHT (g)	FINAL FILTER WEIGHT (g)	WEIGHT DUST COLLECTED (g)	DUST (µg/m <sup>3</sup> ) 24-hour TSP in air Dust Concentration
		INITIAL	FINAL	ACTUAL (min)	MIN	MAX	AVG		AVG PRESS (hPa)	FLOW RATE (m <sup>3</sup> /min)	AIR VOLUME (std m <sup>3</sup> )				
29 Jan 24	20021	6379.42	6402.67	1395.00	40	42	41.0	15.9	1023.4	1.32	1837	2.7773	2.9100	0.1327	72
30 Jan 24	20033	6402.67	6426.05	1402.80	40	42	41.0	18.3	1020.7	1.31	1837	2.7703	2.9115	0.1412	77
31 Jan 24	20037	6426.05	6449.62	1414.20	40	42	41.0	19.3	1019.4	1.31	1848	2.7614	2.8296	0.0682	37
1 Feb 24	20042	6449.62	6472.96	1400.40	38	40	39.0	21.1	1018	1.24	1736	2.7496	2.8072	0.0576	33
2 Feb 24	20045	6472.96	6495.87	1374.60	42	44	43.0	21.7	1017.6	1.36	1873	2.7533	2.8059	0.0526	28
3 Feb 24	20054	6495.87	6519.06	1391.40	30	32	31.0	19.6	1018.8	0.99	1383	2.7734	2.8045	0.0311	22
4 Feb 24	20060	6519.06	6542.95	1433.40	38	40	39.0	19.8	1017.3	1.24	1780	2.7674	2.8263	0.0589	33
5 Feb 24	20066	6542.95	6566.06	1386.60	40	42	41.0	20.4	1018.8	1.30	1808	2.7802	2.8753	0.0951	53
6 Feb 24	20070	6566.06	6589.07	1380.60	39	41	40.0	19.1	1019.6	1.28	1762	2.7634	2.8155	0.0521	30
7 Feb 24	20075	6589.07	6613.03	1437.60	41	42	41.5	16.8	1017.3	1.33	1907	2.7663	2.7923	0.0260	14
8 Feb 24	20079	6613.03	6636.47	1406.40	36	38	37.0	13	1018.8	1.19	1680	2.7639	2.7839	0.0200	12
9 Feb 24	20087	6636.47	6659.86	1403.40	40	42	41.0	12.7	1023.5	1.32	1858	2.7588	2.8536	0.0948	51
10 Feb 24	20110	6659.86	6682.80	1376.40	40	43	41.5	14.4	1026.5	1.34	1841	2.7608	2.8614	0.1006	55
11 Feb 24	20111	6682.80	6705.89	1385.40	42	42	42.0	17.4	1026.9	1.35	1866	2.7450	2.8334	0.0884	47

Average	40
Min	12
Max	77
Action Level *	156
Limit Level #	260

\*For baseline level ≤ 200 µg/m<sup>3</sup>, Action level = (Baseline Level x 1.3 + Limit level)/2  
 # Limit Level = 260 µg/m<sup>3</sup>

**Baseline Monitoring Results for 24-hour TSP at Location AM(D)3**

Date of Calibration: 27 Jan 24      Slope = 33.2081  
 Next Calibration Date: 27 Mar 24      Intercept = -4.9916

DATE	SAMPLE NUMBER	ELAPSED TIME			CHART READING			AVG TEMP (°C)	STANDARD			INITIAL FILTER WEIGHT (g)	FINAL FILTER WEIGHT (g)	WEIGHT DUST COLLECTED (g)	DUST (µg/m <sup>3</sup> ) 24-hour TSP in air Dust Concentration
		INITIAL	FINAL	ACTUAL (min)	MIN	MAX	AVG		AVG PRESS (hPa)	FLOW RATE (m <sup>3</sup> /min)	AIR VOLUME (std m <sup>3</sup> )				
27 Jan 24	20018	18586.94	18610.96	1441.20	36	38	37.0	15.5	1025.8	1.29	1859	2.7692	2.8862	0.1170	63
28 Jan 24	20029	18610.96	18634.96	1440.00	36	38	37.0	13.7	1026.4	1.29	1863	2.7883	2.8877	0.0994	53
29 Jan 24	20022	18634.96	18658.14	1390.80	36	38	37.0	15.9	1023.4	1.29	1791	2.7823	2.8760	0.0937	52
30 Jan 24	20032	18658.14	18682.14	1440.00	36	38	37.0	18.3	1020.7	1.28	1845	2.7651	2.8760	0.1109	60
31 Jan 24	20038	18682.14	18706.66	1471.20	40	42	41.0	19.3	1019.4	1.40	2061	2.7745	2.8525	0.0780	38
1 Feb 24	20041	18706.66	18730.66	1440.00	42	44	43.0	21.1	1018	1.46	2098	2.7542	2.8427	0.0885	42
2 Feb 24	20048	18730.66	18754.09	1405.80	44	44	44.0	21.7	1017.6	1.49	2088	2.7588	2.8096	0.0508	24
3 Feb 24	20053	18754.09	18777.25	1389.60	36	38	37.0	19.6	1018.8	1.28	1776	2.7708	2.8104	0.0396	22
4 Feb 24	20058	18777.25	18801.23	1438.80	36	38	37.0	19.8	1017.3	1.28	1837	2.7692	2.8142	0.0450	25
5 Feb 24	20064	18801.23	18824.25	1381.20	39	41	40.0	20.4	1018.8	1.37	1889	2.7704	2.8836	0.1132	60
6 Feb 24	20069	18824.25	18847.32	1384.20	38	40	39.0	19.1	1019.6	1.34	1855	2.7668	2.8375	0.0707	38
7 Feb 24	20074	18847.32	18871.33	1440.60	43	44	43.5	16.8	1017.3	1.48	2134	2.7704	2.7963	0.0259	12
8 Feb 24	20078	18871.33	18895.33	1440.00	32	32	32.0	13	1018.8	1.14	1637	2.7673	2.7848	0.0175	11
9 Feb 24	20086	18895.33	18919.34	1440.60	34	38	36.0	12.7	1023.5	1.26	1820	2.7764	2.8477	0.0713	39

Average	39
Min	11
Max	63
Action Level *	155
Limit Level #	260

\*For baseline level ≤ 200 µg/m<sup>3</sup>, Action level = (Baseline Level x 1.3 + Limit level)/2  
 # Limit Level = 260 µg/m<sup>3</sup>

**Baseline Monitoring Results for 24-hour TSP at Location AM(D)5**

Date of Calibration: 26 Jan 24      Slope = 36.0746  
 Next Calibration Date: 26 Mar 24      Intercept = -9.8494

DATE	SAMPLE NUMBER	ELAPSED TIME			CHART READING			AVG TEMP (°C)	STANDARD			INITIAL FILTER WEIGHT (g)	FINAL FILTER WEIGHT (g)	WEIGHT DUST COLLECTED (g)	DUST (µg/m <sup>3</sup> ) 24-hour TSP in air Dust Concentration
		INITIAL	FINAL	ACTUAL (min)	MIN	MAX	AVG		AVG PRESS (hPa)	FLOW RATE (m <sup>3</sup> /min)	AIR VOLUME (std m <sup>3</sup> )				
27 Jan 24	20016	0.14	24.15	1440.60	38	40	39.0	15.5	1025.8	1.38	1986	2.7749	3.4695	0.6946	350
28 Jan 24	20027	24.15	47.80	1419.00	38	40	39.0	13.7	1026.4	1.38	1961	2.8001	2.9280	0.1279	65
29 Jan 24	20019	47.80	71.81	1440.60	38	40	39.0	15.9	1023.4	1.38	1983	2.7894	3.2745	0.4851	245
30 Jan 24	20031	71.81	94.97	1389.60	38	40	39.0	18.3	1020.7	1.37	1904	2.7781	3.6977	0.9196	483
31 Jan 24	20035	94.97	118.97	1440.00	40	42	41.0	19.3	1019.4	1.42	2051	2.7840	4.1238	1.3398	653
1 Feb 24	20040	118.97	142.98	1440.60	42	44	43.0	21.1	1018	1.48	2126	2.7608	4.2508	1.4900	701
2 Feb 24	20049	142.98	166.58	1416.00	40	42	41.0	21.7	1017.6	1.42	2008	2.7639	4.3766	1.6127	803
3 Feb 24	20052	166.58	189.70	1387.20	42	44	43.0	19.6	1018.8	1.48	2052	2.7873	3.6873	0.9000	439
4 Feb 24	20057	189.70	213.72	1441.20	38	40	39.0	19.8	1017.3	1.37	1968	2.7687	3.4317	0.6630	337
5 Feb 24	20062	213.72	236.79	1384.20	43	44	43.5	20.4	1018.8	1.49	2065	2.7804	3.8668	1.0864	526
6 Feb 24	20067	236.79	259.80	1380.60	33	37	35.0	19.1	1019.6	1.26	1734	2.7757	3.2200	0.4443	256
7 Feb 24	20072	259.80	283.81	1440.60	44	44	44.0	16.8	1017.3	1.51	2179	2.7628	2.8361	0.0733	34
8 Feb 24	20077	283.81	307.81	1440.00	43	44	43.5	13	1018.8	1.51	2170	2.7668	2.8140	0.0472	22
9 Feb 24	20085	307.81	331.82	1440.60	38	40	39.0	12.7	1023.5	1.38	1992	2.7676	2.8699	0.1023	51

Average	355
Min	22
Max	803
Action Level *	360
Limit Level #	260

\*For baseline level ≤ 200 µg/m<sup>3</sup>, Action level = (Baseline Level x 1.3 + Limit level)/2  
 # Limit Level = 260 µg/m<sup>3</sup>

**Baseline Monitoring Results for 24-hour TSP at Location AM(D)6a**

Date of Calibration: 31 Jan 24      Slope = 31.7074  
 Next Calibration Date: 31 Mar 24      Intercept = -2.2772

DATE	SAMPLE NUMBER	ELAPSED TIME			CHART READING			AVG TEMP (°C)	STANDARD			INITIAL FILTER WEIGHT (g)	FINAL FILTER WEIGHT (g)	WEIGHT DUST COLLECTED (g)	DUST (µg/m <sup>3</sup> ) 24-hour TSP in air Dust Concentration
		INITIAL	FINAL	ACTUAL (min)	MIN	MAX	AVG		AVG PRESS (hPa)	FLOW RATE (m <sup>3</sup> /min)	AIR VOLUME (std m <sup>3</sup> )				
31 Jan 24	20036	18371.24	18394.42	1390.80	48	50	49.0	19.3	1019.4	1.64	2277	2.7500	2.8745	0.1245	55
1 Feb 24	20043	18394.42	18417.61	1391.40	44	46	45.0	21.1	1018	1.50	2092	2.7563	2.8605	0.1042	50
2 Feb 24	20046	18417.61	18441.34	1423.80	44	45	44.5	21.7	1017.6	1.49	2116	2.7490	2.8399	0.0909	43
3 Feb 24	20056	18441.34	18465.42	1444.80	50	52	51.0	19.6	1018.8	1.70	2455	2.7760	2.8663	0.0903	37
4 Feb 24	20061	18465.42	18488.42	1380.00	38	44	41.0	19.8	1017.3	1.38	1903	2.7659	2.8430	0.0771	41
5 Feb 24	20063	18488.42	18511.50	1384.80	36	38	37.0	20.4	1018.8	1.25	1732	2.7649	2.8749	0.1100	63
6 Feb 24	20068	18511.50	18533.29	1307.40	38	40	39.0	19.1	1019.6	1.32	1723	2.7861	2.8654	0.0793	46
7 Feb 24	20073	18533.29	18557.23	1436.40	40	42	41.0	16.8	1017.3	1.39	1990	2.7719	2.8037	0.0318	16
8 Feb 24	20081	18557.23	18580.88	1419.00	44	44	44.0	13	1018.8	1.49	2117	2.7647	2.7941	0.0294	14
9 Feb 24	20089	18580.88	18604.92	1442.40	53	54	53.5	12.7	1023.5	1.80	2602	2.7620	2.8660	0.1040	40
10 Feb 24	20112	18604.92	18628.80	1432.80	36	38	37.0	14.4	1026.5	1.27	1816	2.7581	2.8570	0.0989	54
11 Feb 24	20113	18628.80	18652.23	1405.80	37	38	37.5	17.4	1026.9	1.28	1796	2.7420	2.8323	0.0903	50
12 Feb 24	20114	18652.23	18675.81	1414.80	37	38	37.5	18.1	1025.8	1.28	1805	2.7456	2.8608	0.1152	64
13 Feb 24	20115	18675.81	18699.39	1414.80	37	38	37.5	19.2	1023.2	1.27	1800	2.7458	2.8544	0.1086	60

Average	45
Min	14
Max	64
Action Level *	159
Limit Level #	260

\*For baseline level ≤ 200 µg/m<sup>3</sup>, Action level = (Baseline Level x 1.3 + Limit level)/2  
 # Limit Level = 260 µg/m<sup>3</sup>

**Baseline Monitoring Results for 24-hour TSP at Location AM(D)7a**

Date of Calibration: 9 Feb 24      Slope = 29.9695  
 Next Calibration Date: 9 Apr 24      Intercept = 4.8874

DATE	SAMPLE NUMBER	ELAPSED TIME			CHART READING			AVG TEMP (°C)	STANDARD			INITIAL FILTER WEIGHT (g)	FINAL FILTER WEIGHT (g)	WEIGHT DUST COLLECTED (g)	DUST (µg/m <sup>3</sup> ) 24-hour TSP in air Dust Concentration
		INITIAL	FINAL	ACTUAL (min)	MIN	MAX	AVG		AVG PRESS (hPa)	FLOW RATE (m <sup>3</sup> /min)	AIR VOLUME (std m <sup>3</sup> )				
10 Feb 24	20084	6.63	30.60	1438.20	50	52	51.0	14.4	1026.5	1.58	2274	2.7690	2.8837	0.1147	50
11 Feb 24	20120	30.60	55.12	1471.20	50	52	51.0	17.4	1026.9	1.57	2313	2.7518	2.9078	0.1560	67
12 Feb 24	20121	55.12	78.53	1404.60	50	52	51.0	18.1	1025.8	1.57	2204	2.7440	2.8917	0.1477	67
13 Feb 24	20122	78.53	104.57	1562.64	50	52	51.0	19.2	1023.2	1.56	2444	2.7428	2.9034	0.1606	66
14 Feb 24	20090	104.57	128.28	1422.60	50	52	51.0	21	1020.2	1.56	2214	2.7760	2.9577	0.1817	82
15 Feb 24	20149	128.28	151.52	1394.40	29	32	30.5	22.3	1019	0.86	1202	2.7377	2.8744	0.1367	114
16 Feb 24	20091	151.52	174.77	1395.00	30	31	30.5	20.4	1019.7	0.87	1208	2.7780	3.0412	0.2632	218
17 Feb 24	20199	174.77	198.05	1396.80	30	32	31.0	19.5	1017.4	0.88	1233	2.7658	2.9285	0.1627	132
18 Feb 24	20092	198.05	221.33	1396.80	30	31	30.5	21.6	1015.2	0.86	1203	2.7674	2.8523	0.0849	71
19 Feb 24	20093	221.33	244.69	1401.60	30	31	30.5	22.7	1015.1	0.86	1205	2.7737	3.0363	0.2626	218
20 Feb 24	20094	244.69	269.43	1484.40	34	47	40.5	23.9	1014.7	1.19	1769	2.7613	3.0927	0.3314	187
21 Feb 24	20095	269.43	293.02	1415.40	51	52	51.5	24.5	1014.5	1.56	2205	2.7701	3.3511	0.5810	264
22 Feb 24	29886	293.02	316.74	1423.20	49	49	49.0	23.6	1016.6	1.48	2104	2.7946	3.2194	0.4248	202
23 Feb 24	29887	316.74	341.46	1483.20	50	50	50.0	20.4	1019.9	1.52	2260	2.7828	2.9847	0.2019	89

Average	130
Min	50
Max	264
Action Level *	215
Limit Level #	260

\*For baseline level ≤ 200 µg/m<sup>3</sup>, Action level = (Baseline Level x 1.3 + Limit level)/2

# Limit Level = 260 µg/m<sup>3</sup>

**Baseline Monitoring Results for 24-hour TSP at Location AM(D)5a**

Date of Calibration: 18-Mar-24      Slope = 33.2012  
 Next Calibration Date: 18-May-24      Intercept = 3.1446

DATE	SAMPLE NUMBER	ELAPSED TIME			CHART READING			AVG TEMP (°C)	STANDARD			INITIAL FILTER WEIGHT (g)	FINAL FILTER WEIGHT (g)	WEIGHT DUST COLLECTED (g)	DUST (µg/m3) 24-hour TSP in air Dust Concentration
		INITIAL	FINAL	ACTUAL (min)	MIN	MAX	AVG		AVG PRESS (hPa)	FLOW RATE (m <sup>3</sup> /min)	AIR VOLUME (std m <sup>3</sup> )				
18-Mar-24	29930	331.83	355.84	1440.60	58	60	59.0	21.0	1016.2	1.70	2445	2.7931	3.0558	0.2627	107
19-Mar-24	20183	355.84	379.84	1440.00	42	42	42.0	21.2	1019.5	1.18	1703	2.7711	3.1422	0.3711	218
20-Mar-24	20260	379.84	403.84	1440.00	50	50	50.0	20.8	1022.4	1.43	2057	2.7711	2.9796	0.2085	101
21-Mar-24	20097	403.84	427.84	1440.00	46	48	47.0	20.7	1017.9	1.33	1922	2.7680	3.1316	0.3636	189
22-Mar-24	20186	427.84	451.84	1440.00	50	50	50.0	22.5	1013.3	1.42	2041	2.7795	2.9998	0.2203	108
23-Mar-24	20181	451.84	475.84	1440.00	50	50	50.0	24.7	1012.8	1.41	2033	2.7854	2.8836	0.0982	48
24-Mar-24	20187	475.84	499.84	1440.00	50	52	51.0	26.4	1014.7	1.44	2072	2.7772	3.0161	0.2389	115
25-Mar-24	20185	499.84	523.84	1440.00	44	46	45.0	25.9	1014.5	1.26	1814	2.7955	3.2011	0.4056	224
26-Mar-24	20182	523.84	547.84	1440.00	46	48	47.0	26.2	1017	1.32	1902	2.7824	3.2206	0.4382	230
27-Mar-24	20184	547.84	571.84	1440.00	50	50	50.0	22.4	1018.5	1.42	2047	2.7884	3.1991	0.4107	201
28-Mar-24	20098	571.84	595.84	1440.00	42	42	42.0	24.7	1013.8	1.17	1687	2.7695	3.4689	0.6994	415
29-Mar-24	20249	595.84	619.84	1440.00	40	40	40.0	25.5	1013.8	1.11	1597	2.7697	2.8689	0.0992	62
30-Mar-24	20250	619.84	643.84	1440.00	41	41	41.0	26.4	1013.5	1.14	1638	2.7978	2.9763	0.1785	109
31-Mar-24	20096	643.84	667.84	1440.00	51	51	51.0	27.1	1011.1	1.43	2065	2.7761	3.1677	0.3916	190

Average	166
Min	48
Max	415
Action Level *	238
Limit Level #	260

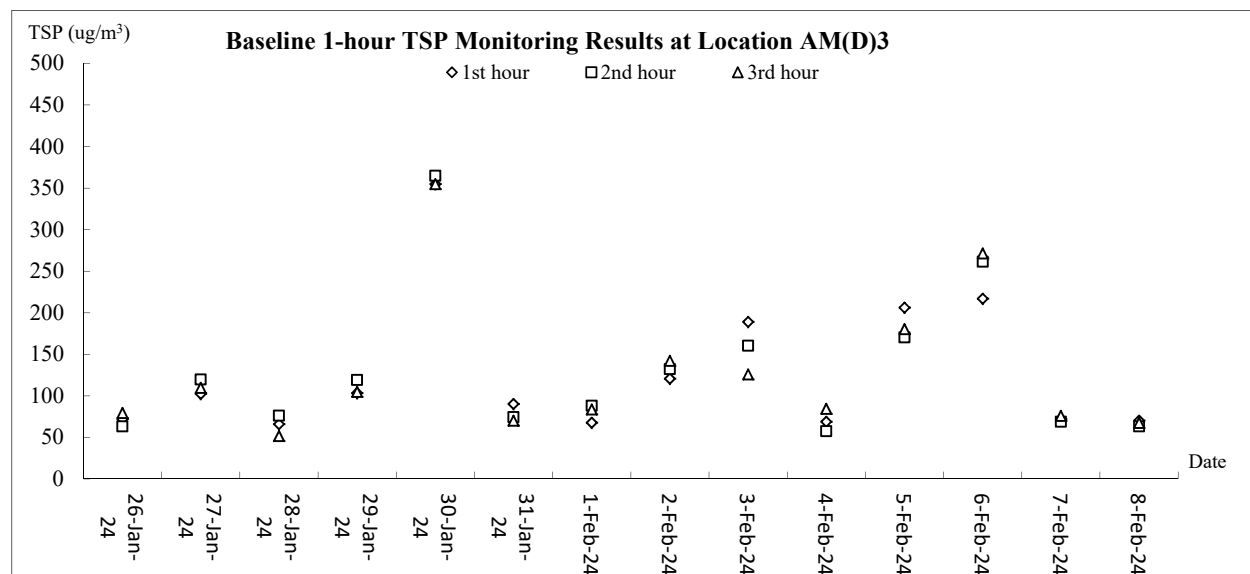
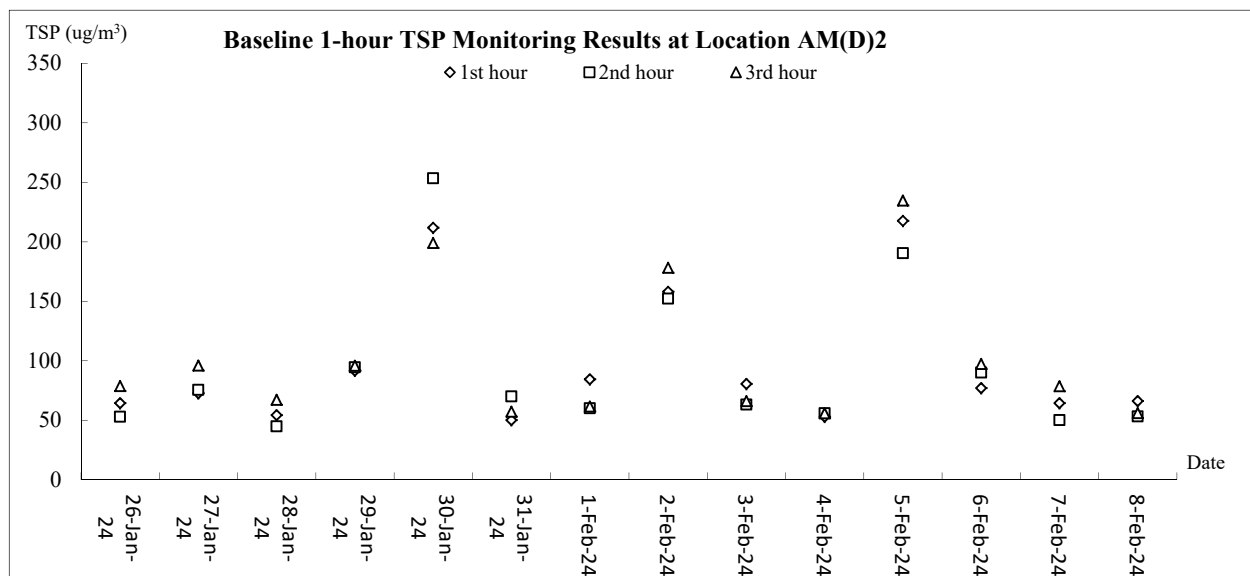
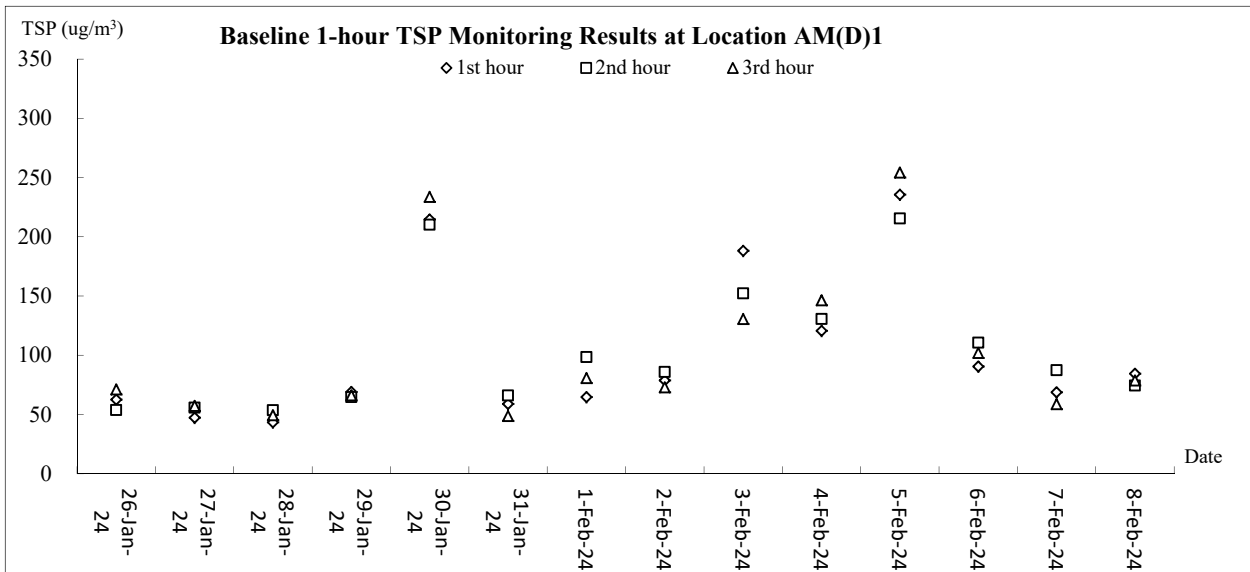
\*For baseline level ≤ 200 µg/m<sup>3</sup>, Action level = (Baseline Level x 1.3 + Limit level)/2

# Limit Level = 260 µg/m<sup>3</sup>

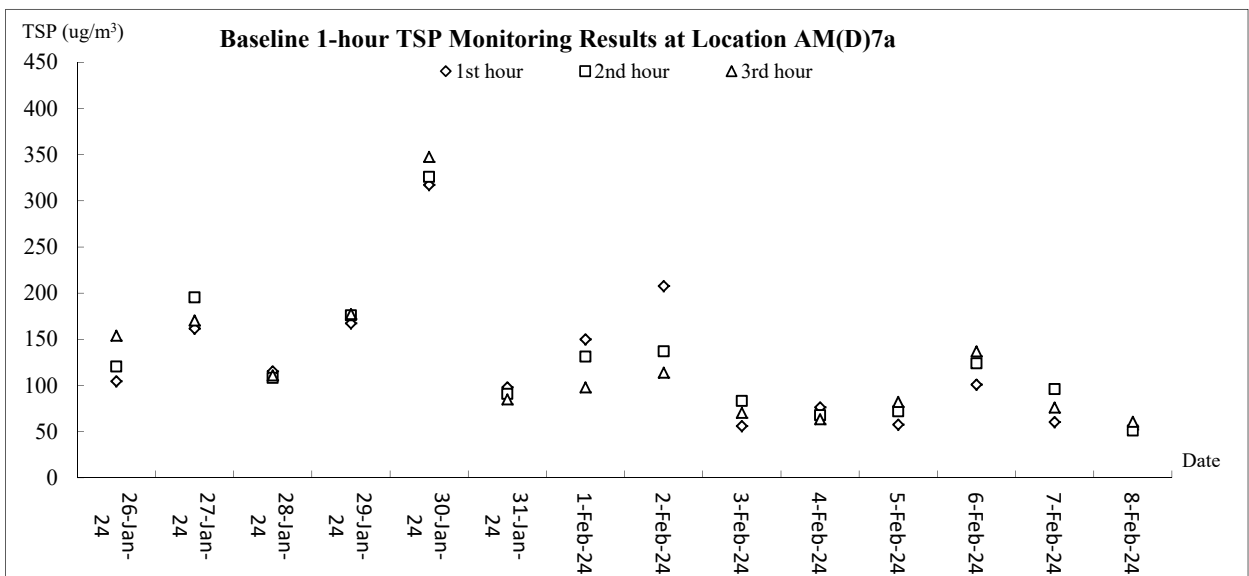
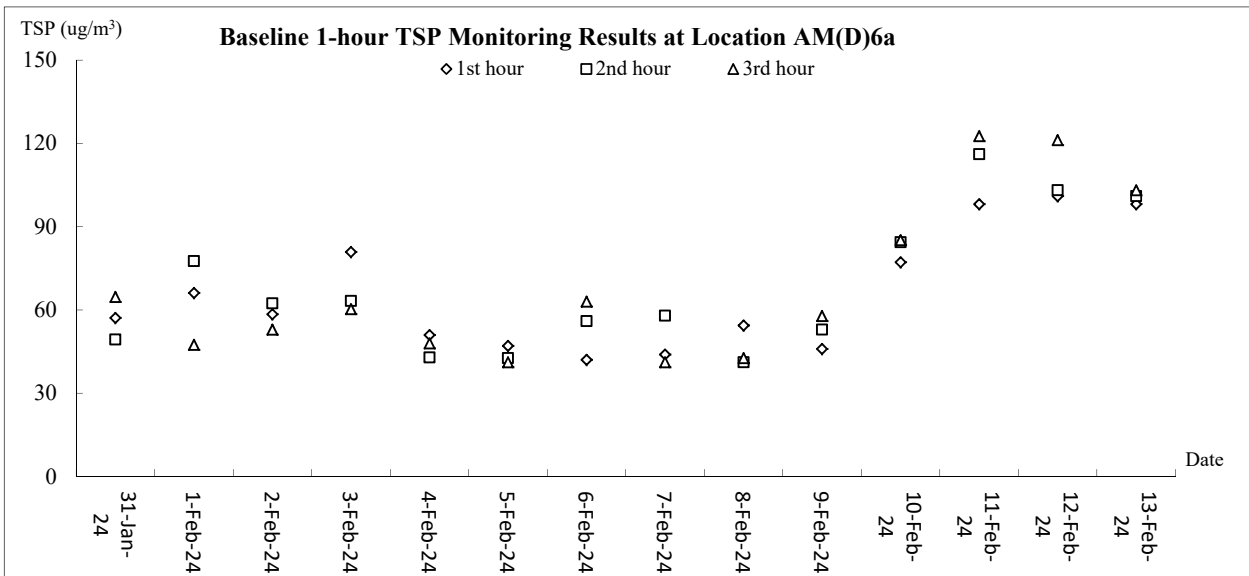
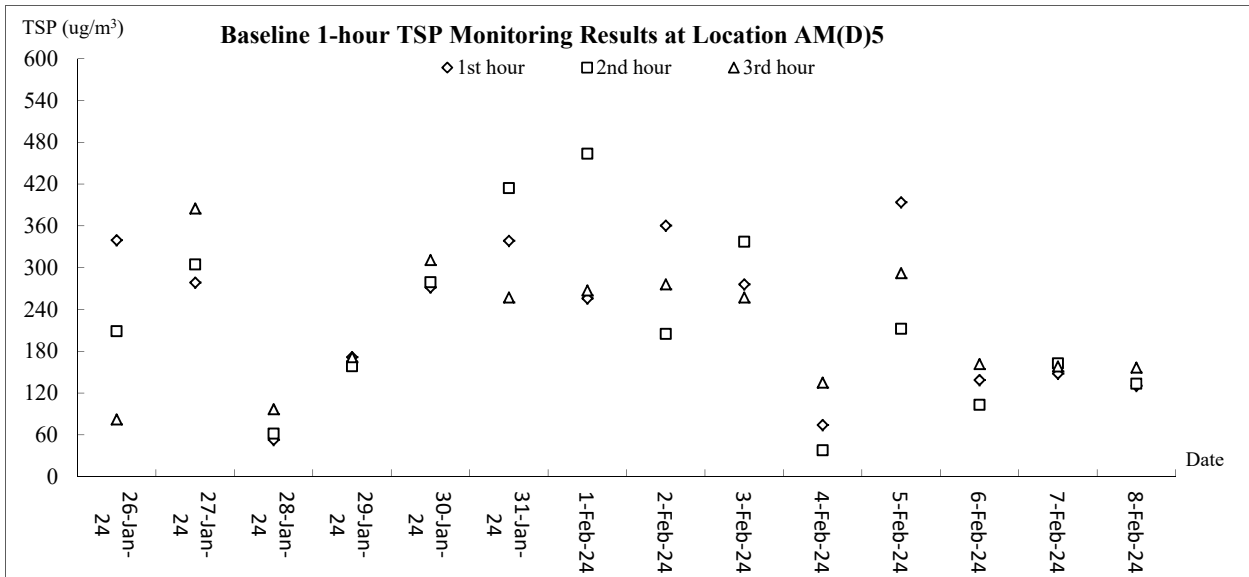
## **Appendix A3**

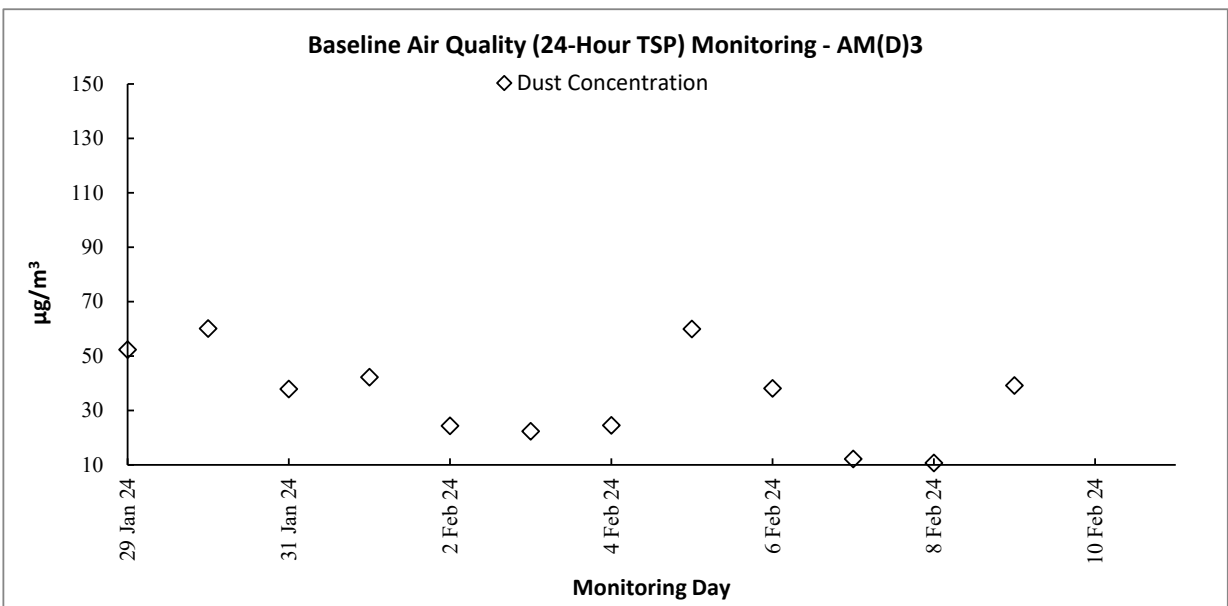
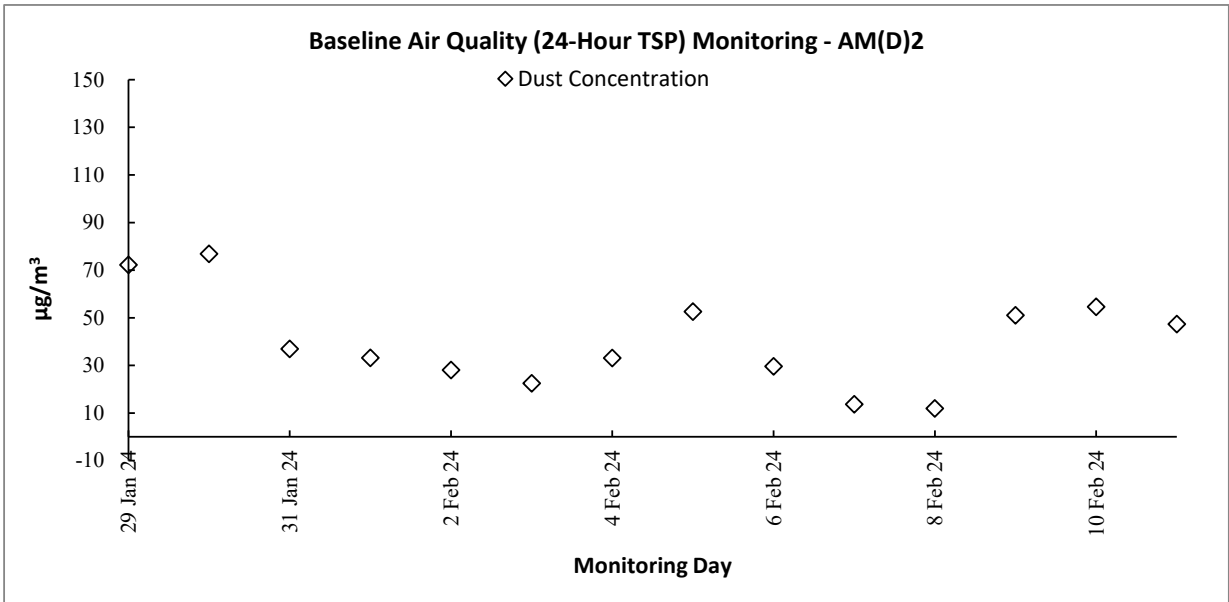
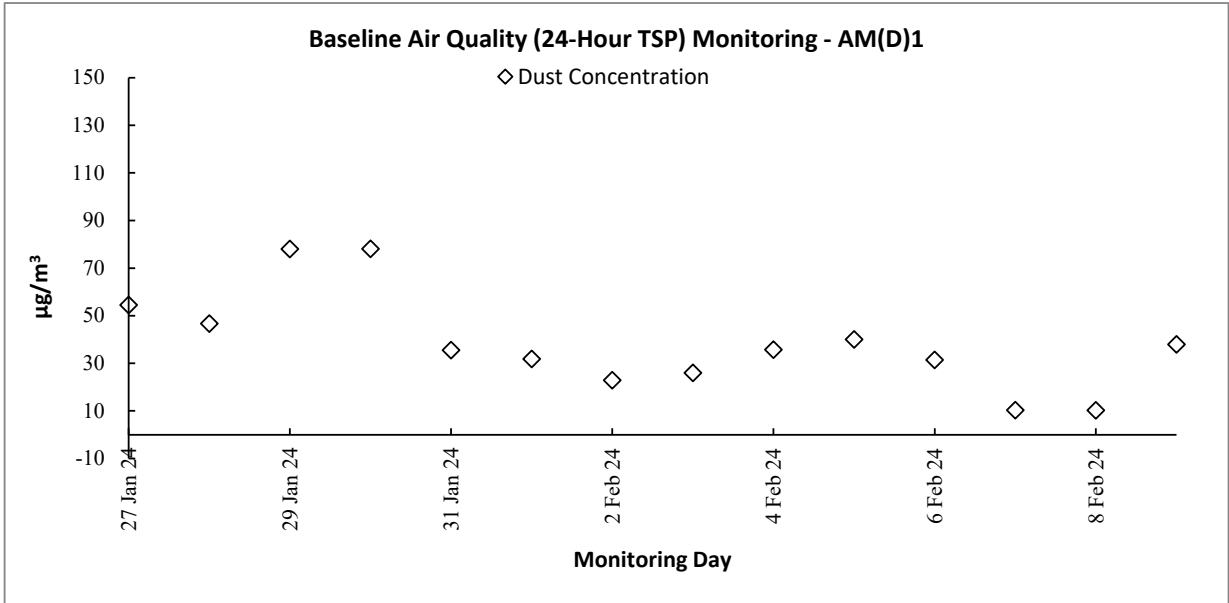
### **Graphical Plot of 1-hour and 24- hour TSP Baseline Monitoring Data**

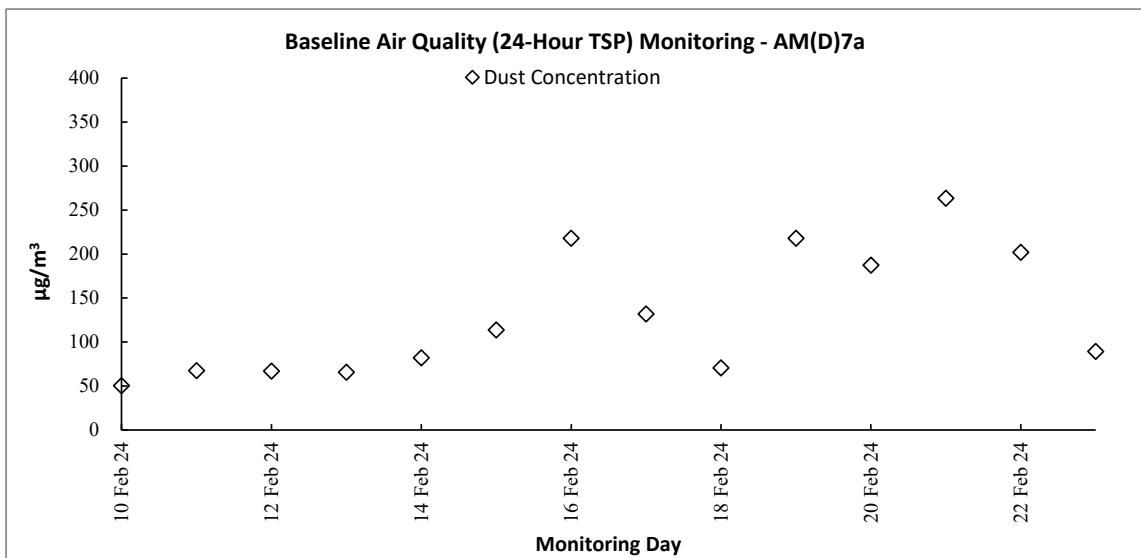
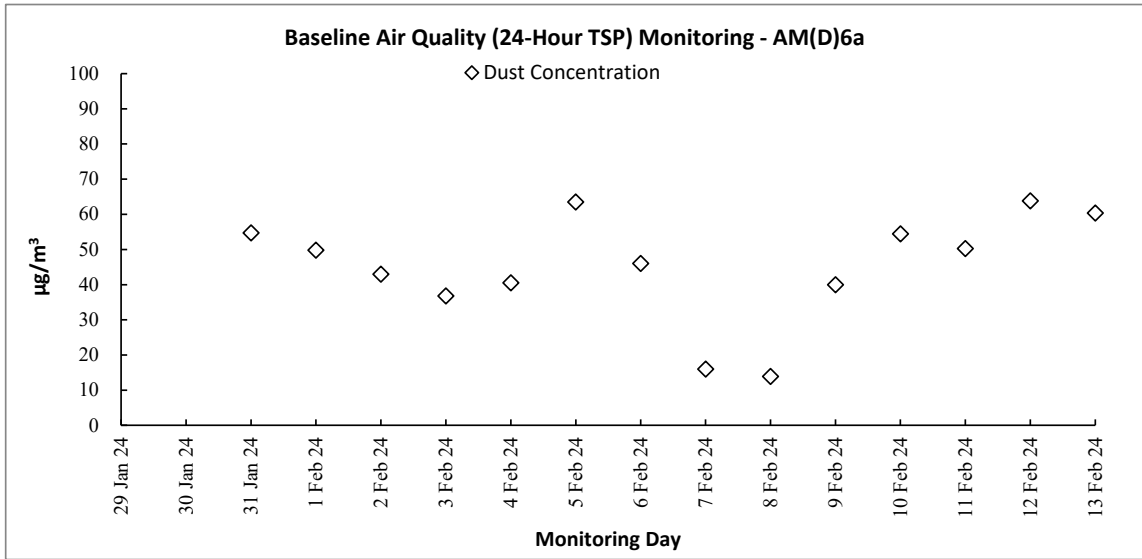
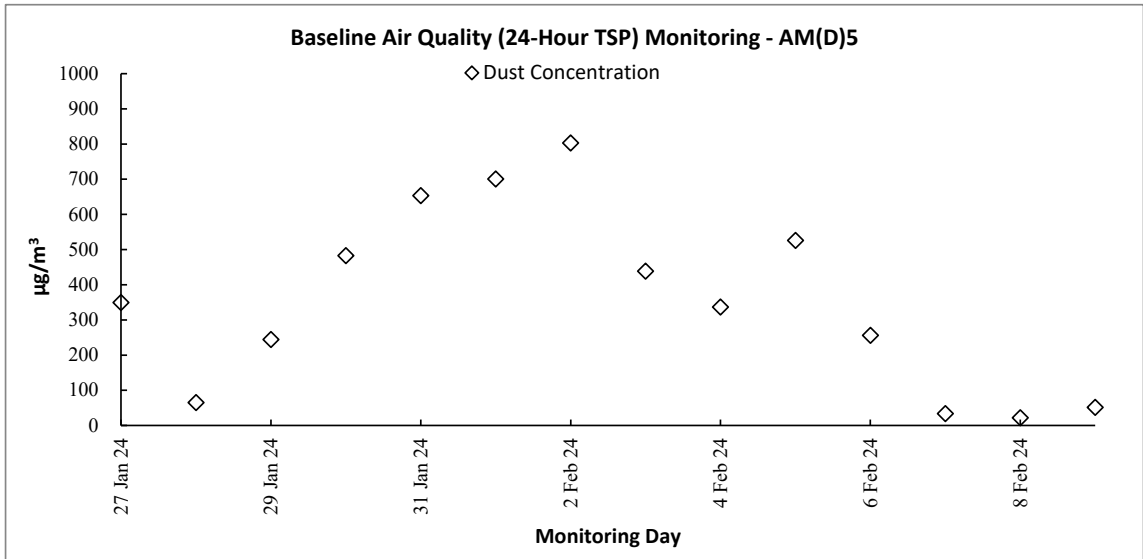
CONTRACT NO. EP/SP/186/21 - WEST NEW TERRITORIES LANDFILL EXTENSION (WENTX)

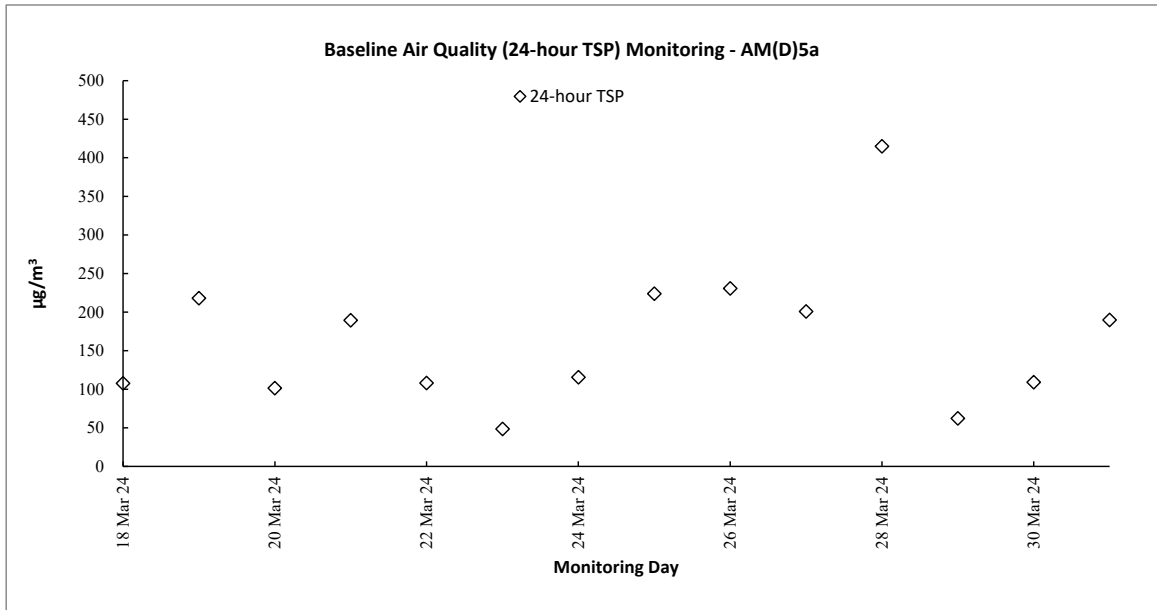
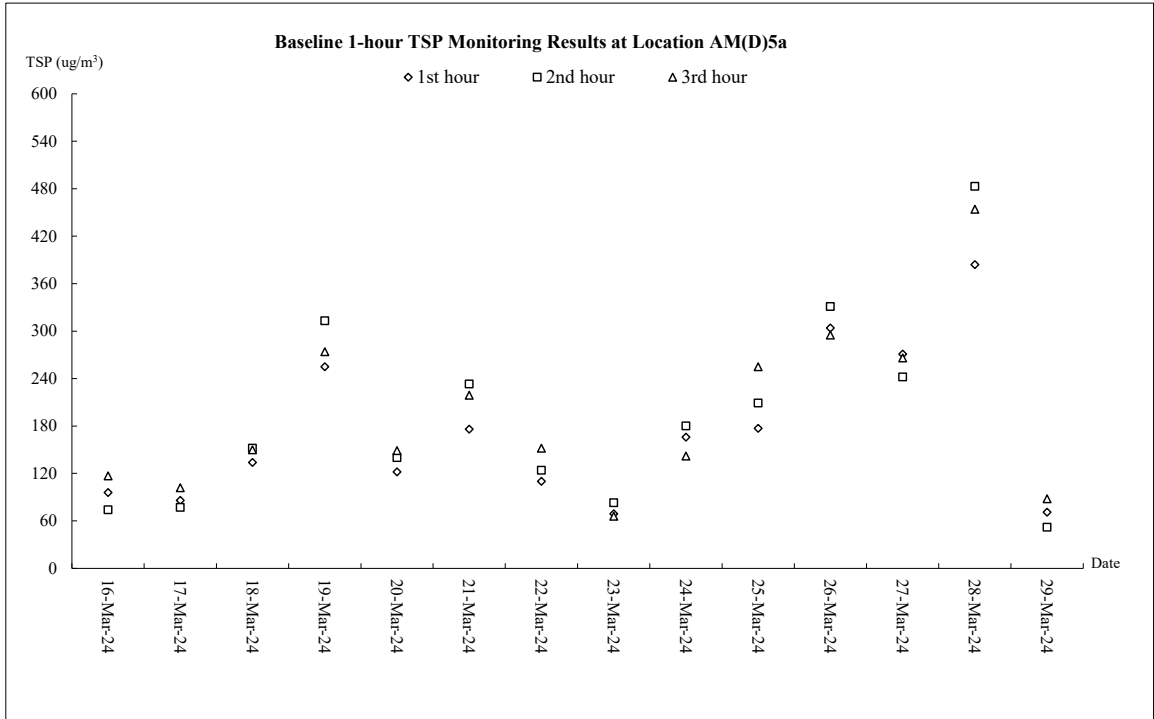


CONTRACT NO. EP/SP/186/21 - WEST NEW TERRITORIES LANDFILL EXTENSION (WENTX)









## **Appendix A4**

### **Photographic Records of Air Quality Monitoring Station**

**Photographic Records of Air Quality Monitoring Station**



AM(D)1  
Ha Pak Nai



AM(D)2  
Ha Pak Nai



AM(D)3  
Ha Pak Nai



AM(D)5  
Lung Kwu Sheung Tan



AM(D)6a  
rooftop of T · PARK workshop



AM(D)7a  
Site boundary of Middle Tsang Tsui Ash  
Lagoon



AM(D)5a  
Lung Kwu Sheung Tan

## **Appendix A5**

### **Meteorological Data During Baseline Air Quality Monitoring**

Date		Weather	Total Rainfall (mm)	Lau Fau Shan Weather Station			
				Mean Air Temperature (°C)	Wind Speed (km/h)	Mean Relative Humidity (%)	Wind Direction
26-Jan-24	Fri	Dry with sunny periods.	0	13.7	14	61.2	N/NE
27-Jan-24	Sat	Moderate northeasterly winds.	1	14.1	12.7	67	NE
28-Jan-24	Sun	Very cold. Cloudy to overcast with a few rain patches.	2.4	12.3	13.5	72.5	NE
29-Jan-24	Mon	Moderate easterly winds.	Trace	15.2	15.2	79.7	NE
30-Jan-24	Tue	Mainly cloudy with coastal mist.	Trace	18.5	9.2	87.2	N/SW
31-Jan-24	Wed	Mainly cloudy with rather low visibility.	Trace	21.0	10.5	88.0	E
1-Feb-24	Thu	Warm in the afternoon. Light winds.	0.2	21.4	9.2	91	W/SW
2-Feb-24	Fri	Sunny periods. Coastal fog patches in the morning.	Trace	21.6	11.2	88.5	W/SW
3-Feb-24	Sat	Occasionally fresh with one or two light rain patches later.	Trace	21.1	11.2	85	E
4-Feb-24	Sun	Moderate northeasterly winds.	Trace	23.4	12.7	81.5	E/NE
5-Feb-24	Mon	Mainly cloudy with one or two rain patches and coastal fog.	Trace	20.5	9.2	87	E/NE
6-Feb-24	Tue	Mainly cloudy with one or two rain patches tonight	0.6	21.4	11.7	79	E
7-Feb-24	Wed	Cloudy with a few rain patches.	Trace	15.3	11.7	96.2	W/NW
8-Feb-24	Thu	It will be cold. Cloudy with a few rain patches.	2.2	10.6	12.5	91.2	E/NE
9-Feb-24	Fri	Mainly cloudy with one or two light rain patches.	0.6	11.2	12.5	84	E/NE
10-Feb-24	Sat	It will be cold. Moderate north to northeasterly winds.	0.5	15	14.5	68.5	NE
11-Feb-24	Sun	It will be cold. Cloudy with a few rain patches.	0	17	10.2	59.5	E/SE
12-Feb-24	Mon	Rather warm during the day. Light winds.	0	18.8	8.7	67	E/SE
13-Feb-24	Tue	Light to moderate easterly winds.	0	19	9	75.7	E
14-Feb-24	Wed	Mainly fine. Warm during the day.	0	19.8	10	83.7	E/SE
15-Feb-24	Thu	Light to moderate easterly winds.	0	21.4	9	75.5	W/SW
16-Feb-24	Fri	Mainly fine. Warm during the day.	Trace	22.3	11.7	74.5	E/NE
17 Feb-24	Sat	Light to moderate southeasterly winds.	Trace	21.9	12.5	76	E
18-Feb-24	Sun	Sunny intervals in the afternoon.	0	24.9	14.5	71.5	S/SE
19-Feb-24	Mon	Mainly cloudy. Foggy in the morning and at night.	0	24.5	12.5	81.2	S/SE
20-Feb-24	Tue	Sunny periods. Warm during the day.	0	26.8	20	74.2	S/SE
21-Feb-24	Wed	Coastal fog and one or two light rain patches at night.	0	26.9	11.2	75.7	S/SE
22-Feb-24	Thu	Foggy with one or two rain patches in the morning and at night.	0	26.3	11.5	76	S/SE
23-Feb-24	Fri	Slightly cooler and mainly cloudy with one or two light rain patches.	Trace	19.9	8.7	77.5	E/NE

Date		Weather	Total Rainfall (mm)	Lau Fau Shan Weather Station			
				Mean Air Temperature (°C)	Wind Speed (km/h)	Mean Relative Humidity (%)	Wind Direction
16-Mar-24	Sat	Fine and dry.	Trace	22.6	11.2	86	E
17-Mar-24	Sun	Sunny intervals.	0	22.8	9	86.2	W/SW
18-Mar-24	Mon	Moderate to fresh northeasterly winds	0.6	Maintenance	12.5	Maintenance	E/NE
19-Mar-24	Tue	One or two light rain patches at first.	0.3	20	19	79	E/NE
20-Mar-24	Wed	Moderate east to northeasterly winds	0	21.4	17.5	50.5	E/NE
21-Mar-24	Thu	Warm with sunny intervals in the afternoon.	Trace	22.1	12.5	59	E/SE
22-Mar-24	Fri	Mainly cloudy with one or two light rain patches tonight.	Trace	24.3	20	72.5	S/SE
23-Mar-24	Sat	Sunny periods. Hot during the day.	0	25.5	16.2	79.7	S/SE
24-Mar-24	Sun	Coastal mist at night.	0	28	16.2	71	S/SE
25-Mar-24	Mon	Light to moderate southerly winds.	0	27	11.2	76	W
26-Mar-24	Tue	Hot with sunny periods in the afternoon.	0	26.3	11.2	81	W/SW
27-Mar-24	Wed	Mainly cloudy with one or two showers.	Trace	24.6	16.5	76.5	E
28-Mar-24	Thu	Sunny intervals during the day.	0	24.6	12.5	83.7	W/SW
29-Mar-24	Fri	Coastal mist at night. Light winds.	Trace	25.8	11.7	83.7	W/SW
30-Mar-24	Sat	Hot with sunny periods during the day.	Trace	Maintenance	Maintenance	Maintenance	Maintenance
31-Mar-24	Sun	Mainly cloudy.	0.1	Maintenance	Maintenance	Maintenance	Maintenance

## **Appendix B1**

### **Calibration Certificates for Noise Monitoring Instruments**



# Certificate of Calibration 校正證書

Certificate No. : C236945  
證書編號

ITEM TESTED / 送檢項目 (Job No. / 序引編號 : IC23-2369) Date of Receipt / 收件日期 : 23 November 2023

Description / 儀器名稱 : Sound Level Meter (EQ013)  
Manufacturer / 製造商 : Rion  
Model No. / 型號 : NL-52  
Serial No. / 編號 : 00921191  
Supplied By / 委託者 : Action-United Environmental Services and Consulting  
Unit A, 20/F., Gold King Industrial Building,  
35-41 Tai Lin Pai Road, Kwai Chung, N.T.

## TEST CONDITIONS / 測試條件

Temperature / 溫度 :  $(23 \pm 2)^{\circ}\text{C}$  Relative Humidity / 相對濕度 :  $(50 \pm 25)\%$   
Line Voltage / 電壓 : ---

## TEST SPECIFICATIONS / 測試規範

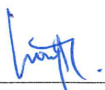
Calibration check

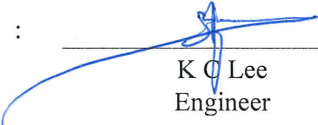
DATE OF TEST / 測試日期 : 3 December 2023

## TEST RESULTS / 測試結果

The results apply to the particular unit-under-test only.  
The results do not exceed specified limits.  
These limits refer to manufacturer's published tolerances as requested by the customer.  
The results are detailed in the subsequent page(s).

The test equipment used for calibration are traceable to National Standards via :  
- The Government of The Hong Kong Special Administrative Region Standard & Calibration Laboratory  
- Hottinger Brüel & Kjær Calibration Laboratory, Denmark  
- Agilent Technologies / Keysight Technologies  
- Fluke Everett Service Center, USA

Tested By :   
測試 : \_\_\_\_\_  
H T Wong  
Assistant Engineer

Certified By :   
核證 : \_\_\_\_\_  
K C Lee  
Engineer

Date of Issue : 4 December 2023  
簽發日期

The test equipment used for calibration is traceable to the National Standards as specified in this certificate. This certificate shall not be reproduced except in full, without the prior written approval of this laboratory.

本證書所載校正用之測試器材均可溯源至國際標準。局部複印本證書需先獲本實驗室所書面批准。

# Certificate of Calibration

## 校正證書

Certificate No. : C236945

證書編號

- The unit-under-test (UUT) was allowed to stabilize in the laboratory for over 12 hours, and switched on to warm up for over 10 minutes before the commencement of the test.
- Self-calibration was performed before the test.
- The results presented are the mean of 3 measurements at each calibration point.
- Test equipment :

Equipment ID	Description	Certificate No.
CL280	40 MHz Arbitrary Waveform Generator	C230306
CL281	Multifunction Acoustic Calibrator	CDK2302738

- Test procedure : MA101N.

- Results :

- 6.1 Sound Pressure Level

- 6.1.1 Reference Sound Pressure Level

UUT Setting				Applied Value		UUT Reading (dB)	IEC 61672 Class 1 Limit (dB)
Range (dB)	Function	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)		
30 - 130	L <sub>A</sub>	A	Fast	94.00	1	93.8	± 1.1

- 6.1.2 Linearity

UUT Setting				Applied Value		UUT Reading (dB)
Range (dB)	Function	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)	
30 - 130	L <sub>A</sub>	A	Fast	94.00	1	93.8 (Ref.)
				104.00		103.8
				114.00		113.8

IEC 61672 Class 1 Limit : ± 0.6 dB per 10 dB step and ± 1.1 dB for overall different.

- 6.2 Time Weighting

UUT Setting				Applied Value		UUT Reading (dB)	IEC 61672 Class 1 Limit (dB)
Range (dB)	Function	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)		
30 - 130	L <sub>A</sub>	A	Fast	94.00	1	93.8	Ref.
			Slow			93.8	± 0.3

The test equipment used for calibration is traceable to the National Standards as specified in this certificate. This certificate shall not be reproduced except in full, without the prior written approval of this laboratory.

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# Certificate of Calibration

## 校正證書

Certificate No. : C236945  
證書編號

### 6.3 Frequency Weighting

#### 6.3.1 A-Weighting

UUT Setting				Applied Value		UUT Reading (dB)	IEC 61672 Class 1 Limit (dB)
Range (dB)	Function	Frequency Weighting	Time Weighting	Level (dB)	Freq.		
30 - 130	L <sub>A</sub>	A	Fast	94.00	63 Hz	67.5	-26.2 ± 1.5
					125 Hz	77.6	-16.1 ± 1.5
					250 Hz	85.1	-8.6 ± 1.4
					500 Hz	90.6	-3.2 ± 1.4
					1 kHz	93.8	Ref.
					2 kHz	95.0	+1.2 ± 1.6
					4 kHz	94.8	+1.0 ± 1.6
					8 kHz	92.8	-1.1 (+2.1 ; -3.1)
					16 kHz	85.8	-6.6 (+3.5 ; -17.0)

#### 6.3.2 C-Weighting

UUT Setting				Applied Value		UUT Reading (dB)	IEC 61672 Class 1 Limit (dB)
Range (dB)	Function	Frequency Weighting	Time Weighting	Level (dB)	Freq.		
30 - 130	L <sub>C</sub>	C	Fast	94.00	63 Hz	92.9	-0.8 ± 1.5
					125 Hz	93.6	-0.2 ± 1.5
					250 Hz	93.8	0.0 ± 1.4
					500 Hz	93.8	0.0 ± 1.4
					1 kHz	93.8	Ref.
					2 kHz	93.7	-0.2 ± 1.6
					4 kHz	93.0	-0.8 ± 1.6
					8 kHz	90.9	-3.0 (+2.1 ; -3.1)
					16 kHz	83.9	-8.5 (+3.5 ; -17.0)

The test equipment used for calibration is traceable to the National Standards as specified in this certificate. This certificate shall not be reproduced except in full, without the prior written approval of this laboratory.

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# Certificate of Calibration

## 校正證書

Certificate No. : C236945  
證書編號

- Remarks : - UUT Microphone Model No. : UC-59 & S/N : 12910
- Mfr's Limit : IEC 61672 Class 1
- Uncertainties of Applied Value :
- |        |                  |                          |
|--------|------------------|--------------------------|
| 94 dB  | : 63 Hz - 125 Hz | : ± 0.35 dB              |
|        | 250 Hz - 500 Hz  | : ± 0.30 dB              |
|        | 1 kHz            | : ± 0.20 dB              |
|        | 2 kHz - 4 kHz    | : ± 0.35 dB              |
|        | 8 kHz            | : ± 0.45 dB              |
|        | 16 kHz           | : ± 0.70 dB              |
| 104 dB | : 1 kHz          | : ± 0.10 dB (Ref. 94 dB) |
| 114 dB | : 1 kHz          | : ± 0.10 dB (Ref. 94 dB) |

- The uncertainties are for a confidence probability of not less than 95 %.

Note :

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

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

The test equipment used for calibration is traceable to the National Standards as specified in this certificate. This certificate shall not be reproduced except in full, without the prior written approval of this laboratory.

本證書所載校正用之測試器材均可溯源至國際標準。局部複印本證書需先獲本實驗室所書面批准。

Sun Creation Engineering Limited – Calibration & Testing Laboratory

c/o 4/F, 1 Hing On Lane, Tuen Mun, New Territories, Hong Kong

輝創工程有限公司 - 校正及檢測實驗室

c/o 香港新界屯門興安里一號四樓

Tel/電話: (852) 2927 2606

Fax/傳真: (852) 2744 8986

E-mail/電郵: callab@suncreation.com

Website/網址: www.suncreation.com



# Certificate of Calibration 校正證書

Certificate No. : C236948  
證書編號

ITEM TESTED / 送檢項目 ( Job No. / 序引編號 : IC23-2369 ) Date of Receipt / 收件日期 : 23 November 2023

Description / 儀器名稱 : Sound Calibrator (EQ087)  
Manufacturer / 製造商 : Rion  
Model No. / 型號 : NC-74  
Serial No. / 編號 : 34657231  
Supplied By / 委託者 : Action-United Environmental Services and Consulting  
Unit A, 20/F., Gold King Industrial Building,  
35-41 Tai Lin Pai Road, Kwai Chung, N.T.

## TEST CONDITIONS / 測試條件

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

## TEST SPECIFICATIONS / 測試規範

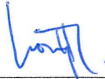
Calibration check

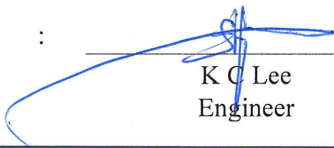
DATE OF TEST / 測試日期 : 3 December 2023

## TEST RESULTS / 測試結果

The results apply to the particular unit-under-test only.  
The results do not exceed specified limits.  
These limits refer to manufacturer's published tolerances as requested by the customer.  
The results are detailed in the subsequent page(s).

The test equipment used for calibration are traceable to National Standards via :  
- The Government of The Hong Kong Special Administrative Region Standard & Calibration Laboratory  
- Hottinger Brüel & Kjær Calibration Laboratory, Denmark  
- Agilent Technologies / Keysight Technologies  
- Fluke Everett Service Center, USA

Tested By :   
測試 : \_\_\_\_\_  
H T Wong  
Assistant Engineer

Certified By :   
核證 : \_\_\_\_\_  
K C Lee  
Engineer

Date of Issue : 4 December 2023  
簽發日期

The test equipment used for calibration is traceable to the National Standards as specified in this certificate. This certificate shall not be reproduced except in full, without the prior written approval of this laboratory.

本證書所載校正用之測試器材均可溯源至國際標準。局部複印本證書需先獲本實驗所書面批准。

# Certificate of Calibration

## 校正證書

Certificate No. : C236948  
證書編號

- The unit-under-test (UUT) was allowed to stabilize in the laboratory for over 12 hours before the commencement of the test.
- The results presented are the mean of 3 measurements at each calibration point.
- Test equipment :

<u>Equipment ID</u>	<u>Description</u>	<u>Certificate No.</u>
CL130	Universal Counter	C233799
CL281	Multifunction Acoustic Calibrator	CDK2302738
TST150A	Measuring Amplifier	C221750

- Test procedure : MA100N.

- Results :

### 5.1 Sound Level Accuracy

UUT Nominal Value	Measured Value (dB)	Mfr's Limit (dB)	Uncertainty of Measured Value (dB)
94 dB, 1 kHz	94.10	$\pm 0.3$	$\pm 0.20$

### 5.2 Frequency Accuracy

UUT Nominal Value (kHz)	Measured Value (kHz)	Mfr's Limit	Uncertainty of Measured Value (Hz)
1	1.001	1 kHz $\pm 1\%$	$\pm 1$

Remark : The uncertainties are for a confidence probability of not less than 95 %.

Note :

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

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

## **Appendix B2**

### **Detailed Background Noise Monitoring Data**

## Background Noise Monitoring Data - NM1

Time	3 Jan 2024				4 Jan 2024				5 Jan 2024				6 Jan 2024				7 Jan 2024			
	Leq (5mins)	Leq (30mins)	L10 (5mins)	L90 (5mins)	Leq (5mins)	Leq (30mins)	L10 (5mins)	L90 (5mins)	Leq (5mins)	Leq (30mins)	L10 (5mins)	L90 (5mins)	Leq (5mins)	Leq (30mins)	L10 (5mins)	L90 (5mins)	Leq (5mins)	Leq (30mins)	L10 (5mins)	L90 (5mins)
	00:00					50.9		52.0	47.5	51.1		52.0	48.5	50.9		51.5	48.0	37.5		38.3
00:05					50.8		52.0	47.5	50.9		51.5	48.5	50.9		51.5	48.0	42.4		45.3	37.8
00:10					50.8		52.0	47.5	50.9		52.0	48.5	50.6		51.5	48.0	42.4		44.4	39.6
00:15					53.5		52.0	47.5	50.8		51.5	48.0	50.6		51.5	48.0	41.2		43	39.4
00:20					50.9		52.0	47.5	50.7		51.5	48.0	50.3		51.0	47.5	40.2		42.3	37.8
00:25					50.7		52.0	47.5	50.7		51.5	48.0	50.4		51.0	47.0	37.5		39	36
00:30					50.8		52.0	47.5	50.5		51.5	47.5	50.2		51.0	47.5	37.6		39.1	35.9
00:35					50.7		52.0	47.5	51.1		51.5	47.5	51.1		51.5	47.5	37.8		39.3	35.2
00:40					50.7		52.0	47.5	51.3		52.0	48.0	50.5		51.5	47.5	38.8		40.4	36.5
00:45					50.8		52.0	47.5	50.2		51.0	47.0	51.4		51.0	47.5	38.8		40.3	37
00:50					50.6		51.5	47.0	50.4		51.5	47.5	50.6		51.0	47.5	38.8		40.1	37.3
00:55					50.5		51.5	47.0	50.7		51.5	48.0	51.0		51.5	47.5	38.3		39.6	36.7
01:00					50.5		51.5	47.0	50.5		51.5	48.0	52.5		52.0	48.5	39.4		41.2	37.4
01:05					50.5		51.5	47.0	50.7		51.5	48.0	50.7		51.5	48.5	38.7		39.4	36.9
01:10					63.3		65.0	48.5	50.4		51.5	47.5	50.8		51.5	48.5	37.2		38.6	35.8
01:15					54.1		57.0	48.0	50.5		51.5	47.5	50.5		51.5	48.0	37		38	35.2
01:20					50.5		51.5	47.0	50.6		51.5	48.0	50.4		51.5	48.0	36.4		37.6	34.5
01:25					50.4		51.5	46.5	50.3		51.5	47.5	50.1		51.0	47.0	36.5		37.4	34.8
01:30					50.5		51.5	47.0	50.7		51.5	48.0	50.6		51.5	48.0	37.3		38.2	35
01:35					50.6		51.5	47.0	50.3		51.0	47.5	50.3		51.0	47.5	36		36.4	34.2
01:40					50.9		52.0	47.5	50.3		51.0	47.5	50.2		51.0	47.5	36.2		37.5	34.7
01:45					50.9		52.0	47.5	50.4		51.5	47.5	50.3		51.0	47.5	36.4		38	34.5
01:50					50.2		51.5	46.5	50.3		51.0	47.0	50.3		51.5	47.5	36.4		37.8	33.4
01:55					50.3		51.5	46.5	50.4		51.5	47.5	50.5		51.5	48.0	34.4		34.9	33.1
02:00					50.2		51.5	46.0	50.2		51.0	47.0	50.1		51.0	47.0	34.5		35.6	33
02:05					50.1		51.0	46.0	50.1		51.0	47.0	49.8		51.0	46.5	36.6		36.5	33.4
02:10					50.3		51.5	46.5	50.1		51.0	47.0	49.9		51.0	46.5	34.3		35.2	32.8
02:15					50.1		51.0	46.0	50.2		51.0	47.0	49.8		51.0	46.5	34.2		35.2	32.6
02:20					50.5		52.0	46.5	50.1		51.0	47.0	49.7		50.5	46.0	36.5		37.5	32.8
02:25					50.3		51.5	46.5	50.1		51.0	47.0	49.7		50.5	46.5	34.2		34.9	32.8
02:30					49.9		51.0	46.0	50.2		51.5	47.0	49.5		50.5	46.0	33.9		34.9	32.6
02:35					49.9		51.0	45.5	50.8		51.5	47.0	49.6		50.5	46.0	32.8		33.5	31.2
02:40					49.8		51.0	45.5	49.8		51.0	46.5	49.5		50.5	46.0	32.9		34.2	31.2
02:45					50.1		51.5	46.0	49.8		51.0	46.5	49.4		50.5	46.0	32.6		33.4	30.9
02:50					49.9		51.0	45.5	49.6		50.5	46.0	49.5		50.5	46.0	32.7		34	30.8
02:55					50.0		51.0	46.0	49.8		51.0	46.5	49.6		50.5	46.0	32.9		34.8	30.7
03:00					50.0		51.5	46.0	49.7		51.0	46.0	49.8		51.0	46.5	38.7		33.7	30.6
03:05					50.0		51.0	46.0	49.7		51.0	46.0	49.3		50.5	45.5	32.9		33.7	31.5
03:10					50.1		51.5	46.0	50.2		51.5	47.0	49.3		50.5	45.5	37.1		40.4	32.6
03:15					50.0		51.5	46.0	50.0		51.0	46.5	49.3		50.5	45.5	33.4		34.8	31.7
03:20					50.5		52.0	47.5	49.7		51.0	46.0	49.3		50.5	45.5	33.9		36	31.3
03:25					50.4		52.0	47.0	49.9		51.0	46.5	49.3		50.5	45.5	39.2		43.6	31.2
03:30					52.7		52.5	47.5	49.8		51.0	46.0	49.2		50.5	45.5	34.8		37	31.4
03:35					51.0		52.5	48.0	56.7		51.5	46.5	49.1		50.5	45.0	33.8		34.6	32.2
03:40					51.2		52.0	49.0	49.6		51.0	46.0	49.1		50.5	45.0	34.1		36	31.5
03:45					51.1		52.0	49.0	49.8		51.0	46.0	49.2		50.5	45.0	33.4		34.3	32
03:50					51.5		52.5	49.5	49.8		51.0	46.0	49.1		50.5	45.0	33.2		34.5	31.7
03:55					51.8		53.0	49.5	50.7		51.5	46.0	49.2		50.5	45.0	33.4		35.1	31.5
04:00					51.9		53.0	49.5	52.3		52.5	46.5	49.1		50.5	45.0	33.3		35.1	31.3
04:05					51.1		52.0	49.0	50.2		51.5	47.0	49.1		50.5	45.0	34		35	31.9
04:10					51.1		52.0	49.0	50.4		51.5	47.5	49.2		50.5	45.0	33		33.9	31.8
04:15					52.4		52.5	49.5	50.4		51.5	47.5	49.4		50.5	45.5	38.4		40.8	32.7
04:20					51.1		52.0	49.0	50.5		51.5	47.5	49.1		50.5	45.0	37.4		40.7	32.9
04:25					51.6		52.5	49.0	50.5		51.5	47.5	49.0		50.0	45.0	35		37.6	32.4
04:30					50.9		52.0	48.5	51.1		52.0	48.5	49.0		50.0	45.0	32.7		34.2	30.9
04:35					51.1		52.0	48.5	51.0		52.0	48.5	50.0		50.5	45.0	33		34.7	30.7
04:40					51.2		52.0	49.0	50.7		52.0	48.0	49.4		50.5	45.5	32.7		33.8	30.9
04:45					51.6		52.5	49.5	50.9		52.0	48.5	49.4		50.5	45.5	32		33.1	30.7
04:50					51.2		52.0	48.5	51.0		52.0	48.0	49.2		50.5	45.5	32.2		33.3	30.5
04:55					51.7		52.0	48.5	51.4		53.0	48.5	49.3		50.5	45.5	32.5		34.4	30.6
05:00					51.3		51.5	47.5	51.4		52.5	48.5	49.4		50.5	45.5	36.7		39.6	32.5
05:05					49.8		51.0	46.5	51.1		53.0	47.5	50.4		52.0	46.0	34.1		35.8	31.7
05:10					50.3		51.5	47.0	51.8		53.5	47.0	50.9		53.0	47.0	37.8		39	32.3
05:15					53.8		56.0	50.0	56.5		57.0	48.0	50.9		53.0	47.0	34.7		35.8	32.4
05:20					55.3		57.0	51.5	51.4		53.0	47.5	51.3		53.5	47.0	34.8		36.2	33
05:25					55.9		57.0	53.0	54.1		56.5	48.5	56.1		52.5	47.0	35.3		36.5	32.8
05:30					57.5		58.5	54.0	54.0		56.0	50.0	51.7		54.0	48.0	35		36	32.8
05:35					58.9		60.5	53.5	53.4		55.5	50.5	53.7		56.0	50.5	36.2		37.6	34.2
05:40					59.1		63.0	54.5	52.9		55.0	49.5	53.3		55.5	49.5	34.5		35.7	32.5
05:45					55.8		57.5	53.0	52.8		55.0	49.0	52.4		55.0	48.5	33.6		34.8	32
05:50					55.1		56.0	53.0	55.3		57.0	49.0	57.7		60.5	48.5	35.6		37.4	33.6
05:55					54.8		55.5	51.0	56.0		54.5	49.5	55.3		59.0	48.0	34.5		36.4	32.2
06:00					55.4		58.0	51.0	53.8		57.0	48.5	51.6		53.5	47.5	36		39	32.2
06:05					54.9		56.5	52.0	57.1		60.0	50.0	51.9		54.5	48.0	34.7		36.7	32.1
06:10					57.3		60.5	51.5	57.3		61.0	49.5	55.9		54.5	48.5	32.9		33.1	31.5
06:15					55.4		58.0	51.0	53.7		56.5	48.5	56.3		56.5	49.0	36.7		39.8	32.5
06:20					53.5		54.5	49.5	52.7		55.5	48.5	52.5		54.0	48.0	43.8		47.1	36.1
06:25					53.3		56.0	49.0	55.3		58.0</									

### Background Noise Monitoring Data - NM1

Time	3 Jan 2024				4 Jan 2024				5 Jan 2024				6 Jan 2024				7 Jan 2024			
	Leq (5mins)	Leq (30mins)	L10 (5mins)	L90 (5mins)	Leq (5mins)	Leq (30mins)	L10 (5mins)	L90 (5mins)	Leq (5mins)	Leq (30mins)	L10 (5mins)	L90 (5mins)	Leq (5mins)	Leq (30mins)	L10 (5mins)	L90 (5mins)	Leq (5mins)	Leq (30mins)	L10 (5mins)	L90 (5mins)
	06:30					56.4		58.0	50.5	53.0		55.0	48.0	56.7		60.5	49.0	44.8		48.6
06:35					56.7		59.5	51.5	53.7		55.5	48.0	55.4		59.0	48.5	48.5		52	40.3
06:40					54.2		56.0	51.5	52.8		53.5	48.0	53.2		55.0	49.0	50.5		53	46.2
06:45					56.4		59.0	52.0	53.8		57.5	48.0	55.0		58.5	49.0	50.6		52.8	47.6
06:50					54.2		56.0	51.0	53.0		55.5	49.0	53.9		56.0	48.0	50.4		53	46.5
06:55					54.8		56.5	51.5	54.5		57.5	48.5	53.1		56.5	47.5	51.1		53.6	46.9
07:00					50.9		53.9	45.6	50.7		52.9	47.6	53.5		56.3	49.5	48.8		52.8	41.9
07:05					45.9		48.0	42.5	48.1		50.4	44.4	51.1		53.3	47.6	43.3		45.3	39.1
07:10					46.4		48.9	42.7	43.5		45.9	38.3	48.3		50.6	43.3	49.5		52.0	42.1
07:15					46.5	49.6	48.6	41.7	43.2	47.5	45.3	39.0	54.6	51.4	49.0	41.3	54.3		52.4	39.5
07:20					54.3		52.1	40.9	43.1		45.7	39.6	48.7		51.2	42.6	41.0		43.8	36.9
07:25					44.4		47.3	39.3	49.7		53.8	42.2	46.4		49.2	41.8	37.9		40.0	35.7
07:30					43.7		46.7	38.4	50.3		52.1	42.7	45.0		47.8	41.0	38.5		40.3	35.6
07:35					43.0		46.5	37.3	53.6		56.7	43.7	46.6		50.4	40.0	39.8		42.6	35.9
07:40					47.8		47.2	37.6	44.9		47.1	41.7	46.9		49.6	40.5	43.2		43.0	35.9
07:45					42.7		45.3	38.6	43.7		47.3	39.2	43.3		44.7	40.0	44.2		40.5	36.4
07:50					48.0		52.2	39.0	42.0		44.2	38.5	44.1		46.6	40.3	38.8		40.3	37.1
07:55					42.3		45.3	38.0	48.5		50.7	40.2	47.6		48.8	43.1	39.8		41.3	36.8
08:00					42.0		44.5	38.4	43.3		44.4	39.0	46.1		47.9	42.3	38.1		39.4	36.3
08:05					43.7		45.5	38.5	41.5		43.1	39.6	44.4		46.5	41.2	39.5		41.3	37.3
08:10					47.2		49.9	39.9	46.2		48.4	40.3	43.8		45.9	40.0	42.1		44.8	37.0
08:15					51.4		54.1	40.0	45.3		48.0	41.5	41.0		43.1	38.4	45.2		47.7	37.9
08:20					50.6		52.3	39.7	44.7		47.0	41.4	42.8		45.2	39.5	42.1		44.4	37.1
08:25					48.1		51.5	39.9	47.4		50.4	43.1	46.4		49.7	39.2	39.1		40.5	36.9
08:30					43.2		44.7	39.0	44.1		46.5	40.1	42.1		44.1	38.3	38.4		40.1	35.8
08:35					43.5		45.7	39.1	50.9		54.0	40.2	44.5		47.0	39.7	40.7		42.5	37.2
08:40					44.0		45.8	40.0	48.5		52.0	39.3	44.6		48.1	38.7	40.1		42.1	37.5
08:45					44.9		46.2	40.2	49.0		52.3	41.3	44.5		47.4	39.7	38.8		40.1	37.1
08:50					45.9		48.7	40.0	45.7		49.5	39.5	46.2		48.4	41.5	39.9		41.5	37.4
08:55					44.8		47.8	39.8	42.0		43.8	38.3	46.3		49.5	41.4	39.4		40.8	37.6
09:00					42.4		43.8	40.3	44.8		48.6	39.9	45.7		48.5	41.8	40.2		41.6	36.6
09:05					42.6		43.0	40.4	48.3		52.3	40.0	47.8		50.8	40.3	44.6		44.8	37.6
09:10					42.5		44.3	40.6	43.0		45.7	38.9	43.2		45.7	39.0	40.3		42.2	35.4
09:15					43.2		45.2	40.6	47.0		50.9	38.9	43.4		46.4	40.1	40.6		42.7	35.8
09:20					45.8		45.1	40.7	43.9		44.8	39.3	42.6		45.3	39.1	38.6		40.8	36.2
09:25					42.5		43.2	39.9	54.9		45.6	39.9	44.0		46.3	40.0	38.6		39.9	35.9
09:30					41.7		43.5	39.3	43.7		46.8	39.0	48.6		51.9	42.3	37.8		40.3	35.2
09:35					42.9		45.3	39.2	41.8		43.7	38.8	46.0		48.9	41.5	41.4		42.3	35.6
09:40					42.9		44.7	39.9	43.1		45.5	38.9	45.4		47.5	40.8	40.3		42.2	37.2
09:45					41.4		42.7	39.0	43.1		45.6	39.4	52.5		51.7	40.5	41.4		42.8	37.4
09:50					45.9		44.6	40.7	43.4		45.6	37.6	58.7		50.6	40.1	41.2		44.4	37.3
09:55					64.2		68.1	40.6	64.3		49.1	38.3	42.0		44.6	39.0	38.8		39.9	36.8
10:00					50.5		48.2	39.7	50.8		46.3	37.1	43.9		44.9	40.9	52.5		49.1	37.2
10:05					45.2		48.6	39.1	40.1		41.5	37.3	44.3		46.4	41.5	40.1		41.4	37.3
10:10					42.2		44.1	39.7	45.6		43.3	38.9	42.9		44.7	41.0	40.3		42.9	37.4
10:15					43.1		45.6	39.6	43.6		45.5	39.5	48.8		51.4	40.9	40.1		41.5	38.1
10:20					41.8		43.7	39.5	44.1		47.5	38.5	43.5		45.4	40.9	39.1		40.1	37.5
10:25					43.0		45.9	39.1	45.9		47.7	37.6	49.2		47.0	41.6	40.7		42.1	38.2
10:30					48.4		49.8	40.4	49.7		49.8	41.4	44.1		46.6	40.6	41.8		43.6	36.7
10:35					51.3		56.7	40.4	46.7		47.1	39.2	43.5		46.0	40.1	40.1		42.5	36.8
10:40					43.1		45.7	39.8	43.1		44.6	39.6	41.8		43.3	40.1	39.7		42.2	36.1
10:45					44.7		47.9	39.6	47.6		50.2	40.4	42.5		42.4	39.3	39.7		39.9	37.0
10:50					44.9		47.1	39.0	45.0		46.9	39.7	43.3		45.4	40.6	47.9		52.6	36.8
10:55					44.1		47.4	38.9	48.3		50.5	39.0	42.7		44.3	40.1	39.5		41.9	36.0
11:00	42.9		43.9	39.8	43.0		45.2	39.4	49.2		52.3	41.1	44.4		47.2	40.0	42.6		45.5	35.2
11:05	43.4		45.7	40.4	45.1		47.4	38.9	46.1		49.4	40.0	44.6		44.6	39.7	41.5		43.5	36.8
11:10	42.9		43.7	38.1	43.4		46.2	38.4	50.6		51.8	39.9	43.2		41.9	38.8	46.7		45.5	35.3
11:15	40.5		41.8	38.4	51.1		55.6	39.8	45.2		48.7	39.4	40.7		42.2	38.7	47.7		45.0	37.2
11:20	43.6		45.7	39.5	43.5		45.3	38.6	46.5		47.8	40.7	44.6		44.4	38.8	49.5		53.2	37.2
11:25	41.9		42.9	40.0	44.0		45.4	38.8	63.5		66.8	41.1	54.2		56.7	37.1	49.0		48.5	36.7
11:30	46.7		46.8	39.9	42.3		43.5	39.4	49.3		47.9	39.1	41.3		44.2	37.9	40.3		41.8	36.3
11:35	49.9		52.2	43.6	40.1		41.4	38.0	62.9		55.6	40.6	39.8		41.4	37.3	37.8		39.6	35.4
11:40	49.7		53.5	40.9	40.3		41.7	38.4	43.6		46.1	40.4	38.5		39.9	36.4	42.4		45.5	36.4
11:45	49.7		52.3	42.7	41.0		42.0	38.4	43.1		44.8	40.7	42.0		43.7	38.2	46.4		48.8	36.1
11:50	49.1		51.2	41.6	39.5		41.3	37.1	43.9		46.2	40.7	42.5		43.8	40.3	48.0		50.3	37.6
11:55	43.0		44.4	41.3	40.4		41.8	36.8	44.0		46.0	40.4	41.5		43.1	39.5	42.6		41.7	36.8
12:00	42.3		43.6	40.6	39.9		41.4	38.0	45.9		49.3	39.9	43.8		45.9	41.0	43.1		45.2	37.4
12:05	43.1		44.2	41.0	39.9		41.8	37.4	47.0		50.8	41.6	45.6		47.1	43.5	42.7		45.6	37.8
12:10	43.8		45.6	40.4	39.6		40.9	38.1	44.2		45.5	42.1	47.9		51.1	42.6	41.9		41.4	36.4
12:15	42.9		44.6	40.8	41.6		45.3	36.8	47.1		49.4	43.8	44.7		46.5	42.1	38.4		39.8	36.4
12:20	42.8		43.2	40.7	39.5		42.2	36.4	46.5		49.0	43.3	43.6		45.1	42.0	40.7		42.7	36.8
12:25	43.1		44.8	40.3	48.4		52.4	38.2	43.9		45.0	42.4	46.5		48.3	43.8	40.4		42.8	36.3
12:30	43.7		46.1	40.0	45.2		49.2	37.8	44.1		45.9	41.9	47.8		49.1	45.6	40.4		42.8	36.7
12:35	45.6		42.8	40.2	44.2		48.0	38.3	45.2		47.4	42.8	48.2		49.4					

## Background Noise Monitoring Data - NM1

Time	3 Jan 2024				4 Jan 2024				5 Jan 2024				6 Jan 2024				7 Jan 2024			
	Leq (5mins)	Leq (30mins)	L10 (5mins)	L90 (5mins)	Leq (5mins)	Leq (30mins)	L10 (5mins)	L90 (5mins)	Leq (5mins)	Leq (30mins)	L10 (5mins)	L90 (5mins)	Leq (5mins)	Leq (30mins)	L10 (5mins)	L90 (5mins)	Leq (5mins)	Leq (30mins)	L10 (5mins)	L90 (5mins)
	13:25	45.4		48.6	41.9	43.7		46.7	38.4	46.1		47.2	45.0	49.0		51.7	45.8	43.3		45.9
13:30	44.8		47.0	41.1	44.7		48.9	38.2	45.3		46.5	43.7	50.5		52.2	48.4	38.1		39.9	35.8
13:35	44.4		47.3	41.2	46.2		49.8	41.0	45.6		46.7	43.4	49.5		50.7	47.4	38.1		40.1	35.0
13:40	43.1	46.0	45.3	40.4	47.0		51.5	39.4	46.6		50.1	42.6	49.6		51.5	47.4	40.8		43.1	35.7
13:45	48.7		49.0	40.8	49.0	46.9	52.7	41.4	44.1	45.2	45.6	42.1	48.9	49.5	50.2	47.2	40.1		41.2	35.9
13:50	45.6		48.6	41.2	45.8		49.0	41.9	44.0		45.5	41.3	49.4		50.8	47.7	40.4		43.1	36.2
13:55	47.0		48.7	42.7	47.4		48.8	42.6	45.2		48.0	41.5	48.6		49.9	46.9	38.8		40.3	36.0
14:00	47.6		50.3	43.3	45.9		48.4	43.1	46.4		50.3	41.0	47.6		49.1	45.7	39.5		41.2	36.5
14:05	46.7		49.9	42.1	48.0		49.8	45.5	45.6		47.4	42.5	49.7		51.2	46.3	39.6		41.3	36.5
14:10	46.1	45.6	49.4	41.8	48.7	48.6	50.7	46.2	46.5	46.5	49.4	43.2	48.4	49.3	50.1	46.2	41.1		42.9	35.6
14:15	44.1		45.2	42.2	49.5		51.8	46.9	47.5		50.0	44.3	49.1		50.4	47.5	42.9		46.4	37.7
14:20	44.4		46.1	42.0	49.8		52.2	46.6	47.4		50.3	43.6	50.0		51.3	48.2	50.2		55.0	38.1
14:25	43.4		45.0	41.5	48.7		50.6	46.5	44.7		45.3	42.9	50.2		51.7	47.7	43.6		45.8	37.2
14:30	43.3		44.1	41.1	48.5		50.0	46.5	47.3		49.8	43.9	49.7		51.2	47.9	40.7		41.9	36.8
14:35	43.4		44.8	40.6	49.4		51.6	46.8	47.0		49.0	44.2	50.3		51.8	48.1	43.7		45.8	37.1
14:40	43.0		44.6	41.0	47.7		49.4	45.5	46.0		47.3	44.5	52.2		54.3	49.4	41.7		44.1	37.6
14:45	43.9	44.4	44.8	41.5	48.7	48.2	50.6	45.8	47.2	46.9	48.6	44.6	50.5	51.6	52.0	48.4	46.7		45.7	38.7
14:50	45.5		48.9	40.5	47.4		48.6	45.2	48.1		51.2	44.2	52.7		54.6	50.6	43.5		45.3	38.2
14:55	46.4		47.9	42.4	46.8		48.6	44.9	45.6		47.2	43.5	53.1		54.5	51.4	45.3		48.4	38.8
15:00	43.0	46.3	45.2	40.7	47.5	47.6	49.7	45.3	47.3	47.6	49.5	44.9	51.9	52.1	53.6	49.8	48.4		47.6	38.8
15:05	41.9		43.2	40.6	47.1		49.1	45.1	47.1		48.5	45.4	51.1		52.7	49.0	43.5		43.6	38.1
15:10	41.4		42.5	40.1	46.6		47.7	45.3	48.1		49.6	46.3	51.0		52.5	49.4	41.4		42.5	38.0
15:15	42.3		43.7	40.9	47.9		50.1	45.5	48.1		49.6	46.1	51.4		53.0	49.7	42.1		44.0	38.7
15:20	48.4		47.4	41.3	48.3		49.5	45.5	47.9		48.9	45.7	54.9		54.3	49.4	40.4		42.4	37.7
15:25	50.9		53.4	40.9	47.7		49.4	45.0	47.2		49.1	45.0	50.9		52.2	49.4	40.0		41.9	36.9
15:30	46.5	47.0	47.5	41.4	47.3	47.8	49.3	44.9	48.1	48.1	50.1	45.5	52.7	52.4	54.7	50.3	47.6		45.6	37.6
15:35	50.9		54.4	41.3	47.9		49.5	45.7	50.5		52.3	46.2	52.4		54.0	50.2	44.4		44.2	38.1
15:40	44.5		47.3	41.1	49.7		51.9	45.1	47.1		48.5	45.0	53.1		55.0	50.5	42.2		44.3	37.8
15:45	42.0		43.6	39.8	47.3		49.2	44.9	47.5		49.8	44.9	51.8		53.7	49.6	45.0		45.8	38.6
15:50	44.9		47.0	40.5	47.5		48.9	45.0	46.4		47.6	45.0	51.7		53.7	49.6	41.9		45.1	37.6
15:55	47.4		49.6	39.9	46.5		48.0	44.0	47.5		49.2	45.5	52.6		54.6	50.0	42.0		44.0	38.2
16:00	54.5		59.3	42.6	47.3		48.9	44.7	48.0		49.1	45.3	52.6		54.4	50.3	42.1		44.4	38.6
16:05	48.2	50.8	51.2	41.5	48.0	46.7	49.7	45.2	48.7	47.3	50.2	46.6	53.4	52.3	55.2	51.0	41.4		43.3	38.3
16:10	53.0		57.4	41.7	47.0		48.3	44.4	47.8		48.6	45.2	53.3		55.2	50.7	41.2		43.0	37.0
16:15	50.8		54.0	41.9	45.1		46.3	43.7	46.2		47.4	44.1	52.3		53.8	50.4	38.9		41.0	36.5
16:20	43.7		44.9	42.1	46.2		48.6	43.4	45.9		47.2	44.1	51.3		52.8	49.3	43.0		46.3	36.8
16:25	44.3		45.5	42.6	45.8		47.5	43.7	46.6		47.5	45.0	50.3		51.5	49.0	42.1		45.7	36.8
16:30	45.2	45.3	47.5	43.1	45.3	47.0	47.1	43.3	46.1	45.4	47.4	44.3	49.7	50.5	51.6	47.1	39.1		41.2	36.2
16:35	46.5		49.2	43.5	48.4		47.7	43.6	45.7		47.1	43.7	49.8		51.4	47.6	40.2		44.0	35.6
16:40	45.1	45.3	45.7	43.4	48.3	47.0	49.6	43.8	45.2	45.4	46.5	43.4	53.3	50.5	52.3	47.1	41.2		44.5	36.3
16:45	44.6		45.8	43.2	47.3		48.3	44.9	45.7		46.5	43.1	49.6		51.4	47.0	42.7		45.6	36.0
16:50	44.9		46.1	43.6	46.3		47.8	43.8	44.9		46.6	43.2	49.6		51.5	47.2	47.0		50.9	36.8
16:55	45.5		47.5	43.2	45.4		46.5	42.8	44.9		46.8	42.6	49.1		50.4	47.2	41.3		43.8	35.5
17:00	46.4	46.5	49.6	41.9	45.5	44.5	47.0	43.0	44.9	45.2	46.2	43.2	51.1	49.4	53.4	48.2	39.3		41.6	36.1
17:05	44.9		46.7	42.1	44.9		46.5	42.4	45.4		47.1	43.5	49.4		51.1	47.2	39.5		42.4	36.0
17:10	49.2		52.2	41.6	43.5		45.2	41.6	44.7		45.9	42.3	49.9		50.4	46.4	38.8		40.7	36.2
17:15	45.5	46.5	47.9	42.4	43.8	44.5	45.4	41.9	44.6	45.2	46.2	42.7	47.6	49.4	49.6	45.1	39.4		41.5	36.7
17:20	46.1		47.4	44.0	44.4		46.7	41.3	47.2		50.4	43.4	47.4		48.9	45.4	40.8		43.1	37.5
17:25	45.7		47.6	42.5	44.8		46.3	41.2	43.6		45.5	41.3	49.7		51.6	44.8	39.3		41.0	36.9
17:30	43.9		45.4	42.1	44.1		45.7	41.1	43.1		44.7	41.0	54.2		56.5	44.6	51.4		55.1	39.7
17:35	48.5	51.1	52.4	42.5	47.4	54.1	51.2	41.0	50.0	54.3	54.4	43.3	52.0	55.0	56.3	45.2	56.7		58.3	54.5
17:40	42.8		43.7	41.5	53.0		55.2	49.7	52.9		55.3	49.3	52.9		56.4	47.1	57.6		59.0	56.0
17:45	48.1		51.6	42.2	56.0		57.4	54.4	56.4		57.7	54.8	55.6		57.7	52.2	56.5		57.9	54.8
17:50	54.1		56.0	51.2	56.9		58.3	55.3	56.5		57.7	55.1	56.5		58.1	54.5	57.2		59.4	54.4
17:55	55.2		57.2	52.4	55.9		57.2	54.4	56.3		57.5	54.9	56.8		58.2	54.7	55.5		57.1	53.6
18:00	54.5	50.7	56.4	51.6	54.8	50.5	56.2	53.2	55.3	51.3	56.7	53.6	56.7	53.6	58.2	54.8	54.9		56.6	52.9
18:05	53.4		55.6	50.3	53.3		55.1	50.3	54.1		55.6	52.1	55.4		57.1	53.4	53.3		54.9	51.2
18:10	50.4		53.1	45.0	49.3		51.6	45.7	51.3		53.6	48.0	54.3		55.9	52.2	52.5		54.4	49.8
18:15	46.3		49.2	42.5	44.9		47.7	41.0	46.9		49.6	42.8	52.5		54.3	50.0	50.0		52.3	46.3
18:20	44.3		44.7	41.6	45.6		44.7	41.1	42.6		44.8	39.8	50.0		52.5	45.5	45.5		48.9	38.0
18:25	43.1		43.5	41.4	40.9		42.9	39.1	41.9		44.1	39.1	43.4		45.3	41.1	38.0		39.9	35.5
18:30	43.0		44.6	41.2	41.5		43.4	39.6	42.9		45.7	38.3	42.5		44.0	40.5	38.3		40.0	36.1
18:35	42.1		43.4	40.3	40.1		41.7	38.5	40.0		41.3	38.7	43.7		46.1	40.7	38.4		39.8	36.9
18:40	41.9	43.7	42.6	41.1	40.4	41.8	42.1	38.6	41.3	41.8	42.7	39.6	47.8	44.8	49.7	45.6	37.2		38.7	35.6
18:45	46.4		49.8	40.9	43.0		44.8	40.4	41.7		43.4	39.3	45.1		46.8	42.8	37.1		38.7	35.5
18:50	44.6		46.9	41.5	41.8		43.4	40.0	42.7		44.5	39.5	44.0		45.4	42.0	37.5		39.1	35.6
18:55	42.3		42.8	41.1	43.2		44.7	40.3	41.4		43.0	39.0	43.1		44.4	41.0	36.8		38.2	35.2
19:00	52.4		54.0	48.5	52.4		54.0	48.5	54.0		57.0	48.5								

## Background Noise Monitoring Data - NM1

Time	3 Jan 2024				4 Jan 2024				5 Jan 2024				6 Jan 2024				7 Jan 2024			
	Leq (5mins)	Leq (30mins)	L10 (5mins)	L90 (5mins)	Leq (5mins)	Leq (30mins)	L10 (5mins)	L90 (5mins)	Leq (5mins)	Leq (30mins)	L10 (5mins)	L90 (5mins)	Leq (5mins)	Leq (30mins)	L10 (5mins)	L90 (5mins)	Leq (5mins)	Leq (30mins)	L10 (5mins)	L90 (5mins)
	20:20	50.8		52.0	47.5	54.1		55.5	49.0	51.4		52.5	47.5	54.2		58.0	48.0	43.4		47.0
20:25	51.0		52.0	47.5	52.0		53.5	48.5	53.7		53.0	47.5	55.5		59.0	48.0	38.5		41.9	34.3
20:30	54.1		55.0	48.5	56.4		53.0	47.5	50.3		51.5	47.5	53.0		55.5	47.5	36.4		37.0	34.0
20:35	54.9		58.5	49.5	53.6		56.0	48.0	50.4		51.5	47.5	52.1		54.0	47.5	35.8		37.1	34.3
20:40	56.7		60.0	50.0	50.2		51.0	47.0	53.1		55.0	47.5	51.4		51.5	47.5	35.0		37.0	32.3
20:45	54.0		57.5	48.0	53.8		55.5	47.5	50.6		51.5	47.5	53.8		54.5	48.5	35.1		37.7	32.0
20:50	55.2		58.5	48.0	51.5		52.0	47.5	53.0		53.5	47.5	54.8		56.0	47.0	32.2		34.1	30.0
20:55	53.6		56.5	48.0	50.2		51.0	47.0	56.1		58.5	48.0	50.9		52.0	48.5	31.6		33.0	29.7
21:00	50.7		52.0	47.0	51.6		52.5	47.5	53.9		55.5	48.5	54.5		56.5	50.0	32.1		34.0	29.6
21:05	52.1		53.5	47.5	50.1		51.0	47.0	53.3		51.5	47.5	54.0		57.0	50.0	34.7		37.8	29.6
21:10	56.1		57.0	47.5	50.2		51.0	47.0	56.8		58.5	48.0	52.1		53.0	49.5	31.9		33.7	29.3
21:15	56.3		60.0	48.5	52.4		54.5	48.5	56.2		53.0	47.5	51.2		52.5	49.0	36.2		39.2	31.2
21:20	51.9		53.0	48.5	53.5		56.0	47.5	52.5		52.5	47.5	51.5		52.0	47.0	33.5		35.3	31.1
21:25	52.7		53.5	48.5	51.2		52.0	48.0	52.7		54.5	47.5	55.3		57.0	47.5	35.1		37.0	32.8
21:30	52.3		53.0	48.5	51.0		51.5	47.0	50.7		51.0	47.0	52.0		53.5	47.5	36.4		35.7	32.5
21:35	51.7		52.5	47.5	52.0		52.0	47.5	51.7		51.0	47.0	50.4		51.5	47.5	34.5		36.4	31.9
21:40	51.8		53.0	49.0	50.3		51.5	47.0	50.9		52.0	47.0	50.1		51.0	47.0	33.5		34.9	31.6
21:45	53.6		53.0	48.5	50.9		51.5	47.0	50.4		51.0	47.0	50.0		51.0	47.0	35.0		37.6	32.0
21:50	52.2		53.0	48.5	52.1		53.0	47.5	50.5		51.5	47.0	53.1		54.0	47.5	34.7		37.0	32.0
21:55	52.0		52.5	48.5	54.5		57.5	48.0	52.9		54.5	48.5	52.9		54.5	47.5	33.3		35.4	30.7
22:00	51.9		52.5	48.5	51.6		52.0	47.5	50.7		53.0	47.0	51.2		51.5	47.5	35.6		38.4	31.4
22:05	51.6		53.0	48.5	54.0		53.5	47.5	55.9		59.0	47.5	50.5		51.5	47.5	36.1		37.9	33.8
22:10	51.4		52.5	48.0	53.9		52.0	47.5	55.3		51.0	46.0	50.1		51.0	47.0	35.5		37.8	32.8
22:15	50.9		52.0	47.5	60.1		57.5	48.0	52.0		54.0	46.5	52.3		53.5	47.5	34.1		36.2	31.7
22:20	51.1		52.0	48.0	50.5		51.5	47.5	50.6		51.0	46.5	51.4		51.5	47.5	33.5		35.1	31.4
22:25	51.5		52.5	48.0	50.5		51.5	47.5	49.8		51.0	46.5	51.4		52.0	47.5	33.0		34.7	31.0
22:30	51.7		52.5	48.5	50.6		51.5	47.0	49.9		51.0	46.5	51.8		54.0	47.5	33.5		35.1	31.1
22:35	51.9		52.0	48.0	50.5		51.5	47.5	50.0		51.0	46.5	51.3		53.0	47.5	33.0		33.7	29.3
22:40	50.8		52.0	47.0	61.4		52.0	48.0	50.4		51.0	47.0	50.1		51.0	47.0	31.8		32.8	29.6
22:45	51.0		52.0	47.5	50.9		51.5	47.5	50.4		51.0	47.0	50.1		51.0	47.0	30.8		32.0	29.0
22:50	50.7		52.0	47.0	51.9		53.5	48.0	50.0		51.0	47.0	50.2		51.0	47.0	31.9		32.8	29.3
22:55	51.5		52.0	47.5	52.5		55.0	48.0	49.9		51.0	46.5	51.6		52.5	47.0	30.3		31.6	28.7
23:00	53.2		56.0	48.0	50.4		51.5	47.5	49.8		51.0	46.5	50.3		51.0	47.0	32.0		33.1	30.1
23:05	51.3		52.0	47.0	50.5		51.5	47.5	49.9		51.0	46.5	49.9		51.0	47.0	31.6		32.6	28.9
23:10	50.8		52.0	47.5	50.6		51.5	48.0	49.8		51.0	46.5	51.5		51.0	47.0	31.7		32.8	28.4
23:15	51.1		52.0	47.5	51.1		51.5	48.0	49.9		51.0	46.5	50.3		51.0	47.5	30.2		31.3	27.6
23:20	53.9		57.5	48.5	53.8		55.0	48.5	50.3		51.5	47.0	50.6		51.5	47.5	32.4		33.1	28.3
23:25	51.6		53.0	48.0	52.1		53.0	48.5	49.9		51.0	47.0	52.1		51.0	47.0	35.9		39.5	27.5
23:30	60.8		60.0	48.5	51.3		51.5	48.0	62.0		57.5	47.5	50.4		51.0	46.5	31.2		32.1	27.7
23:35	61.3		52.5	48.0	51.4		52.0	48.5	50.8		51.5	47.5	50.4		51.0	46.5	31.1		31.8	27.7
23:40	51.6		52.0	48.0	50.8		52.0	48.0	53.2		52.5	47.5	51.5		51.0	46.5	30.4		31.4	27.4
23:45	51.5		52.0	48.0	51.1		51.5	48.0	50.4		51.5	47.5	49.9		51.0	46.5	30.5		31.1	27.5
23:50	53.2		52.5	48.5	50.6		51.5	48.0	50.3		51.0	47.5	51.5		51.5	47.0	30.5		31.1	26.7
23:55	50.9		52.0	48.0	51.6		52.0	48.5	50.4		51.5	47.5	50.2		51.0	47.0	31.0		32.1	27.4

## Background Noise Monitoring Data - NM1

Time	8 Jan 2024				9 Jan 2024				10 Jan 2024				11 Jan 2024				12 Jan 2024			
	Leq (5mins)	Leq (30mins)	L10 (5mins)	L90 (5mins)	Leq (5mins)	Leq (30mins)	L10 (5mins)	L90 (5mins)	Leq (5mins)	Leq (30mins)	L10 (5mins)	L90 (5mins)	Leq (5mins)	Leq (30mins)	L10 (5mins)	L90 (5mins)	Leq (5mins)	Leq (30mins)	L10 (5mins)	L90 (5mins)
	00:00	50.5		51.0	47.0	52.8		51.5	47.0	50.9		51.5	49.0	51.5		52.5	49.0	51.6		52.5
00:05	50.8		51.0	47.5	51.3		51.5	47.5	50.7		51.5	48.5	70.3		76.0	49.0	51.8		52.0	49.5
00:10	50.7		52.0	48.0	50.8		51.0	47.5	50.8		51.5	48.5	57.6		56.0	48.5	51.2		52.0	49.0
00:15	50.4		51.5	47.5	49.7		51.0	46.5	50.8		51.5	48.5	62.8		66.5	50.0	52.3		52.5	49.0
00:20	50.4		51.5	47.5	49.9		51.0	47.0	50.9		51.5	48.5	59.3		63.0	49.0	51.7		53.0	49.0
00:25	50.3		51.0	47.5	50.9		51.0	47.0	50.9		51.5	49.0	51.5		52.5	48.5	54.7		52.0	48.5
00:30	50.3		51.5	47.5	49.8		51.0	46.5	52.3		52.0	49.0	51.7		52.5	48.5	51.2		52.5	48.5
00:35	50.9		51.5	48.0	49.8		51.0	47.0	50.8		51.5	48.5	51.4		52.5	48.5	50.7		51.5	48.0
00:40	50.7		51.5	48.0	49.8		51.0	46.5	50.8		51.5	48.5	51.6		52.0	48.0	50.8		51.5	48.0
00:45	50.8		51.5	48.5	50.2		51.0	47.5	50.8		51.5	48.5	51.2		52.0	48.0	58.1		51.5	48.5
00:50	50.8		51.5	48.5	50.1		51.0	47.0	51.0		52.0	49.0	51.0		52.0	48.5	50.7		51.5	48.0
00:55	50.8		51.5	48.5	50.0		51.0	47.0	50.9		51.5	48.5	50.7		51.5	47.5	50.6		51.5	48.0
01:00	51.0		51.5	48.5	51.7		54.5	47.5	51.1		52.0	49.0	50.9		51.5	48.0	50.8		51.5	48.0
01:05	51.3		52.5	48.5	51.0		52.5	47.5	51.2		52.0	49.0	50.9		52.0	48.0	50.6		51.5	48.0
01:10	50.9		51.5	48.5	50.6		51.5	48.0	51.4		52.5	49.5	50.8		51.5	47.5	50.4		51.5	47.5
01:15	51.8		53.0	49.0	50.4		51.5	48.0	51.2		52.0	49.0	50.8		52.0	48.0	50.6		51.5	48.0
01:20	52.4		52.0	48.5	50.5		51.5	47.5	51.1		52.0	49.0	56.7		61.5	48.5	50.6		51.5	48.0
01:25	58.0		54.5	48.0	50.3		51.5	47.5	53.9		52.0	49.5	55.6		59.5	48.0	50.6		51.5	48.0
01:30	50.8		51.5	48.0	50.1		51.0	47.5	51.4		52.0	49.5	50.9		52.0	48.0	51.0		52.0	48.5
01:35	50.8		52.0	48.0	50.9		51.0	47.5	51.9		53.0	50.0	54.0		55.5	50.0	50.5		51.5	47.5
01:40	50.8		51.5	48.5	50.3		51.5	47.5	51.7		52.5	50.0	53.5		55.0	50.0	50.4		51.5	47.5
01:45	51.3		52.0	48.5	50.4		51.5	47.5	51.4		52.5	49.5	53.8		53.0	49.5	50.5		51.5	48.0
01:50	52.1		53.0	49.0	50.7		52.0	48.0	51.3		52.0	49.5	52.8		53.0	50.0	51.4		52.0	48.5
01:55	50.5		51.0	47.5	51.0		52.5	48.0	51.9		53.0	50.0	51.8		53.0	49.5	50.8		51.5	48.5
02:00	50.1		51.0	47.0	51.0		52.5	48.5	51.5		52.5	49.5	51.3		52.0	48.5	51.7		52.0	48.5
02:05	50.7		51.5	47.5	52.3		53.0	50.5	51.5		52.5	49.5	51.3		52.0	49.0	51.5		52.5	49.5
02:10	50.1		51.0	47.0	52.2		53.5	50.5	52.7		53.0	50.0	51.7		53.5	49.0	51.5		52.5	49.5
02:15	50.2		51.0	47.0	52.5		53.5	50.5	51.8		52.5	50.0	52.1		52.5	49.5	51.7		52.5	49.5
02:20	50.3		51.5	47.5	52.8		54.0	51.0	51.7		52.5	49.5	51.2		52.0	49.0	51.3		52.0	49.0
02:25	50.1		51.0	47.0	53.0		54.0	51.5	54.5		52.5	50.0	50.9		51.5	48.5	51.9		53.0	50.0
02:30	50.0		51.0	47.0	53.4		54.0	51.5	51.8		52.5	50.0	52.6		54.5	49.5	51.3		52.5	49.0
02:35	50.0		51.0	47.0	53.5		54.0	52.0	51.6		52.5	49.5	52.9		54.5	49.5	51.0		52.0	48.5
02:40	49.8		51.0	46.5	53.7		54.5	52.5	51.3		52.0	49.5	53.2		55.0	50.0	50.6		51.5	48.0
02:45	49.7		50.5	46.5	53.7		54.5	52.5	51.3		52.0	49.5	51.5		53.0	49.0	50.5		51.5	48.0
02:50	49.6		50.5	46.0	55.4		54.5	52.5	51.3		52.0	49.5	51.7		53.0	49.0	50.4		51.5	47.5
02:55	51.5		54.0	46.5	53.9		54.5	52.5	51.1		52.0	49.0	52.0		54.0	49.0	50.6		51.5	48.0
03:00	49.6		50.5	46.0	53.6		54.5	52.0	50.9		52.0	49.0	51.9		53.5	49.0	50.5		51.5	48.0
03:05	49.8		51.0	46.5	53.5		54.5	52.0	51.1		52.0	49.0	67.0		57.0	49.5	50.4		51.5	47.5
03:10	49.7		51.0	46.5	53.1		54.0	50.5	51.6		52.5	49.5	51.2		52.0	49.0	50.4		51.5	47.5
03:15	50.4		51.0	46.5	53.3		54.0	52.0	51.3		52.0	49.5	53.0		55.0	49.5	51.4		52.5	48.0
03:20	49.7		50.5	46.5	53.4		54.0	52.0	51.0		52.0	48.5	53.5		55.0	49.5	51.4		53.0	48.5
03:25	49.6		50.5	46.0	54.7		57.0	52.0	50.7		51.5	48.5	53.4		55.0	50.5	50.3		51.0	47.5
03:30	49.5		50.5	46.0	54.0		54.5	52.0	51.8		51.5	48.5	52.1		54.0	49.5	50.7		51.5	48.0
03:35	49.3		50.5	45.5	54.2		54.5	52.0	51.3		52.5	49.0	51.2		52.0	49.0	51.2		52.0	49.0
03:40	49.2		50.5	45.5	53.9		54.5	52.5	52.1		52.0	48.5	51.2		52.0	48.5	50.5		51.5	47.5
03:45	49.3		50.5	45.5	53.2		54.0	51.5	50.9		51.5	48.5	52.2		54.0	49.5	51.6		53.5	48.5
03:50	50.2		51.0	46.0	53.2		54.0	51.5	50.5		51.5	48.0	54.1		55.0	50.0	50.2		51.0	47.5
03:55	49.4		50.5	45.5	52.9		54.0	51.0	50.6		51.5	48.0	52.4		54.5	49.5	50.9		52.0	48.5
04:00	49.4		50.5	45.5	53.0		54.0	51.5	50.0		51.0	47.5	52.5		54.0	50.0	52.1		52.0	47.5
04:05	49.5		50.5	46.0	52.5		53.5	50.5	50.1		51.0	47.5	52.8		54.0	49.5	51.7		52.0	48.0
04:10	49.6		50.5	46.0	52.4		53.5	50.5	50.1		51.0	47.5	58.3		54.5	50.0	50.6		51.5	47.5
04:15	49.5		50.5	46.0	52.3		53.0	50.5	50.0		51.0	47.5	52.6		54.5	49.5	51.1		51.5	47.5
04:20	49.2		50.5	45.0	51.9		52.5	50.0	50.5		52.0	47.5	53.0		54.5	50.0	50.7		52.0	48.0
04:25	49.4		50.5	45.5	51.5		52.5	49.5	49.8		50.5	47.0	51.9		53.0	50.0	50.9		52.0	48.0
04:30	49.3		50.5	45.5	51.7		52.5	49.5	49.8		51.0	47.0	52.0		52.0	49.0	50.8		52.0	48.5
04:35	49.2		50.5	45.5	51.3		52.0	49.5	49.7		50.5	47.0	51.4		52.0	49.0	50.2		51.0	47.5
04:40	49.3		50.5	45.5	51.5		52.5	49.0	49.7		50.5	47.0	51.5		52.5	49.5	50.0		51.0	47.0
04:45	49.8		50.5	46.0	54.9		52.0	48.5	51.4		51.0	47.0	51.8		53.0	50.0	49.9		51.0	46.5
04:50	49.5		50.5	46.0	51.8		52.0	47.5	50.3		51.0	47.0	51.3		52.0	49.0	50.1		51.0	46.5
04:55	49.3		50.5	45.5	50.8		51.5	47.5	49.8		50.5	47.0	51.9		53.0	49.5	50.6		51.0	46.5
05:00	49.7		51.0	45.5	49.8		51.0	46.5	49.8		50.5	47.0	51.5		52.5	49.5	51.2		53.5	47.0
05:05	50.2		52.0	46.0	61.1		52.5	47.0	49.8		50.5	47.0	52.0		53.0	50.0	50.6		51.5	47.5
05:10	50.3		52.5	46.0	50.2		52.0	46.0	53.5		54.0	47.5	51.2		52.0	49.0	50.4		51.5	47.5
05:15	51.2		53.0	46.5	56.0		58.5	47.5	56.5		52.5	47.0	53.4		56.0	49.5	56.3		55.5	48.0
05:20	56.2		54.0	47.0	58.1		61.0	48.5	54.7		56.0	47.5	53.8		56.0	49.0	58.4		62.5	50.5
05:25	58.8		62.0	47.5	59.1		63.5	49.0	52.5		54.0	48.5	54.7		56.5	49.0	55.8		56.0	50.0
05:30	56.9		60.0	50.0	56.9		55.5	49.5	57.4		60.0	49.0	53.1		55.5	49.5	52.9		54.5	50.5
05:35	54.1		56.0	50.5	59.1		56.0	49.0	52.3		54.0	49.0	54.9		56.0	49.5	53.3		54.5	50.5
05:40	53.6		56.0	50.0	52.6		54.5	49.5	52.0		54.0	49.0	56.3		58.5	49.0	52.2		53.5	49.5
05:45	52.5		54.5	49.0	51.9		53.0	48.5	52.7		54.5	49.5	52.1		55.0	50.0	51.3		52.5	48.5
05:50	55.2		58.5	49.0	56.3															

## Background Noise Monitoring Data - NM1

Time	8 Jan 2024				9 Jan 2024				10 Jan 2024				11 Jan 2024				12 Jan 2024						
	Leq (5mins)	Leq (30mins)	L10 (5mins)	L90 (5mins)	Leq (5mins)	Leq (30mins)	L10 (5mins)	L90 (5mins)	Leq (5mins)	Leq (30mins)	L10 (5mins)	L90 (5mins)	Leq (5mins)	Leq (30mins)	L10 (5mins)	L90 (5mins)	Leq (5mins)	Leq (30mins)	L10 (5mins)	L90 (5mins)			
	06:30	54.8		57.5	48.0	52.7		52.5	47.5	52.1		54.0	48.0	56.0		59.5	47.0	52.6		54.5	49.5		
06:35	55.5		58.0	48.5	51.6		54.0	47.0	51.3		53.5	47.5	57.2		61.0	45.0	55.6		58.0	51.5			
06:40	53.7		56.0	48.0	51.9		53.0	47.5	55.6		58.0	47.5	55.0		58.5	45.0	61.2		61.5	51.0			
06:45	54.0		56.0	48.5	50.6		51.5	47.0	54.7		57.0	48.5	58.1		61.0	51.5	56.8		60.5	50.0			
06:50	54.8		58.0	49.0	50.2		51.5	47.0	52.5		53.5	48.0	55.7		59.5	45.0	52.7		54.5	49.5			
06:55	51.9		53.5	47.5	67.4		72.0	47.0	52.1		54.5	48.0	57.2		61.5	48.5	53.1		55.0	50.0			
07:00	50.7	49.2	53.0	47.7	53.9	51.4	55.9	51.3	52.4	48.4	55.0	47.2	51.8	49.2	54.5	47.2	52.4	53.0	54.7	48.9			
07:05	51.5		54.4	46.4	52.8		55.6	48.7	47.1		49.9	42.6	48.5		51.2	44.8	49.2		51.2	44.8	49.2	51.2	44.2
07:10	46.2		48.7	42.4	50.7		52.5	46.0	43.6		45.7	40.1	48.8		51.0	44.6	46.4		48.8	42.9			
07:15	51.5		52.2	42.9	48.1		50.3	44.0	51.1		49.6	39.7	43.3		45.8	38.5	57.9		63.5	39.9			
07:20	45.2		48.4	38.1	52.6		52.3	41.3	42.8		45.1	39.2	51.8		48.9	37.8	52.1		52.2	39.4			
07:25	43.1	45.1	36.3	44.5	46.8	40.6	43.3	44.9	39.1	45.1	47.4	37.3	50.5	45.7	38.7								
07:30	55.8	50.0	58.8	36.2	43.8	46.5	46.1	40.4	41.4	44.6	43.4	38.9	40.0	41.8	42.5	35.3	42.7	44.5	45.5	37.6			
07:35	52.3		49.0	37.3	46.3		49.4	40.4	43.9		46.6	40.3	43.5		46.9	37.4	44.0		47.1	38.2			
07:40	41.3		45.2	36.6	43.1		45.4	39.7	44.8		47.4	40.8	41.7		44.6	37.1	46.1		50.2	38.5			
07:45	40.1		42.9	35.8	48.1		50.6	43.0	44.9		47.9	40.0	41.3		44.9	36.4	45.1		49.5	38.1			
07:50	43.1		45.4	37.1	48.6		51.0	44.2	45.3		48.3	40.1	41.7		44.1	37.8	42.3		44.2	38.9			
07:55	39.9	41.7	37.2	46.6	49.1	42.8	46.2	50.4	38.9	41.6	43.4	39.5	45.7	47.5	42.2								
08:00	43.9	43.8	36.0	48.0	49.7	42.5	48.4	50.9	44.5	42.2	44.5	39.2	45.2	47.8	41.3								
08:05	57.0	50.1	40.4	46.3	49.0	42.5	45.9	47.5	43.6	44.4	46.6	39.2	49.4	50.6	39.9								
08:10	46.0	44.1	39.6	46.5	49.0	43.1	48.9	52.0	41.3	46.4	47.9	39.1	43.4	45.5	38.4								
08:15	43.3	45.1	36.7	47.7	50.0	43.5	46.4	47.1	40.5	41.2	42.9	37.7	43.1	44.4	37.9								
08:20	42.7	46.0	37.0	47.4	49.0	43.9	46.3	49.7	39.8	42.1	44.5	38.1	43.5	46.0	39.5								
08:25	43.1	45.1	38.3	47.4	49.4	43.1	56.0	62.5	39.9	43.8	46.7	37.6	42.1	44.5	37.7								
08:30	46.2	48.4	49.7	38.4	46.0	46.5	48.0	43.0	51.2	47.0	51.7	40.2	43.9	43.3	47.5	37.2	45.5	49.9	49.3	39.0			
08:35	43.8		47.0	39.5	44.6		47.1	41.9	44.7		48.4	40.0	44.9		43.8	35.8	41.7		44.8	37.6			
08:40	54.8		54.7	39.6	46.7		49.4	43.0	44.1		47.9	39.4	41.4		44.3	36.3	42.9		44.5	38.1			
08:45	42.4		43.6	40.1	46.5		48.7	42.6	45.1		48.8	41.0	42.2		44.9	37.1	55.9		59.3	38.9			
08:50	42.0		42.7	39.5	45.9		48.2	42.1	42.6		44.5	39.7	43.7		47.0	38.1	49.0		49.7	38.7			
08:55	41.1	42.2	38.8	48.3	52.1	41.3	47.8	49.2	39.6	43.1	46.6	38.0	46.3	49.9	40.8								
09:00	41.5	42.9	43.1	39.2	45.6	46.1	48.5	40.6	43.1	43.5	45.3	40.5	47.1	46.4	50.5	39.3	46.4	47.1	49.2	42.1			
09:05	45.3		45.4	38.8	48.4		51.2	40.6	42.8		44.3	40.8	47.7		51.2	39.8	46.7		48.5	40.9			
09:10	40.8		42.0	38.8	46.9		48.6	41.4	43.1		45.2	41.0	45.1		47.9	38.1	46.1		49.1	41.0			
09:15	41.3		43.3	38.8	44.6		46.5	41.0	45.3		47.6	41.9	45.1		48.6	37.0	43.9		46.0	39.8			
09:20	41.2		42.7	38.9	45.7		47.5	42.3	42.4		43.8	40.3	46.7		49.4	39.8	48.4		51.7	41.5			
09:25	44.9	43.2	39.3	44.0	45.9	41.5	43.6	45.2	40.6	46.2	49.5	39.1	49.0	52.3	40.3								
09:30	45.6	46.1	40.2	45.2	47.9	41.4	42.5	44.8	39.7	45.0	48.1	38.8	54.7	58.7	41.5								
09:35	42.5	45.5	44.2	39.7	45.2	45.4	47.8	41.8	41.2	42.3	43.4	38.5	44.3	45.0	47.9	37.8	52.3	50.4	53.0	40.5			
09:40	43.6		46.2	39.9	44.6		46.7	41.2	42.6		44.5	39.4	45.4		48.2	39.0	42.9		45.5	39.0			
09:45	50.0		48.8	40.7	46.1		48.8	41.7	43.2		46.0	39.9	43.6		46.2	38.8	44.4		46.4	39.3			
09:50	41.7		43.1	39.7	45.4		48.7	40.4	42.4		44.8	39.1	46.6		48.3	39.2	48.5		51.0	42.3			
09:55	43.3		44.7	39.5	45.8		48.6	41.2	41.4		43.3	38.8	44.5		46.3	38.6	49.0		52.5	42.5			
10:00	46.5	44.0	49.3	39.7	47.6	47.5	50.6	41.0	52.4	49.6	54.3	41.1	44.0	47.4	47.2	38.4	46.1	47.8	49.0	41.6			
10:05	44.9		48.1	39.3	50.1		52.0	40.3	45.9		48.4	41.9	42.5		43.9	37.8	48.3		51.9	42.1			
10:10	43.4		46.6	39.3	47.9		51.4	41.6	45.6		48.3	41.8	41.2		43.4	38.0	44.4		45.2	39.7			
10:15	42.9		44.3	39.8	45.2		47.8	42.1	46.4		49.9	41.7	42.5		44.3	38.4	51.3		54.6	41.0			
10:20	41.2		42.9	39.2	46.2		48.5	42.5	53.6		54.4	42.5	41.8		44.6	38.3	46.8		49.6	40.5			
10:25	43.2	45.4	39.5	45.9	48.3	42.1	44.6	47.1	41.4	53.8	54.2	39.6	46.4	46.7	40.2								
10:30	43.6	50.4	46.8	38.0	43.4	46.0	45.3	41.2	44.4	42.6	46.6	41.5	43.0	46.8	45.7	39.6	44.4	44.5	45.8	41.7			
10:35	42.3		43.3	39.0	43.2		45.1	40.7	41.4		42.9	39.4	43.8		46.0	40.0	45.1		47.0	41.3			
10:40	56.8		52.6	42.5	48.1		50.7	44.1	42.2		43.6	39.7	41.7		43.4	39.0	46.9		49.4	42.3			
10:45	46.4		47.3	42.8	46.4		48.8	43.6	41.2		42.5	39.5	52.2		51.7	40.0	45.0		46.4	41.3			
10:50	45.6		47.5	41.9	46.7		48.8	43.9	42.2		44.0	39.7	43.6		45.7	39.4	42.2		43.6	39.1			
10:55	48.1	47.5	41.7	46.0	48.2	43.4	43.5	45.5	40.5	45.9	46.5	39.5	41.4	42.9	38.1								
11:00	51.3	46.1	49.4	41.6	47.6	45.9	49.7	44.2	44.0	42.0	46.1	40.3	43.6	45.3	46.3	39.9	41.4	42.2	43.1	38.0			
11:05	43.9		45.1	41.6	49.3		49.7	43.1	41.3		43.1	38.7	44.2		46.2	41.2	42.7		44.7	38.6			
11:10	42.3		44.0	39.9	42.5		44.3	40.1	41.0		42.0	38.9	47.9		46.2	41.0	42.5		44.5	39.0			
11:15	43.4		45.1	41.4	45.2		44.6	39.8	42.1		43.7	39.8	44.6		46.9	41.5	41.4		43.6	38.6			
11:20	43.3		44.4	40.1	42.3		44.5	39.3	41.7		43.3	39.7	45.2		47.3	41.2	42.3		43.5	38.6			
11:25	44.4	46.2	40.0	43.5	46.2	39.3	40.9	42.2	39.2	44.9	47.9	41.2	42.6	43.1	39.2								
11:30	43.1	43.0	45.1	40.6	44.5	45.5	47.2	40.4	40.2	40.0	41.5	38.5	45.5	45.3	47.6	41.3	45.4	45.9	47.9	42.4			
11:35	42.7		44.5	40.4	42.9		45.0	39.7	40.3		41.7	38.1	45.5		47.9	41.8	45.0		47.9	41.6			
11:40	42.9		43.9	40.2	43.1		45.1	39.6	39.8		41.5	37.6	43.9		45.9	41.1	49.2		49.9	42.3			
11:45	42.4		44.2	39.7	46.9		50.1	41.9	39.4		40.5	37.7	43.8		46.0	41.1	45.7		48.3	41.8			
11:50	43.0		45.1	40.0	46.5		49.4	42.4	41.4		41.1	37.1	44.8		46.9	42.1	43.7		45.4	40.1			
11:55	43.8	44.0	39.4	47.0	49.9	43.0	37.9	39.3	36.1	47.4	48.8	41.8	43.3	45.4	39.9								
12:00	43.0	44.3	45.4	39.3	48.1	46.7	50.8	43.9	38.8	43.0	40.3	36.5	47.8	48.9	49.7	41.3	44.8	45.1	46.3	40.1			
12:05	44.5		47.0	40.3	47.8		51.1	42.9	37.8		39.6	35.6	48.5		52.7	41.3	44.2		46.1	39.0			
12:10	46.1		48.6	41.5	44.6		47.5	42.0	40.0		42.0	36.8	52.1		54.6	41.5	44.3		46.6	40.0			
12:15	45.4		48.2	41.5	45.6		48.2	43.2	47.3		45.5	37.2	48.5		48.5	42.4	42.4		44.7	38.9			
12:20	43.6		46.0	40.9	47.5		49.7	44.4	45.0		47.6	37.2	45.7		47.8	42.5	43.0		46.0	39.1			
12:25	42.1	43.8	40.0	45.7	47.4	43.7	39.9	41.6	37.4	47.8	50.0	44.4	48.6	51.2	44.1								
12:30	42.0	46.9	43.4	40.3	46.4	46.1	48.8	43.2	40.7	43.0	42.5	37.5	48.4	47.0	50.4	45.7	48.1	48.7	49.7	46.1			
12:35	51.3		56.4	42.5	45.5		47.0	43.6	40.3		43.1	36.5	47.5		49.4	44.7	48.0		50.0	45.1			
12:40	47.0		50.3	42.2	45.8																		

## Background Noise Monitoring Data - NM1

Time	8 Jan 2024				9 Jan 2024				10 Jan 2024				11 Jan 2024				12 Jan 2024			
	Leq (5mins)	Leq (30mins)	L10 (5mins)	L90 (5mins)	Leq (5mins)	Leq (30mins)	L10 (5mins)	L90 (5mins)	Leq (5mins)	Leq (30mins)	L10 (5mins)	L90 (5mins)	Leq (5mins)	Leq (30mins)	L10 (5mins)	L90 (5mins)	Leq (5mins)	Leq (30mins)	L10 (5mins)	L90 (5mins)
	13:25	45.7		48.0	41.6	48.2		50.3	45.9	40.8		43.8	36.3	43.9		45.5	41.3	46.5		48.1
13:30	43.7		45.7	41.0	48.6		50.4	46.4	49.4		49.4	36.3	46.6		48.2	42.6	46.3		47.6	44.5
13:35	43.3		45.2	40.4	46.5		48.0	44.6	38.4		41.0	34.9	46.0		47.8	42.1	46.4		47.9	44.4
13:40	43.2	44.9	44.7	39.8	46.5	47.5	48.0	44.8	39.2	43.3	42.4	34.9	44.3	45.2	45.9	42.2	46.3	45.9	47.9	44.2
13:45	44.4		45.9	40.4	45.9		47.3	44.2	38.8		41.9	35.1	44.9		46.3	41.4	44.8	45.9	46.2	42.9
13:50	47.2		49.8	40.9	48.3		50.0	46.5	40.2		42.2	36.7	44.6		46.3	42.3	45.7		47.2	43.8
13:55	45.8		49.2	41.0	48.6		50.6	46.2	38.8		41.1	36.0	44.3		45.7	42.0	45.9		47.4	44.0
14:00	42.0		43.4	39.6	48.1		49.7	45.1	49.1		53.9	36.1	47.1		49.2	43.2	46.1		47.8	44.0
14:05	43.6		45.6	39.1	47.9		49.1	44.5	38.2		40.5	35.2	47.1		48.3	44.3	46.5		48.2	43.5
14:10	41.1	42.0	42.4	38.8	45.9	48.8	47.5	44.1	38.0	43.2	39.1	35.9	45.8	48.5	47.4	43.7	47.4	47.4	49.0	45.1
14:15	41.3		42.9	39.1	49.7		52.9	45.2	41.2		43.3	37.9	48.3		50.2	45.6	48.3		50.1	45.7
14:20	40.5		42.3	38.6	51.4		55.3	45.8	39.2		40.4	37.8	47.7		49.8	45.3	47.7		49.6	45.3
14:25	42.6		44.7	39.4	47.7		49.7	45.0	39.8		42.0	37.0	52.0		54.5	47.6	48.0		50.1	44.9
14:30	45.1		45.0	40.9	46.1		47.5	44.3	39.0		41.0	36.3	49.9		52.3	46.5	45.8		47.5	43.4
14:35	46.0		48.1	41.1	46.4		47.9	44.9	41.1		45.0	36.2	48.7		50.8	45.7	48.9		51.3	46.2
14:40	44.0		45.7	40.9	46.0		47.7	44.2	41.7		45.2	37.6	48.9		51.3	45.9	48.5		50.4	46.0
14:45	44.4	44.1	47.6	40.0	46.0	45.9	47.5	44.3	42.6	40.9	43.1	37.2	50.2	49.9	52.5	46.9	47.3	47.4	48.8	44.0
14:50	41.9		43.9	39.9	45.5		46.5	43.1	40.0		41.5	37.6	50.0		51.6	47.4	46.4		49.0	43.1
14:55	41.9		43.5	40.2	45.3		46.4	43.1	40.3		41.5	37.3	51.4		53.4	46.1	46.7		46.7	42.1
15:00	42.3		43.9	40.3	46.1		47.7	43.5	41.8		44.6	37.4	48.8		51.8	44.6	52.3		55.6	44.9
15:05	42.1		43.9	39.4	46.9		48.9	44.1	40.3		42.9	36.9	47.5		49.5	44.3	44.9		46.3	42.4
15:10	41.6	42.3	43.0	39.3	46.0	49.6	47.9	43.6	40.4	41.1	42.6	37.7	49.5	50.2	52.4	45.4	43.0	47.1	44.8	40.3
15:15	41.7		43.5	39.0	45.6		46.6	43.5	41.5		43.8	38.5	52.7		55.6	46.5	44.7		46.3	42.5
15:20	43.8		46.2	41.0	55.1		58.7	44.4	42.0		43.7	39.0	49.2		51.8	45.5	44.6		46.3	43.0
15:25	41.6		43.6	39.3	47.2		49.1	45.0	40.1		41.8	37.3	51.3		54.2	46.1	45.0		47.0	42.5
15:30	42.3		44.1	39.7	46.5		48.1	44.8	41.0		43.7	36.7	51.1		53.9	46.1	45.1		47.2	42.4
15:35	42.1		43.5	39.4	46.3		48.1	44.1	45.7		48.5	36.9	53.2		56.2	46.6	43.7		45.4	41.6
15:40	41.7	42.2	43.1	39.8	47.8	47.2	49.7	45.2	45.4	44.0	46.0	36.2	56.4	54.6	59.6	47.2	47.1	44.7	48.0	41.1
15:45	42.4		44.2	40.4	46.3		47.8	44.6	40.0		42.3	36.7	53.5		56.4	46.7	43.5		44.8	41.1
15:50	43.1		44.3	40.6	47.4		48.8	45.5	45.6		48.5	37.3	53.8		57.0	45.4	43.7		45.7	41.5
15:55	41.7		43.1	40.1	48.6		50.0	46.7	43.1		43.8	37.0	56.8		60.5	46.2	43.5		45.5	41.0
16:00	42.4		44.9	39.4	49.2		50.3	46.7	38.0		39.2	36.7	57.1		58.2	47.0	44.3		46.1	42.2
16:05	42.9		44.6	40.8	47.5		49.2	45.0	37.8		38.9	36.1	53.5		55.4	46.2	46.0		47.2	43.0
16:10	43.3		45.9	40.6	47.3		48.9	45.4	40.5		43.6	36.4	55.4		57.8	46.2	47.7		49.5	44.6
16:15	43.4		46.0	40.4	47.2		48.5	45.6	38.4		39.3	35.3	55.0		58.3	48.4	44.8		46.1	43.2
16:20	42.9		44.4	40.4	47.6		49.0	45.9	40.4		43.7	36.3	52.0		55.7	44.2	43.9		45.1	42.3
16:25	42.6		44.4	40.3	47.5		48.9	44.9	38.0		39.1	36.2	50.6		53.2	44.4	44.1		46.0	42.3
16:30	42.7		44.1	39.8	46.3		47.5	44.3	42.2		43.8	36.1	50.1		53.7	43.4	45.2		47.4	42.3
16:35	50.8		51.0	40.1	45.5		46.5	44.3	41.1		41.5	36.8	48.1		50.3	44.8	46.2		48.2	42.2
16:40	50.6		53.6	41.8	46.3		48.2	43.8	40.7		42.6	37.3	48.0		50.5	45.1	47.8		50.6	43.5
16:45	43.6		45.5	41.3	46.5		48.0	44.6	51.3		55.4	38.5	47.9		49.7	45.5	46.3		48.4	43.2
16:50	43.3		45.3	40.9	46.4		47.6	44.7	39.4		40.4	37.1	49.1		50.7	47.4	43.6		45.4	41.6
16:55	44.3		45.7	40.9	46.6		47.6	45.1	41.9		44.3	37.6	50.3		53.4	43.2	44.0		45.5	41.4
17:00	43.6		45.3	41.5	46.9		48.3	45.0	43.9		45.9	37.8	43.3		44.6	41.5	42.4		44.0	40.3
17:05	44.2		45.7	42.2	46.3		47.7	44.8	47.4		51.6	38.7	43.7		45.5	41.8	42.8		45.2	40.3
17:10	44.2		46.1	41.4	46.8		48.2	45.1	40.8		42.9	37.0	48.1		50.6	42.3	42.7		44.8	40.1
17:15	44.5	44.1	46.4	42.1	45.9	46.5	47.4	44.3	42.3	43.6	45.1	38.6	51.3	46.9	53.7	42.3	43.1	42.9	44.7	40.8
17:20	43.6		45.2	41.6	46.7		48.5	44.6	42.5		44.2	39.8	44.3		45.5	42.4	43.2		44.8	40.3
17:25	44.5		46.6	41.6	46.3		47.6	44.7	40.9		43.0	38.0	43.7		45.2	41.8	43.3		44.7	41.4
17:30	43.7		45.5	41.5	46.3		47.8	44.8	39.7		41.4	37.7	48.1		50.5	43.2	43.9		45.7	41.4
17:35	49.3		53.7	42.5	52.6		55.2	47.2	42.9		46.3	38.4	54.8		53.9	47.6	44.6		46.5	42.1
17:40	56.9		58.6	54.9	53.4		54.9	51.7	49.4		52.0	44.0	54.2		55.6	52.2	51.5		54.2	44.8
17:45	56.6		58.0	54.7	54.0		55.5	52.3	54.5		56.3	52.3	55.2		56.5	53.8	54.9		56.1	53.4
17:50	56.6		58.0	54.8	54.1		55.5	52.6	54.6		55.9	53.1	55.3		56.4	53.9	54.5		55.9	53.0
17:55	55.6		57.0	53.9	53.8		55.2	52.1	54.1		55.3	52.7	55.0		56.2	53.7	53.9		55.1	52.4
18:00	55.4		56.8	53.7	53.3		54.4	51.9	53.5		54.8	52.0	54.5		55.7	53.1	53.6		55.2	51.9
18:05	54.5		56.0	52.5	52.3		53.8	50.6	53.3		54.7	51.6	54.1		55.4	52.6	52.8		54.5	50.8
18:10	51.8		53.7	49.1	51.2		53.0	48.7	52.7		54.2	50.9	52.5		54.1	50.4	50.3		52.2	47.8
18:15	48.4		50.6	45.6	49.5		51.4	47.2	49.5		51.5	45.8	49.9		52.0	46.5	45.9		48.0	42.6
18:20	43.6		45.8	39.6	45.7		47.7	43.4	47.1		49.2	44.4	45.4		48.1	41.2	42.5		43.9	40.2
18:25	44.8		47.6	39.0	46.3		45.5	42.0	44.1		46.9	39.1	43.5		46.0	40.0	42.6		44.3	40.4
18:30	40.8		42.8	38.7	46.6		48.8	43.0	41.2		44.0	37.6	43.4		45.7	40.7	41.4		43.5	39.1
18:35	41.1		43.6	37.8	45.2		47.0	42.1	42.3		44.8	38.2	44.6		47.5	39.7	41.8		44.1	39.1
18:40	39.3	40.6	40.4	37.2	48.0	46.9	50.1	43.6	41.6	42.5	44.2	38.3	42.6	48.1	44.5	39.0	41.4	43.2	43.3	39.2
18:45	41.5		44.0	38.3	49.6		52.6	44.9	42.6		45.5	39.0	41.4		44.2	38.2	43.2		45.2	40.2
18:50	41.0		42.6	38.3	45.0		46.3	43.3	44.2		46.7	40.3	40.6		42.1	38.9	44.3		46.0	42.0
18:55	39.5		40.7	38.0	44.6		46.4	42.6	42.2		45.3	38.7	54.7		58.7	39.3	45.3		46.8	43.2
19:00	56.0		50.5	45.5	75.7		74.5	66.0	40.5		42.2	38.7	41.2		57.1	39.6	56.5		60.0	50.0
19:05</																				

**Background Noise Monitoring Data - NM1**

Time	8 Jan 2024				9 Jan 2024				10 Jan 2024				11 Jan 2024				12 Jan 2024			
	Leq (5mins)	Leq (30mins)	L10 (5mins)	L90 (5mins)	Leq (5mins)	Leq (30mins)	L10 (5mins)	L90 (5mins)	Leq (5mins)	Leq (30mins)	L10 (5mins)	L90 (5mins)	Leq (5mins)	Leq (30mins)	L10 (5mins)	L90 (5mins)	Leq (5mins)	Leq (30mins)	L10 (5mins)	L90 (5mins)
	20:20	40.7		53.5	47.5	61.2		64.5	55.5	43.6		45.8	38.7	39.1		42.5	38.3	52.3		53.0
20:25	40.2		51.5	48.0	63.8		67.5	57.5	41.5		43.9	37.5	48.7		41.9	38.1	54.7		57.5	51.0
20:30	40.4		51.0	47.5	62.9		66.5	56.5	42.3		44.9	38.2	40.0		42.1	38.4	52.9		54.5	50.0
20:35	41.0		54.5	47.5	60.0		63.0	56.5	42.1		45.1	38.7	39.2		42.5	39.1	54.0		54.5	50.5
20:40	40.1		52.0	48.0	59.8		63.0	55.0	39.7		42.4	35.9	38.7		42.0	37.6	52.9		54.0	50.5
20:45	38.8		61.0	50.0	60.7		64.0	57.0	41.7		44.4	38.0	37.4		40.3	37.1	53.8		54.5	49.0
20:50	41.0		55.5	50.0	60.8		64.0	56.5	40.6		42.7	38.4	38.3		43.7	37.9	51.1		52.0	49.0
20:55	39.8		52.5	49.5	60.8		64.5	55.5	40.3		42.5	37.4	38.1		41.6	37.7	51.1		52.0	49.0
21:00	40.2		52.0	49.0	60.0		64.0	54.5	38.6		40.6	35.5	37.8		42.2	37.9	54.7		56.5	49.5
21:05	39.5		51.0	47.5	59.4		64.0	54.0	39.7		41.6	36.5	36.2		41.5	36.4	51.2		52.0	49.0
21:10	38.2		51.0	47.0	58.6		63.0	54.0	40.3		43.2	36.7	36.8		40.8	35.4	51.1		52.0	49.0
21:15	38.9		52.0	48.0	58.9		63.5	54.0	40.3		41.8	37.7	36.9		40.8	36.5	51.1		51.5	48.5
21:20	42.5		55.5	47.5	56.3		58.0	51.5	38.1		39.8	36.2	36.8		46.3	36.8	53.2		55.0	49.0
21:25	40.5		50.5	46.0	53.3		54.5	51.5	39.0		41.3	35.7	36.6		43.2	36.8	55.1		57.0	49.0
21:30	39.3		50.5	46.0	54.7		56.0	52.5	38.6		40.2	36.3	37.7		41.7	36.4	56.6		56.5	49.5
21:35	39.0		51.0	46.5	54.8		56.0	53.0	39.7		42.0	35.9	39.8		41.2	36.0	52.4		54.0	49.5
21:40	39.4		51.0	47.0	54.3		55.5	52.5	40.5		42.4	37.9	39.1		41.6	36.2	51.9		53.0	49.0
21:45	37.8		51.0	47.0	54.7		56.5	52.5	45.4		48.8	38.7	36.9		39.7	35.4	51.5		53.0	49.0
21:50	39.1		50.5	46.0	55.5		57.0	53.0	42.4		45.0	36.8	36.6		40.3	35.5	53.8		52.5	49.0
21:55	42.3		57.0	47.0	54.4		56.0	52.5	38.7		40.3	35.6	36.0		45.4	37.6	51.5		52.5	49.0
22:00	38.9		51.0	47.0	54.2		56.0	51.5	39.9		42.4	36.9	37.7		41.5	35.7	51.7		52.5	48.5
22:05	38.8		51.0	47.0	52.7		54.5	50.0	41.5		43.3	36.6	40.4		41.7	34.9	50.9		51.5	48.5
22:10	38.5		54.0	48.0	52.9		55.0	50.5	39.9		42.7	36.5	39.6		41.4	34.4	51.1		52.0	49.0
22:15	36.8		54.5	48.0	52.7		54.5	50.0	42.7		46.4	34.6	38.8		39.0	33.5	57.7		53.5	49.0
22:20	36.2		51.5	46.5	65.0		58.5	52.5	40.3		43.3	36.3	42.1		38.4	33.9	62.4		55.5	49.5
22:25	36.2		55.0	48.5	55.3		57.5	52.5	43.4		47.4	36.4	41.7		38.4	33.6	70.8		74.5	53.0
22:30	36.2		51.0	47.0	53.8		55.0	52.0	39.9		43.1	35.5	42.4		37.6	33.8	69.9		74.0	52.0
22:35	35.2		52.0	47.5	53.9		55.0	52.0	37.8		40.2	34.8	38.6		37.0	33.3	55.0		52.5	49.0
22:40	35.7		52.0	48.0	54.0		55.5	52.5	38.8		41.4	35.2	44.7		37.3	33.9	51.4		52.5	49.0
22:45	36.6		55.5	48.5	53.8		55.5	52.0	38.5		39.7	35.3	46.0		38.6	34.2	51.2		51.5	48.5
22:50	35.7		51.5	48.0	54.3		55.5	52.5	38.8		41.7	35.2	43.0		36.8	34.0	51.5		52.0	49.0
22:55	36.5		51.5	48.0	54.2		55.5	52.5	37.1		39.6	33.6	42.2		37.8	34.7	55.8		53.0	49.5
23:00	38.3		51.5	48.5	54.5		56.0	52.5	38.7		41.0	35.6	41.0		39.3	35.2	59.1		62.5	49.0
23:05	35.9		52.0	48.5	54.4		55.5	52.5	37.0		39.8	33.0	38.9		37.2	34.5	53.4		52.0	49.0
23:10	35.5		51.0	47.5	54.6		56.0	53.0	36.9		39.2	33.1	39.4		36.5	33.4	61.7		62.0	49.0
23:15	35.9		51.5	48.0	53.9		55.0	52.0	38.2		40.7	35.2	38.2		37.2	34.6	51.4		52.0	49.0
23:20	34.0		51.5	48.0	54.3		56.5	52.0	40.0		42.6	35.9	38.7		36.3	31.7	52.2		52.0	49.0
23:25	33.9		51.5	48.0	54.1		56.0	51.5	39.2		41.7	35.2	37.4		35.5	31.4	52.2		52.5	49.0
23:30	33.6		51.5	47.5	54.1		56.5	51.5	39.6		42.0	36.0	37.2		35.0	31.8	52.7		52.5	49.0
23:35	35.0		51.0	47.5	52.7		53.5	51.0	44.0		47.6	35.8	37.0		36.7	32.1	51.5		52.5	48.5
23:40	35.7		51.5	47.5	52.8		53.5	51.0	40.8		43.8	36.7	36.7		37.2	33.9	61.4		63.5	49.0
23:45	34.6		52.0	48.0	52.9		53.5	51.5	39.4		41.5	33.6	35.2		35.8	33.1	58.5		57.5	49.0
23:50	35.4		51.0	47.5	52.8		53.5	51.5	37.9		39.6	34.7	35.8		36.7	33.8	51.5		52.0	49.0
23:55	35.4		51.0	47.0	53.7		54.0	51.5	38.6		41.4	34.2	35.5		37.8	32.6	55.4		56.8	49.1

## Background Noise Monitoring Data - NM1

Time	13 Jan 2024				14 Jan 2024				15 Jan 2024				16 Jan 2024				17 Jan 2024			
	Leq (5mins)	Leq (30mins)	L10 (5mins)	L90 (5mins)	Leq (5mins)	Leq (30mins)	L10 (5mins)	L90 (5mins)	Leq (5mins)	Leq (30mins)	L10 (5mins)	L90 (5mins)	Leq (5mins)	Leq (30mins)	L10 (5mins)	L90 (5mins)	Leq (5mins)	Leq (30mins)	L10 (5mins)	L90 (5mins)
	00:00	51.6		52.5	49.5	51.6		52.5	49.5	51.6		52.5	49.5	51.6		52.5	49.5	51.6		52.5
00:05	51.8		52.0	49.5	51.4		52.0	49.0	51.8		52.0	49.5	51.8		52.0	49.5	51.8		52.0	49.5
00:10	51.2		52.0	49.0	51.0		51.5	48.5	51.2		52.0	49.0	51.2		52.0	49.0	51.2		52.0	49.0
00:15	52.3		52.5	49.0	50.9		51.5	48.5	52.3		52.5	49.0	52.3		52.5	49.0	52.3		52.5	49.0
00:20	51.7		53.0	49.0	51.2		52.0	48.5	51.7		53.0	49.0	51.7		53.0	49.0	51.7		53.0	49.0
00:25	54.7		52.0	48.5	50.7		51.5	48.0	54.7		52.0	48.5	54.7		52.0	48.5	54.7		52.0	48.5
00:30	51.2		52.5	48.5	50.5		51.5	48.0	51.2		52.5	48.5	51.2		52.5	48.5	51.2		52.5	48.5
00:35	50.7		51.5	48.0	59.9		52.0	48.0	50.7		51.5	48.0	50.7		51.5	48.0	50.7		51.5	48.0
00:40	50.8		51.5	48.0	50.4		51.5	48.0	50.8		51.5	48.0	50.8		51.5	48.0	50.8		51.5	48.0
00:45	58.1		51.5	48.5	50.3		51.0	48.0	58.1		51.5	48.5	58.1		51.5	48.5	58.1		51.5	48.5
00:50	50.7		51.5	48.0	50.4		51.5	48.0	50.7		51.5	48.0	50.7		51.5	48.0	50.7		51.5	48.0
00:55	50.6		51.5	48.0	57.9		52.0	48.5	50.6		51.5	48.0	50.6		51.5	48.0	50.6		51.5	48.0
01:00	50.8		51.5	48.0	52.5		55.5	48.5	50.8		51.5	48.0	50.8		51.5	48.0	50.8		51.5	48.0
01:05	50.6		51.5	48.0	50.6		51.5	48.0	50.6		51.5	48.0	50.6		51.5	48.0	50.6		51.5	48.0
01:10	50.4		51.5	47.5	50.5		51.5	48.0	50.4		51.5	47.5	50.4		51.5	47.5	50.4		51.5	47.5
01:15	50.6		51.5	48.0	55.8		51.5	48.0	50.6		51.5	48.0	50.6		51.5	48.0	50.6		51.5	48.0
01:20	50.6		51.5	48.0	50.9		52.0	48.5	50.6		51.5	48.0	50.6		51.5	48.0	50.6		51.5	48.0
01:25	50.6		51.5	48.0	50.5		51.5	48.0	50.6		51.5	48.0	50.6		51.5	48.0	50.6		51.5	48.0
01:30	51.0		52.0	48.5	50.8		51.5	48.0	51.0		52.0	48.5	51.0		52.0	48.5	51.0		52.0	48.5
01:35	50.5		51.5	47.5	50.3		51.0	47.5	50.5		51.5	47.5	50.5		51.5	47.5	50.5		51.5	47.5
01:40	50.4		51.5	47.5	50.9		51.5	48.0	50.4		51.5	47.5	50.4		51.5	47.5	50.4		51.5	47.5
01:45	50.5		51.5	48.0	50.4		51.0	48.0	50.5		51.5	48.0	50.5		51.5	48.0	50.5		51.5	48.0
01:50	51.4		52.0	48.5	50.6		51.5	48.0	51.4		52.0	48.5	51.4		52.0	48.5	51.4		52.0	48.5
01:55	50.8		51.5	48.5	50.9		51.5	48.5	50.8		51.5	48.5	50.8		51.5	48.5	50.8		51.5	48.5
02:00	51.7		52.0	48.5	50.5		51.5	48.0	51.7		52.0	48.5	51.7		52.0	48.5	51.7		52.0	48.5
02:05	51.5		52.5	49.5	50.5		51.5	48.0	51.5		52.5	49.5	51.5		52.5	49.5	51.5		52.5	49.5
02:10	51.5		52.5	49.5	50.6		51.5	48.0	51.5		52.5	49.5	51.5		52.5	49.5	51.5		52.5	49.5
02:15	51.7		52.5	49.5	52.3		51.5	48.5	51.7		52.5	49.5	51.7		52.5	49.5	51.7		52.5	49.5
02:20	51.3		52.0	49.0	50.8		51.5	48.5	51.3		52.0	49.0	51.3		52.0	49.0	51.3		52.0	49.0
02:25	51.9		53.0	50.0	50.5		51.5	48.0	51.9		53.0	50.0	51.9		53.0	50.0	51.9		53.0	50.0
02:30	51.3		52.5	49.0	50.5		51.5	48.0	51.3		52.5	49.0	51.3		52.5	49.0	51.3		52.5	49.0
02:35	51.0		52.0	48.5	52.4		52.5	48.5	51.0		52.0	48.5	51.0		52.0	48.5	51.0		52.0	48.5
02:40	50.6		51.5	48.0	50.7		51.5	48.0	50.6		51.5	48.0	50.6		51.5	48.0	50.6		51.5	48.0
02:45	50.5		51.5	48.0	50.2		51.0	47.5	50.5		51.5	48.0	50.5		51.5	48.0	50.5		51.5	48.0
02:50	50.4		51.5	47.5	50.5		51.5	48.0	50.4		51.5	47.5	50.4		51.5	47.5	50.4		51.5	47.5
02:55	50.6		51.5	48.0	50.3		51.0	47.5	50.6		51.5	48.0	50.6		51.5	48.0	50.6		51.5	48.0
03:00	50.5		51.5	48.0	50.7		51.0	47.5	50.5		51.5	48.0	50.5		51.5	48.0	50.5		51.5	48.0
03:05	50.4		51.5	47.5	50.2		51.0	47.5	50.4		51.5	47.5	50.4		51.5	47.5	50.4		51.5	47.5
03:10	50.4		51.5	47.5	51.0		52.0	48.5	50.4		51.5	47.5	50.4		51.5	47.5	50.4		51.5	47.5
03:15	51.4		52.5	48.0	51.1		52.0	48.5	51.4		52.5	48.0	51.4		52.5	48.0	51.4		52.5	48.0
03:20	51.4		53.0	48.5	50.8		52.0	48.0	51.4		53.0	48.5	51.4		53.0	48.5	51.4		53.0	48.5
03:25	50.3		51.0	47.5	50.1		51.0	47.5	50.3		51.0	47.5	50.3		51.0	47.5	50.3		51.0	47.5
03:30	50.7		51.5	48.0	50.3		51.0	47.5	50.7		51.5	48.0	50.7		51.5	48.0	50.7		51.5	48.0
03:35	51.2		52.0	49.0	50.3		51.5	47.5	51.2		52.0	49.0	51.2		52.0	49.0	51.2		52.0	49.0
03:40	50.5		51.5	47.5	50.2		51.0	47.5	50.5		51.5	47.5	50.5		51.5	47.5	50.5		51.5	47.5
03:45	51.6		53.5	48.5	50.4		51.5	48.0	51.6		53.5	48.5	51.6		53.5	48.5	51.6		53.5	48.5
03:50	50.2		51.0	47.5	50.7		51.5	48.5	50.2		51.0	47.5	50.2		51.0	47.5	50.2		51.0	47.5
03:55	50.9		52.0	48.5	50.6		51.5	48.0	50.9		52.0	48.5	50.9		52.0	48.5	50.9		52.0	48.5
04:00	52.1		52.0	47.5	50.5		51.5	48.0	52.1		52.0	47.5	52.1		52.0	47.5	52.1		52.0	47.5
04:05	51.7		52.0	48.0	50.8		52.0	48.0	51.7		52.0	48.0	51.7		52.0	48.0	51.7		52.0	48.0
04:10	50.6		51.5	47.5	53.8		54.5	48.5	50.6		51.5	47.5	50.6		51.5	47.5	50.6		51.5	47.5
04:15	51.1		51.5	47.5	50.3		51.0	47.5	51.1		51.5	47.5	51.1		51.5	47.5	51.1		51.5	47.5
04:20	50.7		52.0	48.0	50.7		51.5	48.0	50.7		52.0	48.0	50.7		52.0	48.0	50.7		52.0	48.0
04:25	50.9		52.0	48.0	50.5		51.5	47.5	50.9		52.0	48.0	50.9		52.0	48.0	50.9		52.0	48.0
04:30	50.8		52.0	48.5	50.5		51.5	47.5	50.8		52.0	48.5	50.8		52.0	48.5	50.8		52.0	48.5
04:35	50.2		51.0	47.5	50.2		51.0	47.5	50.2		51.0	47.5	50.2		51.0	47.5	50.2		51.0	47.5
04:40	50.0		51.0	47.0	50.7		52.0	48.0	50.0		51.0	47.0	50.0		51.0	47.0	50.0		51.0	47.0
04:45	49.9		51.0	46.5	50.1		51.0	46.5	49.9		51.0	46.5	49.9		51.0	46.5	49.9		51.0	46.5
04:50	50.1		51.0	46.5	50.3		51.5	47.5	50.1		51.0	46.5	50.1		51.0	46.5	50.1		51.0	46.5
04:55	50.6		51.0	46.5	50.4		51.5	47.5	50.6		51.0	46.5	50.6		51.0	46.5	50.6		51.0	46.5
05:00	51.2		53.5	47.0	50.3		51.0	46.5	51.2		53.5	47.0	51.2		53.5	47.0	51.2		53.5	47.0
05:05	50.6		51.5	47.5	52.3		53.0	46.5	50.6		51.5	47.5	50.6		51.5	47.5	50.6		51.5	47.5
05:10	50.4		51.5	47.5	50.2		51.0	46.5	50.4		51.5	47.5	50.4		51.5	47.5	50.4		51.5	47.5
05:15	56.3		55.5	48.0	51.4		54.0	48.0	56.3		55.5	48.0	56.3		55.5	48.0	56.3		55.5	48.0
05:20	58.4		62.5	50.5	57.7		60.0	49.5	58.4		62.5	50.5	58.4		62.5	50.5	58.4		62.5	50.5
05:25	55.8		56.0	50.0	56.4		55.5	50.0	55.8		56.0	50.0	55.8		56.0	50.0	55.8		56.0	50.0
05:30	52.9		54.5	50.5	57.5		59.0	51.0	52.9		54.5	50.5	52.9		54.5	50.5	52.9		54.5	50.5
05:35	53.3		54.5	50.5	54.7		56.5	50.5	53.3		54.5	50.5	53.3		54.5	50.5	53.3		54.5	50.5
05:40	52.2		53.5	49.5	53.6		56.0	50.0	52.2		53.5	49.5	52.2		53.5	49.5	52.2		53.5	49.5
05:45	51.3		52.5	48.5	51.5		53.0	48.5	51.3		52.5	48.5	51.3		52.5	48.5	51.3		52.5	48.5
05:50	55.2		58.5	48.0	51.0															

## Background Noise Monitoring Data - NM1

Time	13 Jan 2024				14 Jan 2024				15 Jan 2024				16 Jan 2024				17 Jan 2024			
	Leq (5mins)	Leq (30mins)	L10 (5mins)	L90 (5mins)	Leq (5mins)	Leq (30mins)	L10 (5mins)	L90 (5mins)	Leq (5mins)	Leq (30mins)	L10 (5mins)	L90 (5mins)	Leq (5mins)	Leq (30mins)	L10 (5mins)	L90 (5mins)	Leq (5mins)	Leq (30mins)	L10 (5mins)	L90 (5mins)
	06:30	52.6		54.5	49.5	55.4		58.0	49.0	52.6		54.5	49.5	52.6		54.5	49.5	52.6		54.5
06:35	55.6		58.0	51.5	64.2		69.5	52.0	55.6		58.0	51.5	55.6		58.0	51.5	55.6		58.0	51.5
06:40	61.2		61.5	51.0	57.2		60.5	51.5	61.2		61.5	51.0	61.2		61.5	51.0	61.2		61.5	51.0
06:45	56.8		60.5	50.0	56.8		59.5	52.0	56.8		60.5	50.0	56.8		60.5	50.0	56.8		60.5	50.0
06:50	52.7		54.5	49.5	55.3		58.5	50.5	52.7		54.5	49.5	52.7		54.5	49.5	52.7		54.5	49.5
06:55	53.1		55.0	50.0	56.1		58.0	51.0	53.1		55.0	50.0	53.1		55.0	50.0	53.1		55.0	50.0
07:00	50.9	47.8	53.8	46.2	48.1		50.3	44.7	52.1	50.5	54.8	47.8	48.2	48.2	51.0	42.7	52.6	47.8	54.8	49.7
07:05	48.7		50.6	45.2	48.6		51.5	44.6	51.2		53.3	48.1	47.4		50.1	42.2	49.6		52.3	44.3
07:10	49.3		52.1	45.4	48.5		51.2	44.6	50.6		53.2	46.7	44.6		47.3	40.3	45.6		48.0	42.1
07:15	46.0		48.5	41.8	46.9		49.3	44.1	52.8		54.2	44.6	41.8		45.2	36.5	44.1		46.8	40.0
07:20	43.0		45.4	39.1	51.8		54.2	42.9	45.9		48.6	42.3	52.6		56.8	36.8	40.6		42.9	37.7
07:25	43.1	46.0	38.6	44.3		46.5	41.3	45.5	48.9	40.6	47.0	44.6	36.4	42.3	44.8	38.7				
07:30	52.8	47.7	51.9	37.7	42.7		45.3	39.2	43.6	48.0	45.8	39.0	38.7	42.0	41.4	34.8	41.8	43.9	44.1	38.2
07:35	41.3		44.0	37.1	44.7		48.4	38.8	44.6		47.2	40.1	39.4		41.5	36.3	42.5		44.9	39.3
07:40	42.5		44.8	39.2	44.2		47.3	39.8	46.4		49.1	41.3	40.0		42.8	36.5	44.6		47.8	40.1
07:45	41.5		43.8	37.8	44.9		49.2	39.0	52.7		56.8	42.7	43.4		46.0	37.2	45.2		47.2	41.3
07:50	44.0		46.1	38.9	45.5		49.7	40.0	48.1		51.4	42.5	44.8		47.5	38.3	44.1		46.1	40.0
07:55	49.8	46.7	53.7	40.4	41.6		44.2	38.4	44.5	46.2	46.9	41.3	42.2	45.1	44.5	37.5	44.1	45.0	46.7	39.3
08:00	48.3		50.9	41.3	44.0		46.0	40.3	45.2		47.2	42.3	41.2		43.1	36.1	43.0		45.3	39.5
08:05	45.7		48.4	39.9	45.5		46.5	42.5	45.8		48.2	42.3	49.7		46.9	38.9	44.2		46.4	40.6
08:10	46.5		49.3	40.5	45.0		46.5	42.5	45.9		48.1	43.0	45.6		48.3	39.8	43.6		45.9	39.8
08:15	44.3		46.8	40.1	45.2		46.7	42.6	47.0		49.1	41.6	42.9		45.1	38.0	45.1		47.5	41.9
08:20	46.0	48.6	41.3	46.1		47.7	42.8	45.0	46.2	42.1	43.1	44.8	38.9	46.5	49.2	41.6				
08:25	48.2	49.7	42.7	45.7		47.8	42.3	47.6	50.3	43.9	40.6	43.0	37.2	46.5	49.3	40.5				
08:30	49.4	48.3	52.1	41.9	43.2		45.6	39.4	51.1	55.5	54.9	43.0	41.5	42.6	43.7	38.3	50.5	49.0	55.1	41.5
08:35	48.6		52.2	40.3	43.7		46.0	40.2	50.3		54.3	42.8	41.9		44.1	37.9	51.7		55.9	42.4
08:40	49.6		51.5	41.6	43.5		45.6	40.5	62.2		67.3	42.6	42.5		45.4	37.7	50.7		55.0	41.9
08:45	49.1		52.1	41.7	48.7		50.0	40.3	49.2		53.0	42.8	41.7		42.5	38.5	45.0		47.7	40.0
08:50	46.9		49.1	41.7	54.4		58.8	39.9	45.9		48.8	41.9	42.7		45.5	39.0	45.6		48.5	40.4
08:55	44.1	46.8	40.0	55.5		58.0	42.3	50.7	53.3	43.2	44.7	47.7	40.5	44.9	47.1	41.0				
09:00	44.8	43.8	47.7	40.0	48.8		46.8	37.8	45.9	46.7	47.6	42.2	44.9	44.3	47.1	40.8	42.6	45.0	44.2	40.3
09:05	46.8		47.4	38.9	44.5		47.4	39.1	49.8		52.9	42.5	46.1		48.2	41.9	44.0		44.4	39.8
09:10	41.9		44.5	38.2	40.6		42.7	37.8	48.0		51.4	42.6	47.1		49.8	40.1	44.9		47.2	39.9
09:15	42.5		44.1	39.5	42.0		44.4	38.1	45.3		47.7	41.5	42.7		46.4	38.4	45.2		49.1	40.0
09:20	41.7		43.6	39.2	44.6		48.5	37.9	44.3		46.2	41.8	40.2		42.5	37.6	42.4		44.4	39.4
09:25	42.5	42.8	44.6	39.0	43.1		46.0	38.6	44.0	45.6	45.7	41.3	39.9	40.7	41.3	38.0	48.2	46.0	45.4	40.0
09:30	42.8		43.0	37.8	40.2		42.6	37.1	47.5		45.6	40.5	39.4		40.9	37.7	43.3		42.9	38.3
09:35	41.0		42.7	38.3	43.1		44.1	38.1	44.2		48.1	40.4	39.7		41.8	36.7	45.1		49.0	38.0
09:40	42.0		44.2	38.6	42.0		44.5	38.3	48.8		49.1	40.0	39.7		41.3	36.3	43.3		46.2	38.4
09:45	43.7		45.5	39.4	43.9		45.7	37.7	44.3		44.7	39.7	39.7		40.9	37.5	42.4		44.3	39.0
09:50	43.7	45.6	38.9	41.2		42.8	37.3	42.0	43.4	40.0	41.0	42.7	37.7	42.5	44.6	39.5				
09:55	43.1	45.4	38.3	40.2		42.4	37.2	41.7	42.8	39.4	43.1	45.1	39.6	51.1	49.5	39.2				
10:00	43.5	47.2	46.9	38.2	43.1		45.3	37.7	46.3	46.5	47.2	40.3	41.9	43.3	43.4	38.7	58.2	52.5	63.9	40.5
10:05	43.8		47.2	38.4	44.1		46.8	38.9	49.2		50.1	41.5	42.0		43.9	39.2	55.2		61.8	40.0
10:10	45.7		46.1	38.6	51.4		54.8	38.4	44.4		45.6	41.2	43.6		45.7	40.3	41.9		43.8	39.3
10:15	44.5		47.3	38.8	43.4		46.8	38.2	43.9		45.4	41.6	42.7		44.1	40.2	42.9		44.6	40.1
10:20	52.9		53.2	39.6	45.3		47.6	41.0	46.3		47.5	44.4	44.1		46.8	40.4	44.5		46.2	41.9
10:25	40.6	42.2	38.5	44.9		48.0	39.4	46.5	47.7	45.2	44.6	46.3	40.7	42.7	44.1	41.1				
10:30	40.2	41.1	41.8	38.5	44.8		47.6	40.0	46.0	46.4	47.1	44.8	41.0	42.5	42.6	39.0	45.2	44.4	46.5	43.5
10:35	42.2		45.2	38.8	46.0		48.5	41.6	47.1		48.8	45.3	43.1		45.3	40.3	45.3		46.4	43.8
10:40	40.8		42.5	38.7	47.4		50.0	42.6	48.0		50.3	45.2	45.0		48.0	40.8	45.6		46.3	44.1
10:45	42.3		43.9	38.2	48.0		50.3	43.9	45.5		47.7	41.9	41.3		42.6	39.6	44.3		45.6	42.7
10:50	40.0		41.9	38.0	48.1		49.7	44.0	45.1		47.0	41.4	41.0		42.2	39.6	41.9		43.5	40.0
10:55	40.4	42.2	37.4	46.4		48.3	42.8	45.7	47.6	42.2	42.3	44.7	39.3	42.5	44.5	39.8				
11:00	39.3	41.6	40.3	36.2	49.3		51.8	43.7	44.0	47.0	45.6	41.1	43.5	42.7	46.1	39.7		44.4		
11:05	40.2		42.2	37.9	48.8		49.9	42.4	45.1		47.8	40.9	41.0		42.3	39.0				
11:10	41.7		43.6	39.1	46.1		48.7	41.6	45.6		47.3	41.7	40.8		42.6	38.5				
11:15	40.2		42.8	37.4	49.9		53.9	41.8	48.6		51.8	43.4	44.2		45.5	38.8				
11:20	42.3		44.5	38.3	47.6		51.3	41.5	49.5		51.8	43.3	43.9		46.1	39.3				
11:25	43.9	47.5	38.4	45.7		47.7	42.6	46.8	48.4	43.2	41.8	44.0	38.8							
11:30	42.5	43.8	44.4	39.3	44.5		46.9	41.0	46.8	46.5	48.2	45.3	42.5	42.2	44.5	39.7		44.4		
11:35	42.7		44.6	40.3	44.2		46.7	40.2	45.0		46.3	43.1	41.6		43.1	39.8				
11:40	42.5		44.5	39.2	45.6		48.4	40.4	46.4		48.3	44.1	42.3		44.2	39.8				
11:45	45.3		47.4	41.9	47.0		49.4	41.0	46.9		48.7	44.6	42.4		44.2	40.0				
11:50	43.7		45.8	40.7	45.7		48.0	41.9	47.0		49.0	44.7	41.9		43.4	39.8				
11:55	44.9	46.3	41.7	53.9		50.6	41.0	46.5	47.9	44.8	42.2	43.7	40.0							
12:00	45.1	43.2	47.2	41.6	44.8		47.3	40.0	45.8	48.6	47.3	43.8	45.0	42.0	46.7	40.7		44.4		
12:05	43.4		45.2	40.9	43.3		46.0	38.9	46.7		48.2	44.7	43.3		44.9	39.9				
12:10	43.0		44.6	40.3	41.6		44.0	38.1	47.9		49.1	46.5	40.5		41.9	39.0				
12:15	41.7		42.5	40.0	42.6		44.8	39.2	49.4		51.6	46.4	40.7		42.1	38.9				
12:20	41.3		42.4	39.5	43.3		45.7	39.6	49.2		50.9	46.9	39.6		40.7	38.0				
12:25	43.4	42.6	44.4	41.0	43.5		45.6	39.4	50.6	50.0	52.7	47.9	40.1	42.6	41.3	38.8		44.4		
12:30	42.7		43.7	39.7	45.9		46.6	38.7	49.8		51.6	47.3	39.6		40.5	38.1				
12:35	41.9		43.6	39.6	41.6		43.8	38.5	49.5		50.9	47.9	40.6		41.3	38.9				
12:40	41.5		43.1	39.7	42.7		45.5	38.6	49.3		50.8	47.3	40.8		41.9	39.4				
12:45	43.3		43.4	40.2	41.8</															

## Background Noise Monitoring Data - NM1

Time	13 Jan 2024				14 Jan 2024				15 Jan 2024				16 Jan 2024				17 Jan 2024				
	Leq (5mins)	Leq (30mins)	L10 (5mins)	L90 (5mins)	Leq (5mins)	Leq (30mins)	L10 (5mins)	L90 (5mins)	Leq (5mins)	Leq (30mins)	L10 (5mins)	L90 (5mins)	Leq (5mins)	Leq (30mins)	L10 (5mins)	L90 (5mins)	Leq (5mins)	Leq (30mins)	L10 (5mins)	L90 (5mins)	
	13:25	47.2		49.0	43.4	44.3		46.0	41.8	49.9		52.1	46.9	42.2		43.8	40.2				
13:30	46.3		48.4	43.4	44.7		46.5	42.1	50.2		52.7	46.9	43.4		45.2	40.5					
13:35	44.1		45.5	41.9	43.7		45.1	42.0	48.1		49.5	45.6	41.5		42.9	39.3					
13:40	45.3	46.7	47.1	42.8	44.6		46.1	42.3	48.8	49.3	50.1	46.7	42.8	42.8	46.0	39.3					
13:45	46.7		48.6	44.3	44.3		46.0	42.3	49.6		50.8	47.8	42.5		45.7	39.7					
13:50	47.1		49.1	44.3	44.2		45.8	42.5	49.1		50.9	47.2	42.5		44.9	40.2					
13:55	48.9		47.9	41.5	44.7		46.0	43.0	49.6		51.1	47.7	43.8		45.5	41.1					
14:00	43.6	43.3	45.7	39.1	45.7		47.1	44.1	48.3	50.4	49.8	46.6	43.3	44.1	45.2	41.4					
14:05	46.2		47.7	39.9	44.4		45.7	43.1	49.2		51.4	46.9	44.1		46.0	41.5					
14:10	43.1		45.6	39.8	45.9		47.4	44.0	50.4		52.3	48.1	44.7		46.7	42.1					
14:15	42.2		44.4	39.6	48.1		50.7	45.0	51.7		53.4	49.8	44.4		46.6	41.4					
14:20	41.8		44.3	39.3	48.9		51.6	45.7	51.6		53.1	49.9	43.7		45.8	41.3					
14:25	40.1		41.7	38.2	47.1		48.7	44.9	50.3		51.8	48.3	44.2		46.0	42.2					
14:30	42.0	42.0	43.8	39.4	46.7		47.9	44.8	50.7	51.4	52.4	48.5	44.8	45.1	47.0	41.7					
14:35	43.1		44.9	38.2	45.8		47.3	43.9	50.7		52.9	48.4	46.7		48.9	43.4					
14:40	42.5		43.4	39.1	45.7		47.4	43.9	51.9		53.7	49.4	46.0		47.9	43.8					
14:45	41.3		43.1	39.3	46.1		47.6	44.1	50.1		51.9	47.7	43.7		45.0	42.3					
14:50	39.7		40.6	37.6	45.2		46.5	43.7	50.1		51.6	48.3	44.1		45.7	42.3					
14:55	42.4		44.3	39.6	45.3		46.8	43.4	53.8		55.9	49.7	44.6		46.9	42.3					
15:00	43.5	41.9	46.3	39.3	44.0		45.1	42.7	50.5	48.3	52.7	47.8	45.3	43.1	47.3	42.3					
15:05	41.9		44.2	39.4	44.6		45.8	43.3	51.1		53.2	48.1	43.0		44.6	41.2					
15:10	41.4		43.3	39.1	45.8		47.4	43.4	49.3		51.2	46.9	42.8		44.4	41.0					
15:15	40.3		42.0	37.9	45.7		47.6	43.6	44.9		47.2	42.1	42.1		43.2	40.2					
15:20	42.0		43.7	39.4	45.4		47.2	43.3	44.9		47.0	42.0	42.3		44.2	40.2					
15:25	41.6		43.0	39.0	46.2		48.3	42.8	43.4		44.7	40.8	42.4		44.1	40.1					
15:30	42.9	42.1	44.2	41.0	45.7		46.2	42.8	43.6	43.1	45.5	41.4	42.5	42.7	44.0	40.1					
15:35	42.7		43.8	40.6	45.5		47.7	42.7	43.1		44.3	41.4	41.4		43.1	39.5					
15:40	41.7		43.0	40.0	44.5		46.8	41.6	42.0		42.8	39.7	41.2		42.7	39.6					
15:45	43.0		46.1	39.1	45.6		48.1	42.4	43.6		45.5	40.9	44.7		46.9	40.2					
15:50	42.2		45.4	38.4	44.7		47.0	41.5	43.7		45.0	40.0	43.0		44.5	41.3					
15:55	39.5		40.8	37.8	44.9		46.8	42.8	42.4		44.3	40.1	42.1		43.8	40.2					
16:00	40.3	41.4	42.3	37.7	46.2		49.1	42.3	45.4	43.6	44.8	39.7	42.4	44.2	43.9	40.4					
16:05	41.3		43.4	38.8	49.7		52.6	46.1	44.9		47.5	40.9	44.2		46.1	41.9					
16:10	42.2		44.9	38.9	48.6		50.9	45.5	42.8		45.2	38.5	44.4		46.3	42.2					
16:15	41.5		44.7	37.8	49.0		50.6	46.2	40.1		42.2	37.8	45.1		46.9	42.9					
16:20	40.0		41.8	37.9	50.3		52.4	43.6	42.3		45.8	38.2	43.5		44.9	41.7					
16:25	42.4		43.8	38.7	45.1		47.3	42.6	44.1		46.0	39.6	44.9		46.5	42.5					
16:30	42.7	42.5	44.4	38.8	46.9		49.1	41.6	41.5	41.5	43.3	38.5	44.2	44.6	45.6	42.4					
16:35	44.1		46.6	39.9	45.6		48.0	42.5	41.2		44.1	37.8	44.4		45.8	42.1					
16:40	41.3		42.9	39.5	48.7		52.3	42.7	41.3		41.9	37.8	45.8		48.0	41.9					
16:45	42.5		44.6	39.5	51.0		54.7	43.0	41.0		43.0	38.3	43.7		44.9	42.3					
16:50	42.3		43.8	38.9	52.4		56.2	43.3	40.7		42.5	38.2	44.2		46.0	42.0					
16:55	41.2		43.5	38.8	51.1		55.2	41.6	42.8		44.4	40.5	44.8		46.4	43.0					
17:00	41.9	40.8	44.6	38.7	55.8		59.4	47.1	42.2	43.5	43.7	40.3	44.3	44.2	46.0	42.2					
17:05	40.0		41.6	38.1	53.1		57.2	45.1	43.2		44.8	40.9	43.3		44.9	41.6					
17:10	40.4		42.6	37.2	55.6		59.5	44.6	44.9		47.1	40.4	45.4		47.3	43.0					
17:15	40.9		42.1	38.3	49.8		52.8	41.6	44.6		47.4	41.3	44.1		45.4	42.7					
17:20	40.0		41.9	37.4	50.5		54.7	42.2	43.3		45.0	40.3	44.0		45.3	42.3					
17:25	41.4		44.1	37.2	49.7		53.7	43.6	42.3		44.3	40.1	44.0		45.7	41.7					
17:30	39.2	49.7	41.0	37.2	49.3		53.4	40.9	42.6	49.0	44.7	40.3	43.9	49.3	45.3	42.2					
17:35	41.4		44.4	37.9	50.2		54.6	39.7	42.6		44.3	40.7	43.7		45.5	41.5					
17:40	43.2		46.0	38.9	47.7		50.5	40.4	42.5		43.5	40.5	43.3		44.8	41.6					
17:45	49.7		52.1	45.4	49.6		53.0	42.3	43.0		44.4	40.4	44.4		46.4	42.0					
17:50	53.3		54.8	51.4	53.3		55.6	49.9	49.9		53.6	43.9	46.2		49.3	42.8					
17:55	53.3		54.7	51.7	54.8		56.6	52.1	54.8		56.6	52.4	55.7		57.6	52.5					
18:00	53.1	50.1	54.5	51.4	55.5		57.4	53.0	53.7	50.1	55.4	51.7	56.1	53.0	57.7	54.2					
18:05	52.6		54.2	50.7	54.1		55.8	51.9	52.0		54.1	49.2	55.4		56.9	53.5					
18:10	50.7		52.3	48.3	52.5		54.3	49.8	50.8		53.1	47.1	53.7		55.6	51.0					
18:15	47.4		50.2	42.6	49.7		52.0	46.4	48.3		51.1	44.2	51.0		53.0	47.8					
18:20	43.1		45.3	40.0	44.9		47.5	41.1	42.9		45.6	38.8	47.1		49.4	42.9					
18:25	44.6		45.6	39.5	44.4		45.6	40.0	41.2		42.4	37.8	44.1		46.7	40.6					
18:30	40.4	41.4	42.4	37.8	43.2		44.8	39.8	39.6	40.0	41.0	37.8	43.5	41.9	44.1	39.1					
18:35	38.7		39.8	36.7	42.7		45.4	39.1	40.4		41.3	36.6	41.5		43.9	37.9					
18:40	43.1		45.4	38.7	43.1		45.1	39.2	39.1		40.4	37.6	41.1		43.6	37.8					
18:45	42.5		44.5	39.9	43.5		46.1	39.2	39.8		41.9	37.4	43.3		46.3	38.4					
18:50	41.5		43.2	38.6	42.4		44.2	39.3	41.1		43.8	37.9	41.1		43.3	38.3					
18:55	41.0		42.5	38.4	41.8		44.2	38.8	39.6		41.4	37.5	39.7		41.5	37.9					
19:00	56.5		60.0	50.0	57.8		57.5	48.0	56.5		60.0	50.0	56.5		60.0	50.0	56.5			60.0	50.0
19:05	56.0		59.5	49.5	53.4		55.5	47.0	56.0		59.5	49.5	56.0		59.5	49.5	56.0			59.5	49.5
19:10	63.3		68.0	49.5	56.5		59.0	48.0	63.3		68.0	49.5	63.3		68.0	49.5	63.3			68.0	49.5
19:15	51.4		54.0	47.5	53.2		54.5	50.0	51.4		54.0	47.5	51.4		54.0	47.5	51.4			54.0	47.5
19:20	53.6		55.0	47.5	55.3		56.5	50.0	53.6		55.0	47.5	53.6		55.0	47.5	53.6			55.0	47.5
19:25	50.4		51.5	47.5	56.7		60.0	51.5	50.4		51.5	47.5	50.4		51.5	47.5	50.4			51.5	47.5
19:30	57.6		57.5	49.5	55.5		57.5	51.5	57.6		57.5	49.5	57.6		57.5	49.5	57.6			57.5	49.5
19:35	53.1		53.5	50.5	62.6		65.0	54.0	53.1		53.5	50.5	53.1		53.5	50.5	53.1			53.5	50.5

**Background Noise Monitoring Data - NM1**

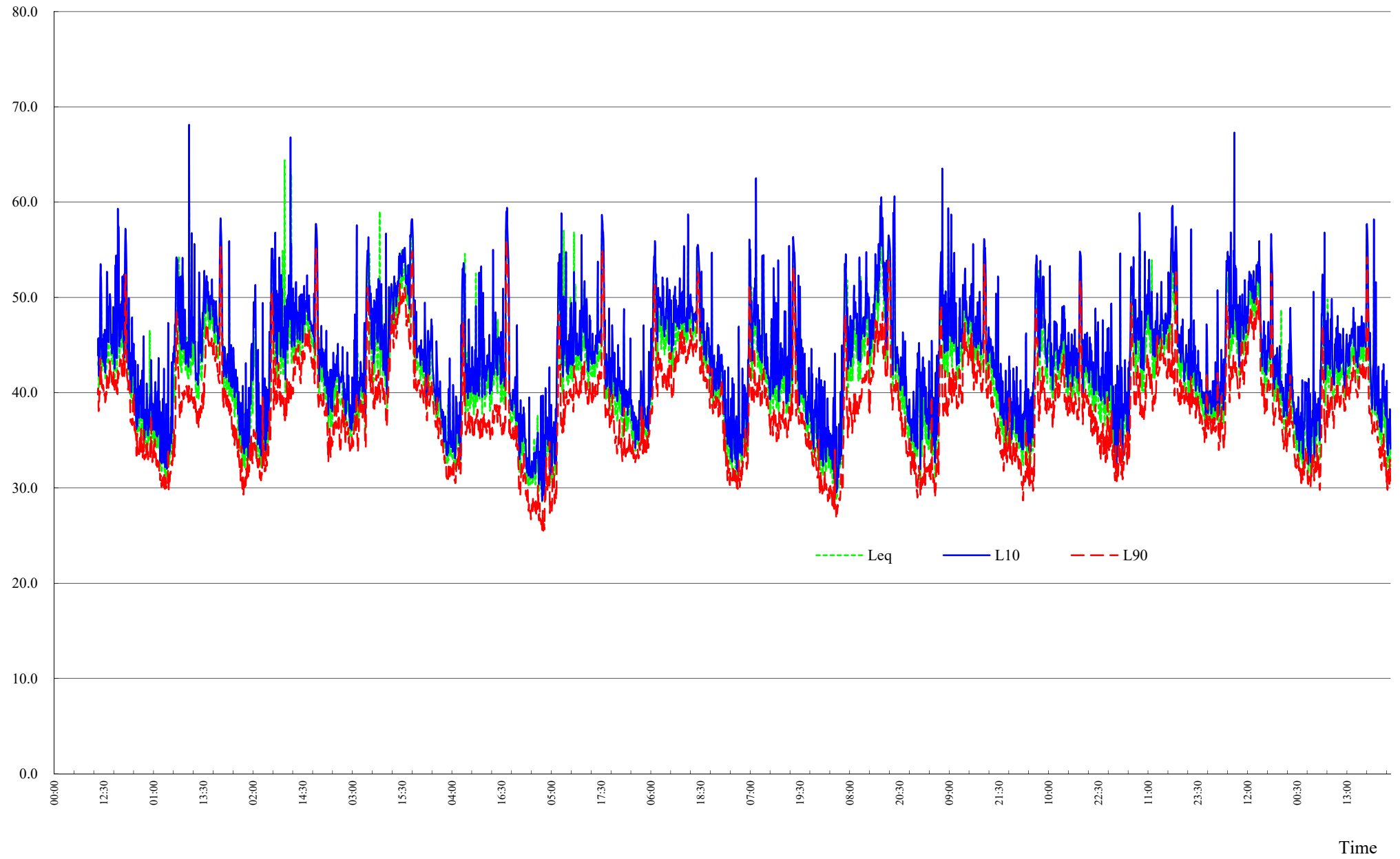
Time	13 Jan 2024				14 Jan 2024				15 Jan 2024				16 Jan 2024				17 Jan 2024			
	Leq (5mins)	Leq (30mins)	L10 (5mins)	L90 (5mins)	Leq (5mins)	Leq (30mins)	L10 (5mins)	L90 (5mins)	Leq (5mins)	Leq (30mins)	L10 (5mins)	L90 (5mins)	Leq (5mins)	Leq (30mins)	L10 (5mins)	L90 (5mins)	Leq (5mins)	Leq (30mins)	L10 (5mins)	L90 (5mins)
	20:20	52.3		53.0	50.0	54.6		55.5	53.0	52.3		53.0	50.0	52.3		53.0	50.0	52.3		53.0
20:25	54.7		57.5	51.0	56.4		57.0	53.5	54.7		57.5	51.0	54.7		57.5	51.0	54.7		57.5	51.0
20:30	52.9		54.5	50.0	54.1		55.0	52.5	52.9		54.5	50.0	52.9		54.5	50.0	52.9		54.5	50.0
20:35	54.0		54.5	50.5	55.2		57.0	52.0	54.0		54.5	50.5	54.0		54.5	50.5	54.0		54.5	50.5
20:40	52.9		54.0	50.5	55.0		56.0	52.0	52.9		54.0	50.5	52.9		54.0	50.5	52.9		54.0	50.5
20:45	53.8		54.5	49.0	55.8		58.0	51.5	53.8		54.5	49.0	53.8		54.5	49.0	53.8		54.5	49.0
20:50	51.1		52.0	49.0	55.9		59.5	51.0	51.1		52.0	49.0	51.1		52.0	49.0	51.1		52.0	49.0
20:55	51.1		52.0	49.0	56.0		59.5	51.0	51.1		52.0	49.0	51.1		52.0	49.0	51.1		52.0	49.0
21:00	54.7		56.5	49.5	54.4		57.5	50.0	54.7		56.5	49.5	54.7		56.5	49.5	54.7		56.5	49.5
21:05	51.2		52.0	49.0	54.7		56.0	50.5	51.2		52.0	49.0	51.2		52.0	49.0	51.2		52.0	49.0
21:10	51.1		52.0	49.0	52.0		52.0	48.5	51.1		52.0	49.0	51.1		52.0	49.0	51.1		52.0	49.0
21:15	51.1		51.5	48.5	60.4		60.0	49.0	51.1		51.5	48.5	51.1		51.5	48.5	51.1		51.5	48.5
21:20	53.2		55.0	49.0	62.9		66.0	49.5	53.2		55.0	49.0	53.2		55.0	49.0	53.2		55.0	49.0
21:25	55.1		57.0	49.0	54.1		56.0	50.0	55.1		57.0	49.0	55.1		57.0	49.0	55.1		57.0	49.0
21:30	56.6		56.5	49.5	51.1		52.0	49.0	56.6		56.5	49.5	56.6		56.5	49.5	56.6		56.5	49.5
21:35	52.4		54.0	49.5	53.9		52.0	48.5	52.4		54.0	49.5	52.4		54.0	49.5	52.4		54.0	49.5
21:40	51.9		53.0	49.0	50.9		51.5	48.5	51.9		53.0	49.0	51.9		53.0	49.0	51.9		53.0	49.0
21:45	51.5		53.0	49.0	55.3		52.5	49.0	51.5		53.0	49.0	51.5		53.0	49.0	51.5		53.0	49.0
21:50	53.8		52.5	49.0	51.4		52.0	49.5	53.8		52.5	49.0	53.8		52.5	49.0	53.8		52.5	49.0
21:55	51.5		52.5	49.0	54.4		57.5	50.0	51.5		52.5	49.0	51.5		52.5	49.0	51.5		52.5	49.0
22:00	51.7		52.5	48.5	56.4		55.5	49.5	51.7		52.5	48.5	51.7		52.5	48.5	51.7		52.5	48.5
22:05	50.9		51.5	48.5	52.1		52.5	49.5	50.9		51.5	48.5	50.9		51.5	48.5	50.9		51.5	48.5
22:10	51.1		52.0	49.0	52.5		54.0	49.5	51.1		52.0	49.0	51.1		52.0	49.0	51.1		52.0	49.0
22:15	57.7		53.5	49.0	52.6		55.0	49.0	57.7		53.5	49.0	57.7		53.5	49.0	57.7		53.5	49.0
22:20	62.4		55.5	49.5	51.9		53.0	49.5	62.4		55.5	49.5	62.4		55.5	49.5	62.4		55.5	49.5
22:25	70.8		74.5	53.0	51.9		52.5	49.0	70.8		74.5	53.0	70.8		74.5	53.0	70.8		74.5	53.0
22:30	69.9		74.0	52.0	53.4		56.0	49.5	69.9		74.0	52.0	69.9		74.0	52.0	69.9		74.0	52.0
22:35	55.0		52.5	49.0	52.6		54.0	50.0	55.0		52.5	49.0	55.0		52.5	49.0	55.0		52.5	49.0
22:40	51.4		52.5	49.0	53.5		56.0	49.0	51.4		52.5	49.0	51.4		52.5	49.0	51.4		52.5	49.0
22:45	51.2		51.5	48.5	53.5		55.5	49.5	51.2		51.5	48.5	51.2		51.5	48.5	51.2		51.5	48.5
22:50	51.5		52.0	49.0	51.8		52.5	48.5	51.5		52.0	49.0	51.5		52.0	49.0	51.5		52.0	49.0
22:55	55.8		53.0	49.5	50.9		51.5	48.0	55.8		53.0	49.5	55.8		53.0	49.5	55.8		53.0	49.5
23:00	59.1		62.5	49.0	52.3		54.5	49.0	59.1		62.5	49.0	59.1		62.5	49.0	59.1		62.5	49.0
23:05	53.4		52.0	49.0	52.3		55.0	49.0	53.4		52.0	49.0	53.4		52.0	49.0	53.4		52.0	49.0
23:10	61.7		62.0	49.0	51.0		52.0	48.5	61.7		62.0	49.0	61.7		62.0	49.0	61.7		62.0	49.0
23:15	51.4		52.0	49.0	50.9		52.0	48.5	51.4		52.0	49.0	51.4		52.0	49.0	51.4		52.0	49.0
23:20	52.2		52.0	49.0	51.8		53.0	49.0	52.2		52.0	49.0	52.2		52.0	49.0	52.2		52.0	49.0
23:25	52.2		52.5	49.0	52.7		55.5	49.5	52.2		52.5	49.0	52.2		52.5	49.0	52.2		52.5	49.0
23:30	52.7		52.5	49.0	50.7		51.5	48.0	52.7		52.5	49.0	52.7		52.5	49.0	52.7		52.5	49.0
23:35	51.5		52.5	48.5	54.5		52.5	49.0	51.5		52.5	48.5	51.5		52.5	48.5	51.5		52.5	48.5
23:40	61.4		63.5	49.0	51.0		51.5	48.5	61.4		63.5	49.0	61.4		63.5	49.0	61.4		63.5	49.0
23:45	58.5		57.5	49.0	50.9		51.5	48.5	58.5		57.5	49.0	58.5		57.5	49.0	58.5		57.5	49.0
23:50	51.5		52.0	49.0	51.1		52.0	49.0	51.5		52.0	49.0	51.5		52.0	49.0	51.5		52.0	49.0
23:55	55.4		56.8	49.1	51.6		53.0	49.0	55.4		56.8	49.1	55.4		56.8	49.1	55.4		56.8	49.1

## **Appendix B3**

### **Graphical Plot of Background Noise Monitoring Data**

Leq(5min) dB(A)

### Graphical Plot for Background Noise Monitoring Result- NM1



## **Appendix B4**

### **Photographic Record of Noise Monitoring Station**

## Photographic Record of Noise Monitoring Station



NM1  
Village house at Ha Pak Nai

## **Appendix B5**

### **Meteorological Data during Background Noise Monitoring**

Date		Weather	Total Rainfall (mm)	Lau Fau Shan Weather Station			
				Mean Air Temperature (°C)	Wind Speed (km/h)	Mean Relative Humidity (%)	Wind Direction
3-Jan-24	Wed	Mainly fine. Moderate easterly winds.	0	17.8	16	70.5	N
4-Jan-24	Thu	Mainly cloudy. Sunny intervals in the afternoon.	0	15.8	12	65.5	E
5-Jan-24	Fri	Mainly fine. Moderate easterly winds.	0	17.8	9	80.5	E
6-Jan-24	Sat	It will be fine. Dry during the day.	0	19.5	12.7	77.2	E
7-Jan-24	Sun	Mainly fine. Moderate easterly winds.	0	21.5	15.5	65.5	E
8-Jan-24	Mon	One or two light rain patches tonight.	Trace	20.7	11.5	70	E
9-Jan-24	Tue	Mainly cloudy. Sunny intervals in the afternoon.	Trace	20.5	9	79	W/SW
10-Jan-24	Wed	Mainly fine. Moderate easterly winds.	0	21.1	17.2	68.0	E/NE
11-Jan-24	Thu	Dry with sunny periods during the day.	Trace	18.2	12.5	64.0	E/NE
12-Jan-24	Fri	Dry with sunny periods in the afternoon	0	18.5	11	76.5	E
13-Jan-24	Sat	Mainly cloudy tonight.	0	Maintenance	14	Maintenance	SE
14-Jan-24	Sun	Moderate easterly winds.	0	Maintenance	8.5	Maintenance	W/SW
15-Jan-24	Mon	Mainly cloudy. Sunny intervals in the afternoon.	0	Maintenance	11.2	Maintenance	SE
16-Jan-24	Tue	Dry with sunny periods in the afternoon	0	20.7	18.5	68	E

## **Appendix C1**

### **Calibration certificates for Water Quality Monitoring Instruments**



## REPORT OF EQUIPMENT PERFORMANCE CHECK/CALIBRATION

**CONTACT:** MR BEN TAM  
**CLIENT:** ACTION-UNITED ENVIRONMENTAL SERVICES &  
**ADDRESS:** RM A 20/F., GOLD KING IND BLDG,  
NO. 35-41 TAI LIN PAI ROAD,  
KWAI CHUNG, N.T.

**WORK ORDER:** HK2400952  
**SUB-BATCH:** 0  
**LABORATORY:** HONG KONG  
**DATE RECEIVED:** 05-Jan-2024  
**DATE OF ISSUE:** 16-Jan-2024

### GENERAL COMMENTS

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

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

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

The validity of equipment/ meter performance only applies to the result(s) stated in the report.

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

### EQUIPMENT INFORMATION

Equipment information (Brand name, Model No., Serial No. and Equipment No.) is provided by client.

Equipment Type: Multifunctional Meter

Service Nature: Performance Check

Scope: Conductivity, Dissolved Oxygen, pH Value, Turbidity, Salinity and Temperature

Brand Name/ Model No.: [YSI]/ [Professional DSS]

Serial No./ Equipment No.: [20J101862/ 15H103928]/ [EQW018]

Date of Calibration: 16-January-2024

Ms. Lin Wai Yu, Iris  
Assistant Manager - Inorganics

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# REPORT OF EQUIPMENT PERFORMANCE CHECK/CALIBRATION



**WORK ORDER:** HK2400952  
**SUB-BATCH:** 0  
**DATE OF ISSUE:** 16-Jan-2024  
**CLIENT:** ACTION-UNITED ENVIRONMENTAL SERVICES & CONSULTING

Equipment Type: Multifunctional Meter  
Brand Name/ Model No.: [YSI]/ [Professional DSS]  
Serial No./ Equipment No.: [20J101862/ 15H103928]/ [EQW018]  
Date of Calibration: 16-January-2024 Date of Next Calibration: 16-April-2024

## PARAMETERS:

### Conductivity

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

Expected Reading ( $\mu\text{S}/\text{cm}$ )	Displayed Reading ( $\mu\text{S}/\text{cm}$ )	Tolerance (%)
146.9	158.1	+7.6
6667	6822	+2.3
12890	13460	+4.4
58670	57182	-2.5
	Tolerance Limit (%)	$\pm 10.0$

### Dissolved Oxygen

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

Expected Reading (mg/L)	Displayed Reading (mg/L)	Tolerance (mg/L)
2.76	2.90	+0.14
4.46	4.56	+0.10
7.61	7.66	+0.05
	Tolerance Limit (mg/L)	$\pm 0.20$

### pH Value

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

Expected Reading (pH unit)	Displayed Reading (pH unit)	Tolerance (pH unit)
4.0	3.87	-0.13
7.0	6.99	-0.01
10.0	9.98	-0.02
	Tolerance Limit (pH unit)	$\pm 0.20$

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

Ms. Lin Wai Yu, Iris  
Assistant Manager - Inorganics

# REPORT OF EQUIPMENT PERFORMANCE CHECK/CALIBRATION



**WORK ORDER:** HK2400952  
**SUB-BATCH:** 0  
**DATE OF ISSUE:** 16-Jan-2024  
**CLIENT:** ACTION-UNITED ENVIRONMENTAL SERVICES & CONSULTING

Equipment Type: Multifunctional Meter  
Brand Name/ Model No.: [YSI]/ [Professional DSS]  
Serial No./ Equipment No.: [20J101862/ 15H103928]/ [EQW018]  
Date of Calibration: 16-January-2024 Date of Next Calibration: 16-April-2024

## PARAMETERS:

### Turbidity

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

Expected Reading (NTU)	Displayed Reading (NTU)	Tolerance (%)
0	0.28	--
4	4.25	+6.3
40	36.66	-8.4
80	80.26	+0.3
400	360.97	-9.8
800	743.73	-7.0
	Tolerance Limit (%)	±10.0

### Salinity

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

Expected Reading (ppt)	Displayed Reading (ppt)	Tolerance (%)
0	0.01	--
10	10.91	+9.1
20	21.62	+8.1
30	31.98	+6.6
	Tolerance Limit (%)	±10.0

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

Ms. Lin Wai Yu, Iris  
Assistant Manager - Inorganics

# REPORT OF EQUIPMENT PERFORMANCE CHECK/CALIBRATION



**WORK ORDER:** HK2400952  
**SUB-BATCH:** 0  
**DATE OF ISSUE:** 16-Jan-2024  
**CLIENT:** ACTION-UNITED ENVIRONMENTAL SERVICES & CONSULTING

Equipment Type: Multifunctional Meter  
Brand Name/ Model No.: [YSI]/ [Professional DSS]  
Serial No./ Equipment No.: [20J101862/ 15H103928]/ [EQW018]  
Date of Calibration: 16-January-2024 Date of Next Calibration: 16-April-2024

## PARAMETERS:

### Temperature

**Method Ref: Section 6 of International Accreditation New Zealand Technical Guide No. 3 Second edition March 2008: Working Thermometer Calibration Procedure.**

Expected Reading (°C)	Displayed Reading (°C)	Tolerance (°C)
10.0	8.9	-1.1
23.0	22.5	-0.5
40.0	38.6	-1.4
	Tolerance Limit (°C)	±2.0

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

Ms. Lin Wai Yu, Iris  
Assistant Manager - Inorganics



## REPORT OF EQUIPMENT PERFORMANCE CHECK/CALIBRATION

**CONTACT:** BEN TAM  
**CLIENT:** ACTION-UNITED ENVIRONMENTAL SERVICES &  
**ADDRESS:** RM A 20/F., GOLD KING IND BLDG,  
NO. 35-41 TAI LIN PAI ROAD,  
KWAI CHUNG, N.T.

**WORK ORDER:** HK2406683  
**SUB-BATCH:** 0  
**LABORATORY:** HONG KONG  
**DATE RECEIVED:** 19-Feb-2024  
**DATE OF ISSUE:** 27-Feb-2024

### GENERAL COMMENTS

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

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

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

The validity of equipment/ meter performance only applies to the result(s) stated in the report.

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

### EQUIPMENT INFORMATION

Equipment information (Brand name, Model No., Serial No. and Equipment No.) is provided by client.

Equipment Type: Multifunctional Meter

Service Nature: Performance Check

Scope: Conductivity, Dissolved Oxygen, pH Value, Turbidity, Salinity and Temperature

Brand Name/ Model No.: [YSI]/ [Professional DSS]

Serial No./ Equipment No.: [17B102764/17B100758]/ [EQW019]

Date of Calibration: 23-February-2024

Ms. Lin Wai Yu, Iris  
Assistant Manager - Inorganics

# REPORT OF EQUIPMENT PERFORMANCE CHECK/CALIBRATION



**WORK ORDER:** HK2406683  
**SUB-BATCH:** 0  
**DATE OF ISSUE:** 27-Feb-2024  
**CLIENT:** ACTION-UNITED ENVIRONMENTAL SERVICES & CONSULTING

Equipment Type: Multifunctional Meter  
Brand Name/ Model No.: [YSI]/ [Professional DSS]  
Serial No./ Equipment No.: [17B102764/17B100758]/ [EQW019]  
Date of Calibration: 23-February-2024 Date of Next Calibration: 23-May-2024

## PARAMETERS:

### Conductivity

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

Expected Reading ( $\mu\text{S}/\text{cm}$ )	Displayed Reading ( $\mu\text{S}/\text{cm}$ )	Tolerance (%)
146.9	157.9	+7.5
6667	6927	+3.9
12890	13904	+7.9
58670	57705	-1.6
	Tolerance Limit (%)	$\pm 10.0$

### Dissolved Oxygen

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

Expected Reading (mg/L)	Displayed Reading (mg/L)	Tolerance (mg/L)
2.93	2.94	+0.01
5.63	5.53	-0.10
7.14	7.08	-0.06
	Tolerance Limit (mg/L)	$\pm 0.20$

### pH Value

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

Expected Reading (pH unit)	Displayed Reading (pH unit)	Tolerance (pH unit)
4.0	3.88	-0.12
7.0	7.01	+0.01
10.0	9.87	-0.13
	Tolerance Limit (pH unit)	$\pm 0.20$

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

Ms. Lin Wai Yu, Iris  
Assistant Manager - Inorganics

# REPORT OF EQUIPMENT PERFORMANCE CHECK/CALIBRATION



**WORK ORDER:** HK2406683  
**SUB-BATCH:** 0  
**DATE OF ISSUE:** 27-Feb-2024  
**CLIENT:** ACTION-UNITED ENVIRONMENTAL SERVICES & CONSULTING

Equipment Type: Multifunctional Meter  
Brand Name/ Model No.: [YSI]/ [Professional DSS]  
Serial No./ Equipment No.: [17B102764/17B100758]/ [EQW019]  
Date of Calibration: 23-February-2024 Date of Next Calibration: 23-May-2024

## PARAMETERS:

### Turbidity

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

Expected Reading (NTU)	Displayed Reading (NTU)	Tolerance (%)
0	-0.34	--
4	4.02	+0.5
40	36.07	-9.8
80	72.58	-9.3
400	365.97	-8.5
800	731.87	-8.5
	Tolerance Limit (%)	±10.0

### Salinity

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

Expected Reading (ppt)	Displayed Reading (ppt)	Tolerance (%)
0	0.01	--
10	10.90	+9.0
20	21.95	+9.8
30	32.89	+9.6
	Tolerance Limit (%)	±10.0

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

Ms. Lin Wai Yu, Iris  
Assistant Manager - Inorganics

# REPORT OF EQUIPMENT PERFORMANCE CHECK/CALIBRATION



**WORK ORDER:** HK2406683  
**SUB-BATCH:** 0  
**DATE OF ISSUE:** 27-Feb-2024  
**CLIENT:** ACTION-UNITED ENVIRONMENTAL SERVICES & CONSULTING

Equipment Type: Multifunctional Meter  
Brand Name/ Model No.: [YSI]/ [Professional DSS]  
Serial No./ Equipment No.: [17B102764/17B100758]/ [EQW019]  
Date of Calibration: 23-February-2024 Date of Next Calibration: 23-May-2024

## PARAMETERS:

### Temperature

**Method Ref: Section 6 of International Accreditation New Zealand Technical Guide No. 3 Second edition March 2008: Working Thermometer Calibration Procedure.**

Expected Reading (°C)	Displayed Reading (°C)	Tolerance (°C)
6.5	6.4	-0.1
22.5	22.4	-0.1
43.5	42.5	-1.0
	Tolerance Limit (°C)	±2.0

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

Ms. Lin Wai Yu, Iris  
Assistant Manager - Inorganics

## **Appendix C2**

### **HOKLAS Accredited Certificate of the Testing Laboratory**

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Hong Kong Accreditation Service  
香港認可處

**Certificate of Accreditation**  
**認可證書**

*This is to certify that*  
特此證明

**ALS TECHNICHEM (HK) PTY LIMITED**

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

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

**Environmental Testing**  
環境測試

*This accreditation to ISO/IEC 17025:2017 demonstrates technical competence for a defined scope and  
the implementation of a management system relevant to laboratory operation*  
(see joint IAF-ILAC-ISO Communiqué).  
此項 ISO/IEC 17025:2017 的認可資格證明此實驗所具備指定範疇內所須的技術能力並  
實施一套與實驗所運作相關的管理體系  
(見國際認可論壇、國際實驗所認可合作組織及國際標準化組織的聯合公報)。

*The common seal of HKAS is affixed hereto by the authority of the HKAS Executive*  
現經香港認可處執行機關授權在此蓋上香港認可處的印章

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

Registration Number : **HOKLAS 066**  
註冊號碼：



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

## **Appendix C3**

### **In-situ Field Measurement Records and Laboratory Results Data**

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**Baseline Surface Water Quality Monitoring at WM1 - Mid-Ebb**

Date	Time	Depth (m)	Speed of Water Flow (m/s)	Direction of Water Flow (degree)	Temp (°C)		DO (mg/L)		DOS (%)		Turbidity (NTU)		Salinity (ppt)		pH		Conductivity		pH value @25°C	
20-Feb-24	10:50	0.72	0.085	243.10	20.6	20.6	7.71	7.7	100.6	100.7	8.84	9.0	27.24	27.32	7.98	8.0	38888	38902.0	7.9	7.9
					20.5		7.72		100.8		9.09		27.39		7.98		38916		7.9	
21-Feb-24	11:31	0.83	0.060	134.10	21.6	21.6	7.78	7.8	102.7	102.7	6.84	6.9	25.77	25.77	8.02	8.0	37650	37647.0	8.0	8.0
					21.6		7.78		102.6		6.87		25.76		8.02		37644		8.0	
23-Feb-24	12:38	1.33	<0.001	28.10	21.0	21.0	7.30	7.3	96.2	96.2	4.26	4.2	27.41	27.41	8.01	8.0	39345	39345.0	7.9	7.9
					21.0		7.30		96.2		4.23		27.41		8.01		39345		7.9	
24-Feb-24	13:05	1.34	<0.001	95.40	21.2	21.2	6.97	7.0	92.8	92.8	9.72	9.7	28.54	28.54	7.92	7.9	40934	40934.0	7.9	7.9
					21.2		6.97		92.8		9.76		28.54		7.92		40934		7.9	
26-Feb-24	14:00	1.26	<0.001	86.70	20.0	20.0	7.25	7.2	95.1	95.1	8.70	8.7	30.13	30.13	7.94	7.9	41864	41855.0	7.9	7.9
					20.0		7.24		95.0		8.72		30.12		7.94		41846		7.8	
27-Feb-24	14:30	1.50	<0.001	70.70	19.2	19.2	7.14	7.1	92.2	92.1	9.44	9.4	29.73	29.72	7.91	7.9	40743	40726.5	7.9	7.9
					19.2		7.12		92.0		9.41		29.71		7.90		40710		7.9	
28-Feb-24	14:58	1.40	<0.001	126.30	19.2	19.2	6.79	6.8	88.7	88.7	9.09	9.1	31.53	31.52	7.96	8.0	42927	42910.0	7.8	7.9
					19.2		6.79		88.6		9.10		31.50		7.95		42893		7.9	
29-Feb-24	15:29	1.23	0.118	358.80	19.3	19.3	6.52	6.5	85.1	85.0	22.82	22.9	31.27	31.27	7.88	7.9	42668	42663.0	7.8	7.8
					19.3		6.50		84.8		22.89		31.26		7.88		42658		7.8	
1-Mar-24	16:10	1.20	0.046	136.10	15.3	15.3	7.59	7.6	90.9	90.9	16.31	16.3	29.73	29.73	7.89	7.9	37330	37329.5	7.8	7.8
					15.3		7.59		90.9		16.28		29.73		7.89		37329		7.8	
2-Mar-24	16:30	1.57	<0.001	87.30	15.2	15.2	7.90	7.9	94.2	94.2	12.73	12.7	29.47	29.47	7.96	8.0	40721	40718.5	7.9	7.9
					15.2		7.90		94.2		12.72		29.47		7.96		40716		7.9	

**Baseline Surface Water Quality Monitoring at WM1 - Mid-Flood**

Date	Time	Depth (m)	Speed of Water Flow (m/s)	Direction of Water Flow (degree)	Temp (oC)		DO (mg/L)		DOS (%)		Turbidity (NTU)		Salinity (ppt)		pH		Conductivity		pH value @25°C	
20-Feb-24	15:56	0.88	0.090	191.10	20.3	20.3	6.97	7.0	92.2	92.3	10.56	10.5	30.39	30.38	7.97	8.0	42503	42498.5	7.9	8.0
					20.3		6.98		92.4		10.40		30.36		7.97		42494		8.0	
21-Feb-24	16:11	1.15	0.111	153.40	21.9	21.9	7.89	7.9	105.3	105.3	12.31	12.3	27.14	27.14	8.03	8.0	39666	39667.0	8.0	8.0
					21.9		7.88		105.3		12.28		27.14		8.03		39668		8.0	
23-Feb-24	08:27	0.88	0.066	135.60	21.5	21.5	6.44	6.4	86.0	86.0	13.66	13.7	28.15	28.15	7.84	7.8	40705	40705.0	7.9	7.9
					21.5		6.44		86.0		13.71		28.15		7.84		40705		7.9	
24-Feb-24	08:32	0.92	<0.001	118.00	20.0	20.0	6.44	6.4	83.8	83.9	19.30	19.3	28.43	28.43	7.83	7.8	39798	39802.0	7.9	7.9
					20.0		6.44		83.9		19.26		28.43		7.83		39806		7.9	
26-Feb-24	09:34	1.14	0.049	129.70	18.8	18.8	6.88	6.9	88.3	88.3	8.50	8.6	29.94	29.94	7.92	7.9	40621	40621.0	7.9	7.9
					18.8		6.87		88.2		8.60		29.94		7.92		40621		7.9	
27-Feb-24	09:40	1.20	<0.001	120.70	18.7	18.7	6.87	6.9	88.2	88.1	10.12	10.1	30.17	30.17	7.90	7.9	40800	40786.5	7.9	7.9
					18.7		6.87		88.0		9.99		30.16		7.90		40773		7.9	
28-Feb-24	09:39	1.27	<0.001	125.70	18.8	18.8	6.77	6.8	87.4	87.5	9.02	9.1	31.18	31.18	7.94	7.9	42110	42106.0	7.9	7.9
					18.8		6.77		87.5		9.17		31.18		7.94		42102		7.9	
29-Feb-24	09:58	1.16	<0.001	172.50	18.9	18.9	6.59	6.6	85.7	90.6	11.89	11.9	31.66	31.66	7.93	7.9	42823	42815.0	7.9	7.9
					18.9		6.58		95.5		11.84		31.65		7.93		42807		7.9	
1-Mar-24	10:14	1.30	<0.001	148.50	16.4	16.4	7.28	7.3	89.4	89.4	34.10	34.1	30.48	30.48	7.88	7.9	39127	39127.5	7.8	7.8
					16.4		7.28		89.4		34.08		30.48		7.88		39128		7.8	
2-Mar-24	10:31	1.25	<0.001	132.90	17.9	17.9	6.91	6.9	89.1	89.1	17.31	17.3	33.59	33.56	8.04	8.0	44173	44112.5	7.9	7.9
					17.9		6.91		89.0		17.25		33.53		8.04		44052		7.9	

**Baseline Surface Water Quality Monitoring at WM1 - Mid-Ebb**

Date	Time	Depth (m)	Speed of Water Flow (m/s)	Direction of Water Flow (degree)	Conductivity @25°C (µS/cm)		Suspended Solids (mg/L)		Total Alkalinity (mg/L)		Sulphate (mg/L)		Chloride (mg/L)		Cadmium (µg/L)		Copper (µg/L)		Lead (µg/L)		Manganese (µg/L)	
20-Feb-24	10:50	0.72	0.085	243.10	38600	38600	14.0	14.5	103	103.0	2020	2075.0	13600	14050	<1	<1	<10	<10	<10	<10	39	40.5
					38600		15.0		103		2130		14500		<1		<10		<10		42	
21-Feb-24	11:31	0.83	0.060	134.10	36800	36600	11.7	12.0	102	101.5	1860	1845.0	13200	13000	1.4	1.2	<10	<10	<10	<10	24	24.5
					36400		12.2		101		1830		12800		1.0		<10		<10		25	
23-Feb-24	12:38	1.33	<0.001	28.10	39500	39500	6.3	6.5	108	106.0	2220	2215.0	15300	15100	<1	<1	<10	<10	<10	<10	<10	12.0
					39500		6.7		104		2210		14900		<1		<10		<10		12.0	
24-Feb-24	13:05	1.34	<0.001	95.40	41100	41050	15.9	16.4	104	105.0	2370	2470.0	16000	16200	<1	<1	<10	<10	<10	<10	30	30.0
					41000		16.9		106		2570		16400		<1		<10		<10		30	
26-Feb-24	14:00	1.26	<0.001	86.70	42000	41800	16.0	15.8	105	103.5	2470	2520.0	16400	16450	<1	<1	17.0	13.5	<10	<10	36	35.5
					41600		15.5		102		2570		16500		<1		<10		<10		35	
27-Feb-24	14:30	1.50	<0.001	70.70	42700	42250	16.6	17.0	104	103.5	2300	2285.0	15000	15400	<1	<1	<10	<10	<10	<10	38	35.0
					41800		17.3		103		2270		15800		<1		<10		<10		32	
28-Feb-24	14:58	1.40	<0.001	126.30	42400	43350	18.1	15.1	104	105.0	2380	2530.0	16300	16350	<1	<1	<10	<10	<10	<10	32	34.0
					44300		12.0		106		2680		16400		<1		<10		<10		36	
29-Feb-24	15:29	1.23	0.118	358.80	44500	44350	49.4	47.2	106	106.5	2440	2500.0	16000	16500	<1	<1	<10	<10	<10	<10	61.00	68.5
					44200		45.0		107		2560		17000		<1		<10		<10		76.00	
1-Mar-24	16:10	1.20	0.046	136.10	42700	42700	28.9	28.6	103	103.0	2460	2410.0	17100	16750	<1	<1	<10	<10	<10	<10	48.00	51.0
					42700		28.2		103		2360		16400		<1		<10		<10		54.00	
2-Mar-24	16:30	1.57	<0.001	87.30	42700	42450	23.1	22.8	104	104.0	2460	2460.0	16400	16850	<1	<1	<10	<10	<10	<10	36.00	35.0
					42200		22.4		104		2460		17300		<1		<10		<10		34.00	

**Baseline Surface Water Quality Monitoring at WM1 - Mid-Flood**

Date	Time	Depth (m)	Speed of Water Flow (m/s)	Direction of Water Flow (degree)	Conductivity @25°C (µS/cm)		Suspended Solids (mg/L)		Total Alkalinity (mg/L)		Sulphate (mg/L)		Chloride (mg/L)		Cadmium (µg/L)		Copper (µg/L)		Lead (µg/L)		Manganese (µg/L)	
20-Feb-24	15:56	0.88	0.090	191.10	42600	41900	26.1	21.6	107	106	2310	2225	15400	15200	<1	<1	<10	<10	<10	<10	22	27.0
					41200		17.0		105		2140		15000		<1		<10		<10		32	
21-Feb-24	16:11	1.15	0.111	153.40	38800	38700	19.2	19.6	103	103.0	2460	2365.0	15100	14800	<1	<1	<10	<10	<10	<10	57	57.5
					38600		20.0		103		2270		14500		<1		<10		<10		58	
23-Feb-24	08:27	0.88	0.066	135.60	40300	40200	21.6	21.3	104	104.5	2300	2350.0	16500	16500	1.8	1.80	<10	<10	<10	<10	66	64.0
					40100		20.9		105		2400		16500		1.8		<10		<10		62	
24-Feb-24	08:32	0.92	<0.001	118.00	40300	40450	23.9	24.1	106	106.0	2310	2245.0	16300	16350	2.2	2.25	<10	<10	<10	<10	42	58.0
					40600		24.3		106		2180		16400		2.3		<10		<10		74	
26-Feb-24	09:34	1.14	0.049	129.70	41200	41250	31.3	30.1	104	104.0	2680	2640.0	17600	17750	2.5	2.35	<10	<10	<10	<10	38	37.5
					41300		28.9		104		2600		17900		2.2		<10		<10		37	
27-Feb-24	09:40	1.20	<0.001	120.70	41700	41500	12.9	12.9	103	103.0	2460	2410.0	15600	15450	<1	<1	<10	<10	<10	<10	34	33.0
					41300		12.9		103		2360		15300		<1		<10		<10		32	
28-Feb-24	09:39	1.27	<0.001	125.70	44400	44250	17.5	17.0	107	106.5	2600	2630.0	17500	17600	<1	<1	<10	<10	<10	<10	24	25.0
					44100		16.5		106		2660		17700		<1		<10		<10		26	
29-Feb-24	09:58	1.16	<0.001	172.50	44800	44600	13.3	13.7	107	107.5	2630	2765.0	17200	17400	<1	<1	<10	<10	<10	<10	40	39.0
					44400		14.1		108		2900		17600		<1		<10		<10		38	
1-Mar-24	10:14	1.30	<0.001	148.50	43400	43300	47.7	49.1	104	104.0	2380	2450.0	16900	17300	<1	<1	<10	<10	10.0	<b>10.0</b>	42	45.5
					43200		50.4		104		2520		17700		<1		<10		<10		49	
2-Mar-24	10:31	1.25	<0.001	132.90	44200	44850	24.3	24.3	108	108.0	2250	2480.0	15400	17200	<1	<1	<10	<10	<10	<10	39	39.5
					45500		24.2		108		2710		19000		<1		<10		<10		40	

**Baseline Surface Water Quality Monitoring at WM1 - Mid-Ebb**

Date	Time	Depth (m)	Speed of Water Flow (m/s)	Direction of Water Flow (degree)	Nickel (µg/L)		Zinc (µg/L)		Calcium (µg/L)		Iron (µg/L)		Magnesium (µg/L)		Potassium (µg/L)		Sodium (µg/L)		Ammonia as N (mg/L)		Nitrate as N (mg/L)	
					<10	<10	<100	<100	371000	372500	430	500	1020000	990000	296000	288500	6950000	6685000	0.10	0.105	0.80	0.795
20-Feb-24	10:50	0.72	0.085	243.10	<10	<10	<100	<100	374000	372500	570	500	960000	990000	281000	288500	6420000	6685000	0.11	0.105	0.79	0.795
21-Feb-24	11:31	0.83	0.060	134.10	<10	<10	<100	<100	347000	348000	180	205	939000	910000	274000	265500	6480000	6250000	0.09	0.085	0.89	0.885
23-Feb-24	12:38	1.33	<0.001	28.10	<10	<10	<100	<100	349000	378500	230	65	881000	905500	257000	366500	6020000	7025000	0.08	0.085	0.88	0.825
24-Feb-24	13:05	1.34	<0.001	95.40	<10	<10	<100	<100	362000	381500	30	470	939000	1005000	351000	308000	7350000	7655000	0.09	0.130	0.82	0.645
26-Feb-24	14:00	1.26	<0.001	86.70	<10	<10	<100	<100	395000	385000	100	65	872000	1005000	382000	308000	6700000	7655000	0.08	0.130	0.83	0.645
27-Feb-24	14:30	1.50	<0.001	70.70	<10	<10	<100	<100	378000	405000	150	345	1000000	987500	306000	307500	7670000	7970000	0.14	0.120	0.66	0.530
28-Feb-24	14:58	1.40	<0.001	126.30	<10	<10	<100	<100	385000	409000	790	420	310000	985000	310000	292500	7640000	7060000	0.12	0.155	0.63	0.495
29-Feb-24	15:29	1.23	0.118	358.80	<10	<10	<100	<100	401000	429500	330	420	1030000	985000	317000	292500	8180000	7970000	0.13	0.145	0.54	0.470
1-Mar-24	16:10	1.20	0.046	136.10	<10	<10	<100	<100	409000	480000	360	1005	945000	986000	298000	305000	7760000	7815000	0.11	0.1	0.52	0.635
2-Mar-24	16:30	1.57	<0.001	87.30	<10	<10	<100	<100	404000	381000	520	710	1070000	954500	331000	304000	7540000	7530000	0.10	0.2	0.51	0.770
					<10	<10	<100	<100	432000	405000	450	710	1000000	954500	304000	284500	6970000	7530000	0.12	0.2	0.51	0.770
					<10	<10	<100	<100	407000	429500	320	420	1030000	985000	308000	292500	7600000	7060000	0.18	0.155	0.49	0.495
					<10	<10	<100	<100	452000	480000	520	1755	940000	1265000	277000	385000	6520000	10115000	0.13	0.145	0.50	0.470
					<10	<10	<100	<100	468000	480000	1680	1755	1280000	1265000	385000	380500	10400000	10115000	0.14	0.145	0.47	0.470
					<10	<10	<100	<100	492000	386000	1830	1005	1250000	986000	376000	307000	9830000	7815000	0.15	0.1	0.47	0.635
					<10	<10	<100	<100	381000	391000	730	1005	991000	986000	309000	307000	7880000	7815000	0.14	0.1	0.63	0.635
					<10	<10	<100	<100	391000	386000	1280	1005	981000	986000	305000	307000	7750000	7815000	0.13	0.1	0.64	0.635
					<10	<10	<100	<100	398000	405000	690	710	1020000	954500	304000	284500	8060000	7530000	0.15	0.2	0.78	0.770
					<10	<10	<100	<100	412000	405000	730	710	889000	954500	265000	284500	7000000	7530000	0.15	0.2	0.76	0.770

**Baseline Surface Water Quality Monitoring at WM1 - Mid-Flood**

Date	Time	Depth (m)	Speed of Water Flow (m/s)	Direction of Water Flow (degree)	Nickel (µg/L)		Zinc (µg/L)		Calcium (µg/L)		Iron (µg/L)		Magnesium (µg/L)		Potassium (µg/L)		Sodium (µg/L)		Ammonia as N (mg/L)		Nitrate as N (mg/L)	
					<10	<10	<100	<100	670000	529500	200	320	1110000	1115000	331000	330500	7540000	7470000	0.10	0.095	0.65	0.645
20-Feb-24	15:56	0.88	0.090	191.10	<10	<10	<100	<100	389000	529500	440	320	1120000	1115000	330000	330500	7400000	7470000	0.09	0.095	0.64	0.645
21-Feb-24	16:11	1.15	0.111	153.40	<10	<10	<100	<100	368000	370000	670	655	986000	1013000	288000	296000	7390000	7325000	0.07	0.075	0.79	0.785
23-Feb-24	08:27	0.88	0.066	135.60	<10	<10	<100	<100	372000	370000	640	655	1040000	1013000	304000	296000	7260000	7325000	0.08	0.075	0.78	0.785
24-Feb-24	08:32	0.92	<0.001	118.00	<10	<10	<100	<100	381000	377500	140	235	913000	933000	372000	368500	7000000	6875000	0.08	0.100	0.75	0.745
26-Feb-24	09:34	1.14	0.049	129.70	<10	<10	<100	<100	374000	377500	330	235	953000	933000	365000	368500	6750000	6875000	0.12	0.100	0.74	0.745
27-Feb-24	09:40	1.20	<0.001	120.70	<10	<10	<100	<100	375000	390000	600	695	900000	893000	363000	378500	6920000	6935000	0.15	0.135	0.63	0.635
28-Feb-24	09:39	1.27	<0.001	125.70	<10	<10	<100	<100	405000	390000	790	695	886000	893000	394000	378500	6950000	6935000	0.12	0.135	0.64	0.635
29-Feb-24	09:58	1.16	<0.001	172.50	<10	<10	<100	<100	397000	408500	360	405	1060000	1016000	324000	310000	8300000	7930000	0.11	0.105	0.56	0.555
1-Mar-24	10:14	1.30	<0.001	148.50	<10	<10	<100	<100	420000	408500	450	405	972000	1016000	296000	310000	7560000	7930000	0.10	0.105	0.55	0.555
2-Mar-24	10:31	1.25	<0.001	132.90	<10	<10	<100	<100	398000	409000	450	450	935000	954500	288000	294500	7460000	7490000	0.14	0.135	0.55	0.550
					<10	<10	<100	<100	437000	446500	350	325	974000	969000	283000	284000	7520000	7490000	0.13	0.135	0.55	0.550
					<10	<10	<100	<100	476000	446500	300	325	972000	969000	285000	284000	6350000	6505000	0.14	0.125	0.54	0.530
					<10	<10	<100	<100	488000	446500	350	325	966000	969000	283000	284000	6660000	6505000	0.11	0.125	0.52	0.530
					<10	<10	<100	<100	476000	482000	510	660	1360000	1330000	416000	406000	9720000	9400000	0.15	0.155	0.51	0.500
					<10	<10	<100	<100	488000	482000	810	660	1300000	1330000	396000	406000	9080000	9400000	0.16	0.155	0.49	0.500
					<10	<10	<100	<100	410000	412500	710	785	935000	929000	292000	289500	7340000	7235000	0.12	0.120	0.62	0.620
					<10	<10	<100	<100	415000	412500	860	785	923000	929000	287000	289500	7130000	7235000	0.12	0.120	0.62	0.620
					<10	<10	<100	<100	350000	346000	480	490	906000	910500	287000	279500	6940000	7090000	0.14	0.150	0.51	0.575
					<10	<10	<100	<100	342000	346000	500	490	915000	910500	272000	279500	7240000	7090000	0.16	0.150	0.64	0.575

**Baseline Surface Water Quality Monitoring at WM1 - Mid-Ebb**

Date	Time	Depth (m)	Speed of Water Flow (m/s)	Direction of Water Flow (degree)	Total Kjeldahl Nitrogen as N (mg/L)		Reactive Phosphorus as P (mg/L)		Sulphite (mg/L)		Total Organic Carbon (mg/L)		Oil and Grease (mg/L)		Chemical Oxygen Demand (COD) (mg/L)		Biochemical Oxygen (mg/L)		Total Coliform (CFU/100mL)	
20-Feb-24	10:50	0.72	0.085	243.10	0.40	0.40	0.02	0.015	<2	<2	<5	<5	<5	<5	<100	<100	<2	<2	230000	240000
					0.40		0.01		<2		<5		<5		<100		<2		250000	
21-Feb-24	11:31	0.83	0.060	134.10	0.40	0.40	0.02	0.020	<2	<2	<5	<5	<5	<5	<100	<100	<2	<2	50	55
					0.40		0.02		<2		<5		<5		<100		<2		60	
23-Feb-24	12:38	1.33	<0.001	28.10	0.4	0.40	0.03	0.030	<2	<2	<5	<5	<5	<5	<100	<100	<2	<2	1500	1350
					0.4		0.03		<2		<5		<5		<100		<2		1200	
24-Feb-24	13:05	1.34	<0.001	95.40	0.4	0.45	0.04	0.040	<2	<2	<5	<5	<5	<5	<100	<100	<2	<2	43	47.5
					0.5		0.04		<2		<5		<5		<100		<2		52	
26-Feb-24	14:00	1.26	<0.001	86.70	0.4	0.45	0.05	0.045	<2	<2	<5	<5	<5	<5	<100	<100	<2	<2	15	17.5
					0.5		0.04		<2		<5		<5		<100		<2		20	
27-Feb-24	14:30	1.50	<0.001	70.70	0.5	0.50	0.05	0.050	<2	<2	<5	<5	<5	<5	<100	<100	<2	<2	33	34.0
					0.5		0.05		<2		<5		<5		<100		<2		35	
28-Feb-24	14:58	1.40	<0.001	126.30	0.4	0.35	0.04	0.040	<2	<2	<5	<5	<5	<5	<100	<100	<2	<2	60	56.0
					0.3		0.04		<2		<5		<5		<100		<2		52	
29-Feb-24	15:29	1.23	0.118	358.80	0.6	0.55	0.04	0.040	<2	<2	<5	<5	<5	<5	<100	<100	<2	<2	46	52.0
					0.5		0.04		<2		<5		<5		<100		<2		58	
1-Mar-24	16:10	1.20	0.046	136.10	0.6	0.55	0.07	0.070	<2	<2	<5	<5	<5	<5	<100	<100	<2	<2	40	30.0
					0.5		0.07		<2		<5		<5		<100		<2		20	
2-Mar-24	16:30	1.57	<0.001	87.30	0.6	0.60	0.08	0.080	<2	<2	<5	<5	<5	<5	<100	<100	<2	<2	59	62.0
					0.6		0.08		<2		<5		<5		<100		<2		65	

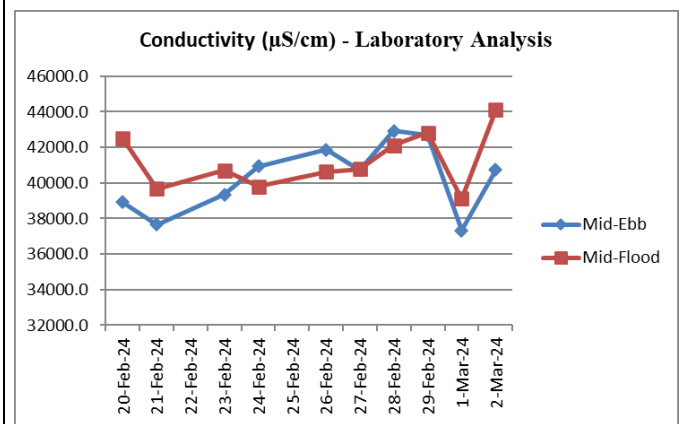
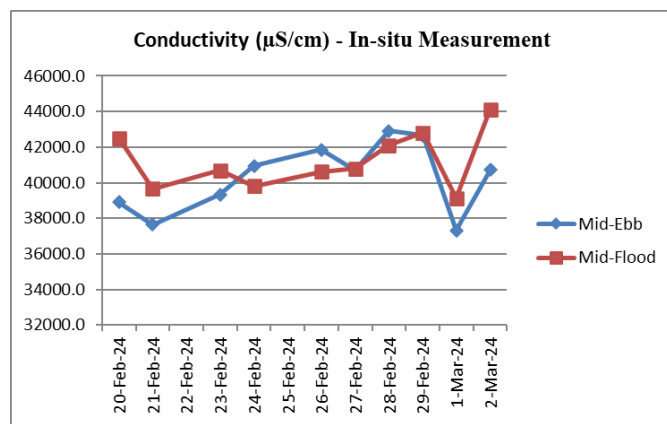
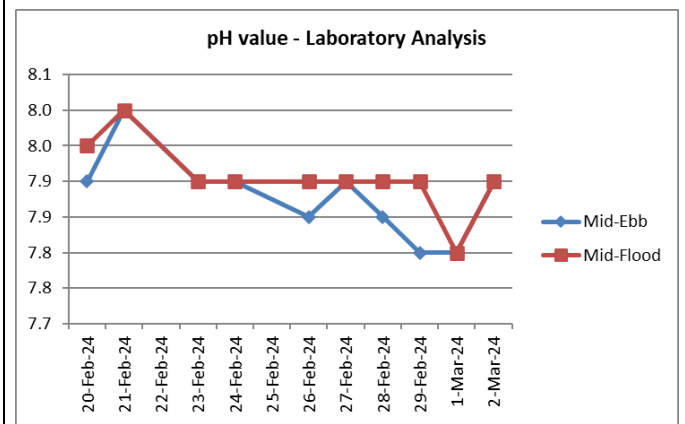
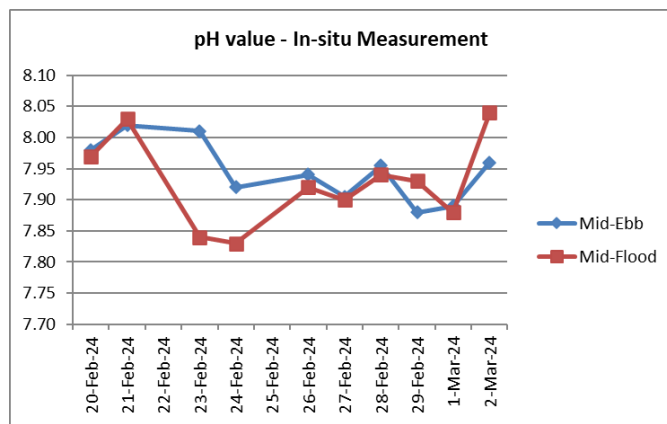
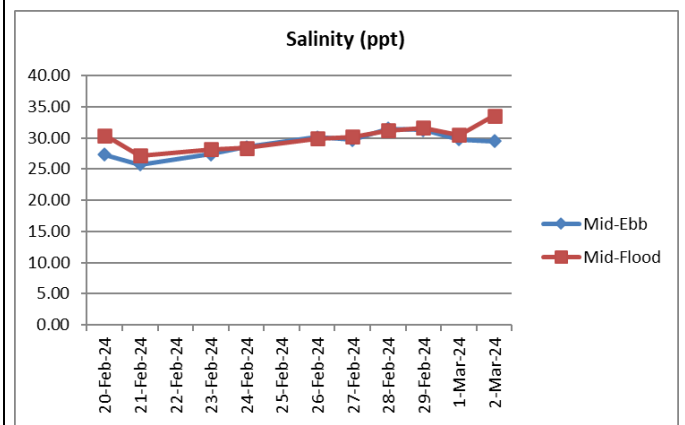
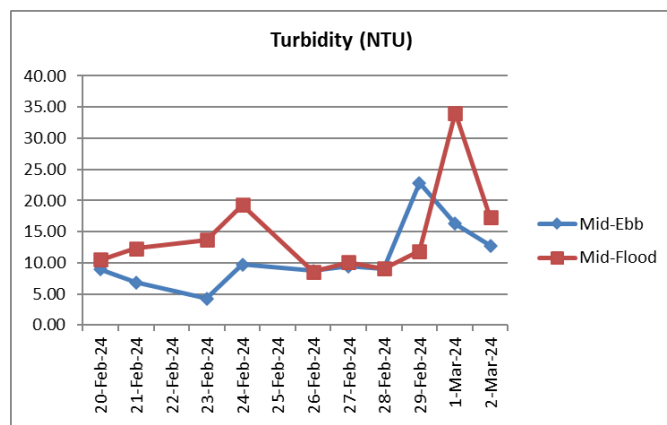
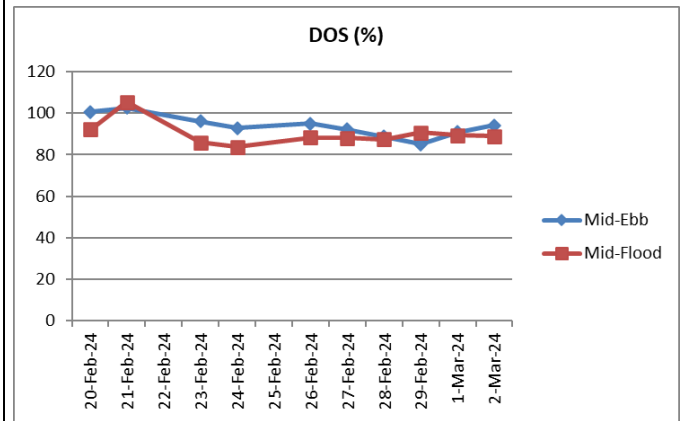
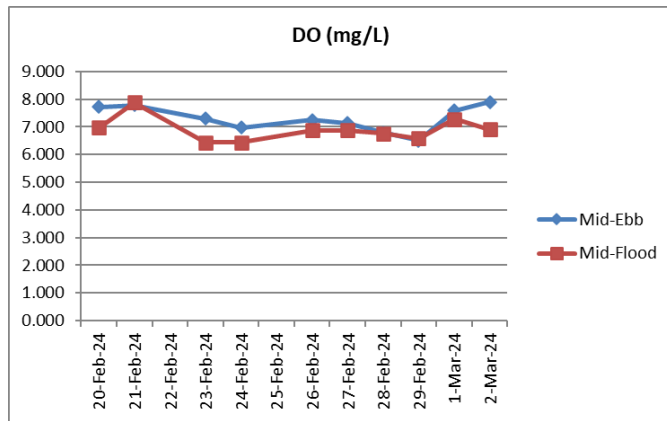
**Baseline Surface Water Quality Monitoring at WM1 - Mid-Flood**

Date	Time	Depth (m)	Speed of Water Flow (m/s)	Direction of Water Flow (degree)	Total Kjeldahl Nitrogen as N (mg/L)		Reactive Phosphorus as P (mg/L)		Sulphite (mg/L)		Total Organic Carbon (mg/L)		Oil and Grease (mg/L)		Chemical Oxygen Demand (COD) (mg/L)		Biochemical Oxygen (mg/L)		Total Coliform (CFU/100mL)	
20-Feb-24	15:56	0.88	0.090	191.10	0.6	0.5	0.03	0.030	<2	<2	<5	<5	<5	<5	<100	<100	<2	<2	2000	2500
					0.3		0.03		<2		<5		<5		<100		<2		3000	
21-Feb-24	16:11	1.15	0.111	153.40	0.4	0.4	0.03	0.025	<2	<2	<5	<5	<5	<5	<100	<100	<2	<2	3	4.0
					0.4		0.02		<2		<5		<5		<100		<2		5	
23-Feb-24	08:27	0.88	0.066	135.60	0.4	0.5	0.04	0.045	<2	<2	<5	<5	<5	<5	<100	<100	<2	<2	70	80
					0.5		0.05		<2		<5		<5		<100		<2		90	
24-Feb-24	08:32	0.92	<0.001	118.00	0.5	0.5	0.04	0.040	<2	<2	<5	<5	<5	<5	<100	<100	<2	<2	22	22
					0.5		0.04		<2		<5		<5		<100		<2		22	
26-Feb-24	09:34	1.14	0.049	129.70	0.4	0.4	0.04	0.045	<2	<2	<5	<5	<5	<5	<100	<100	<2	<2	75	84
					0.4		0.05		<2		<5		<5		<100		<2		92	
27-Feb-24	09:40	1.20	<0.001	120.70	0.5	0.5	0.05	0.050	<2	<2	<5	<5	<5	<5	<100	<100	<2	2.0	64	74
					0.5		0.05		<2		<5		<5		<100		<2		84	
28-Feb-24	09:39	1.27	<0.001	125.70	0.3	0.4	0.05	0.045	<2	<2	<5	<5	<5	<5	<100	<100	<2	<2	260	265
					0.4		0.04		<2		<5		<5		<100		<2		270	
29-Feb-24	09:58	1.16	<0.001	172.50	0.5	0.6	0.04	0.045	<2	<2	<5	<5	<5	<5	<100	<100	<2	<2	67	61
					0.6		0.05		<2		<5		<5		<100		<2		54	
1-Mar-24	10:14	1.30	<0.001	148.50	0.5	0.6	0.06	0.060	<2	<2	<5	<5	<5	<5	<100	<100	<2	<2	200	250
					0.6		0.06		<2		<5		<5		<100		<2		300	
2-Mar-24	10:31	1.25	<0.001	132.90	0.5	0.5	0.05	0.055	<2	<2	<5	<5	<5	<5	<100	<100	<2	<2	18	17
					0.5		0.06		<2		<5		<5		<100		<2		15	

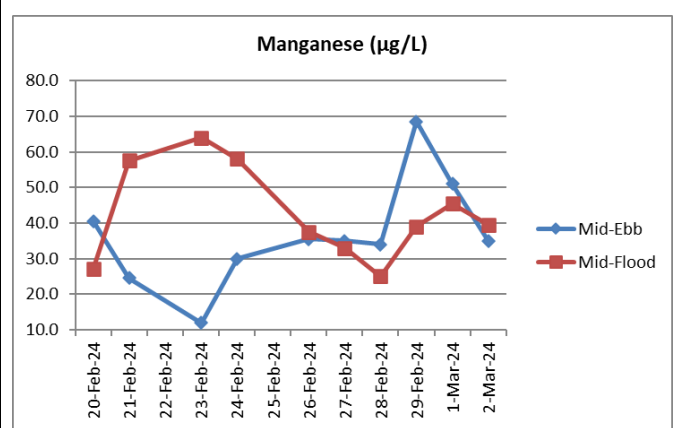
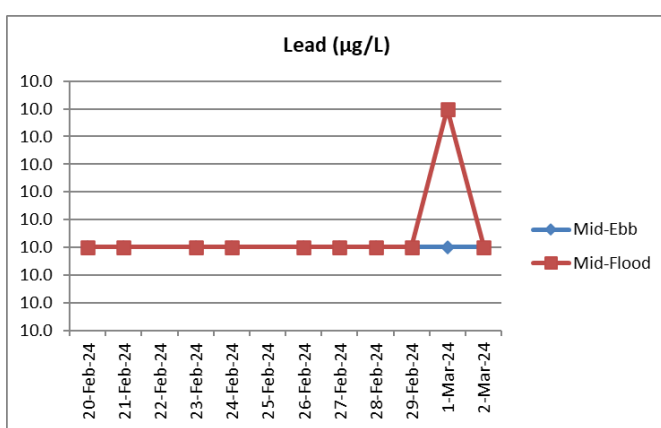
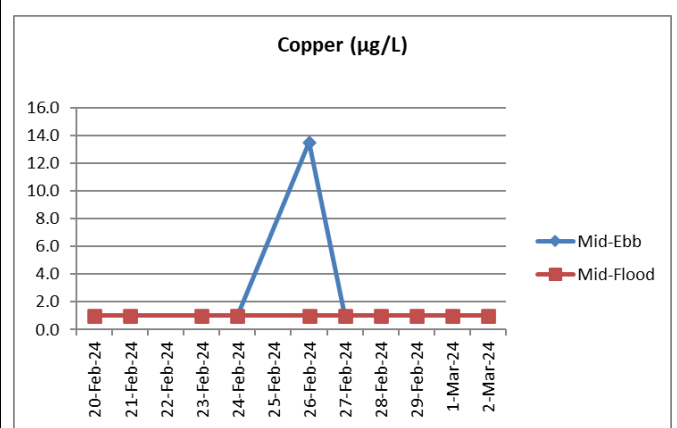
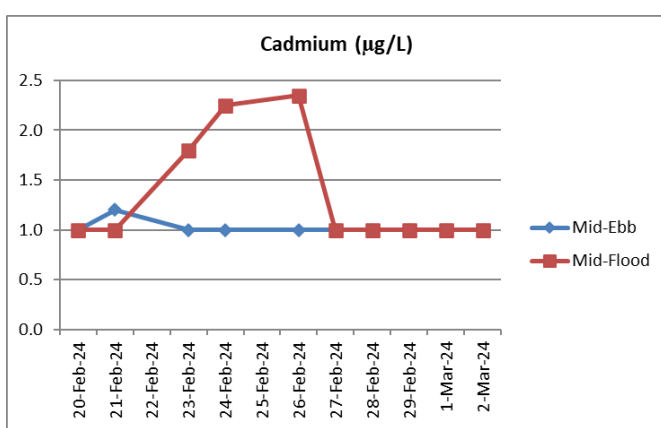
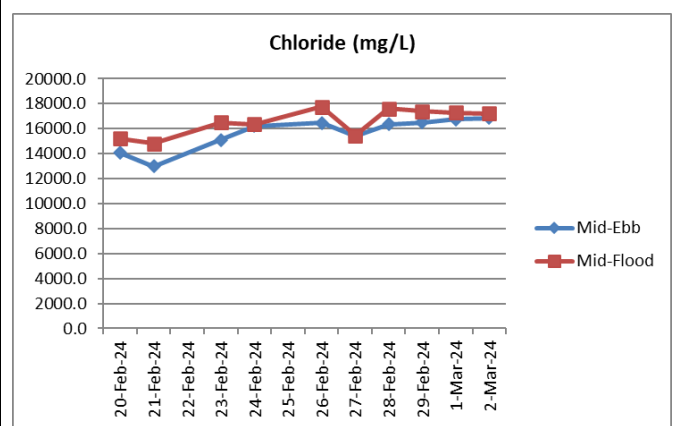
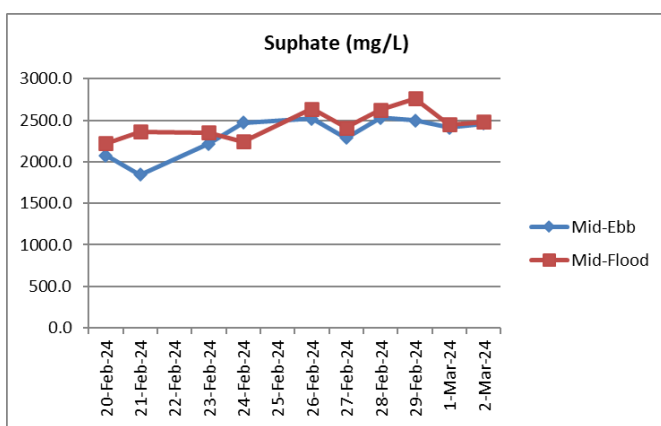
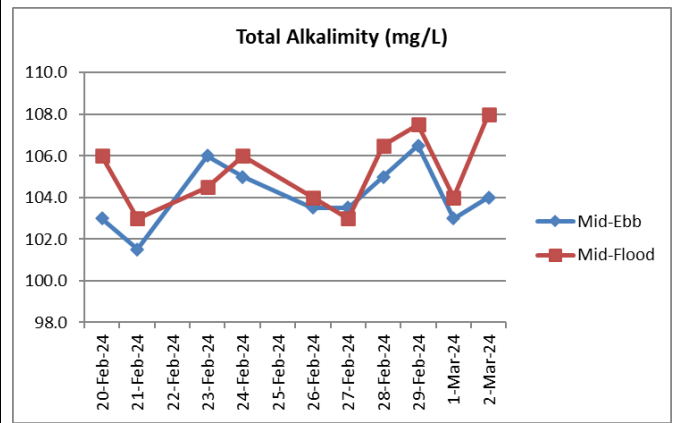
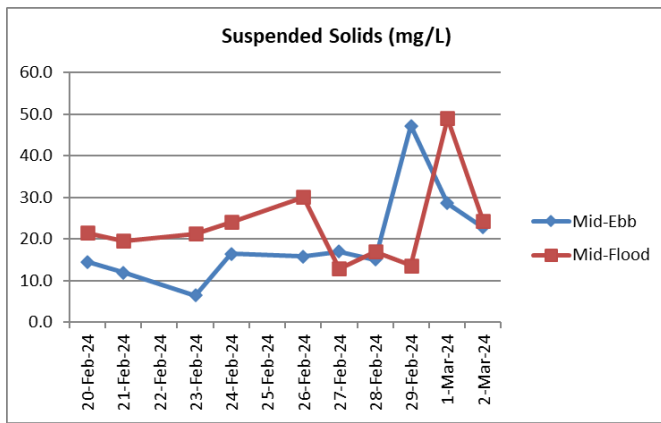
## **Appendix C4**

### **Graphical Plot of Monitoring Parameters of Surface Water Quality**

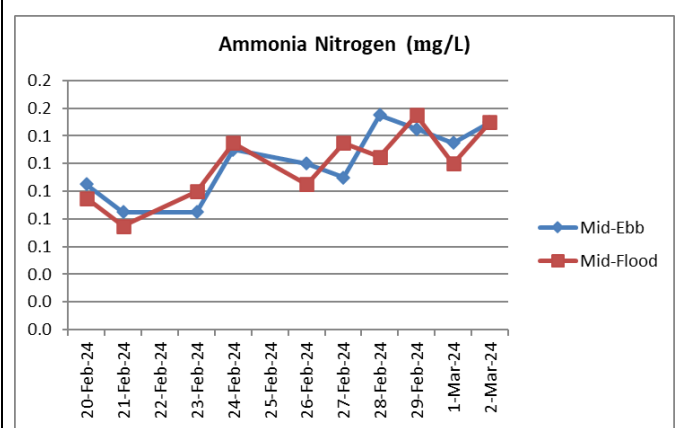
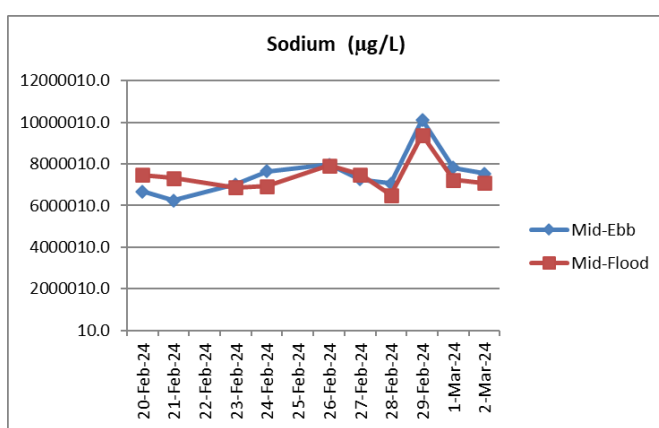
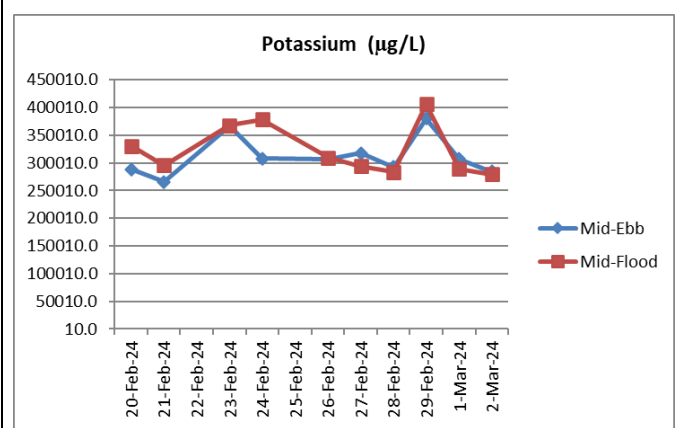
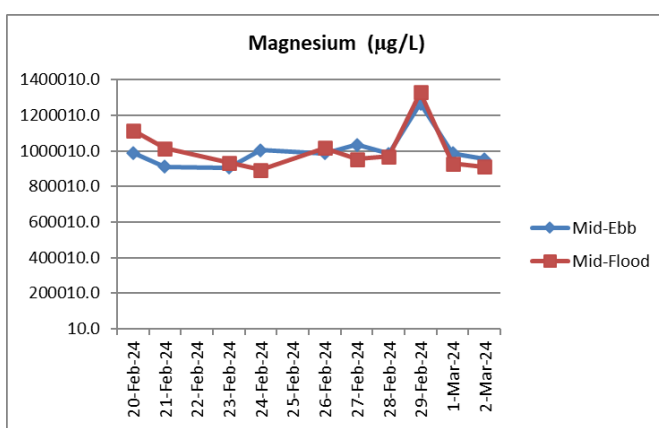
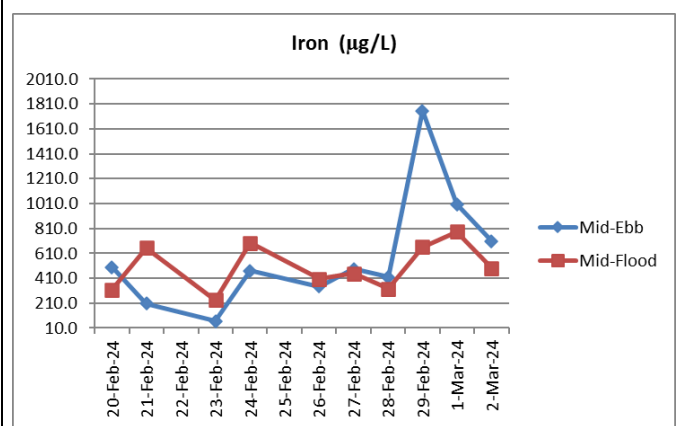
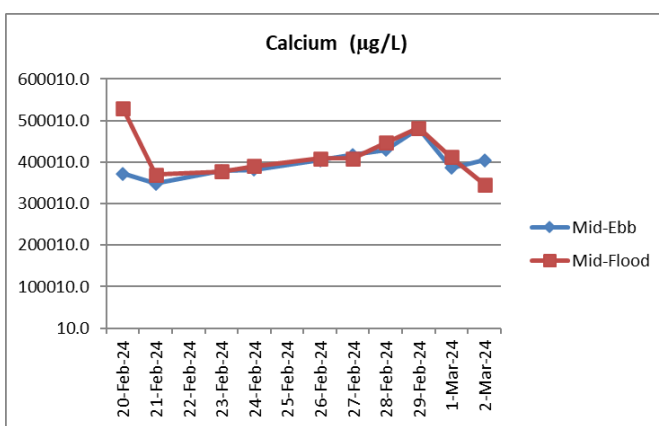
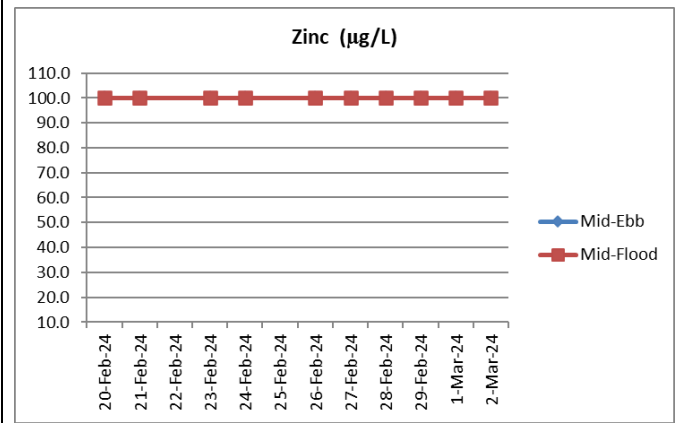
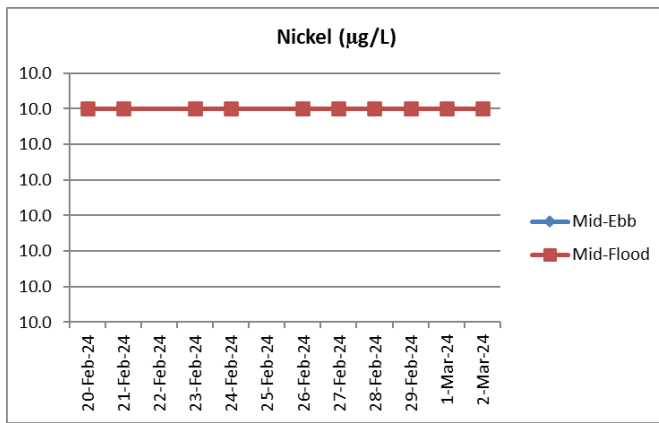
### Graphical Plot of Surface Water Quality Monitoring Results



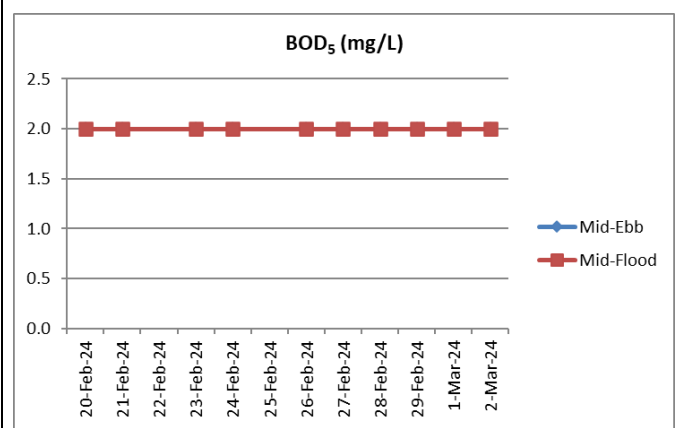
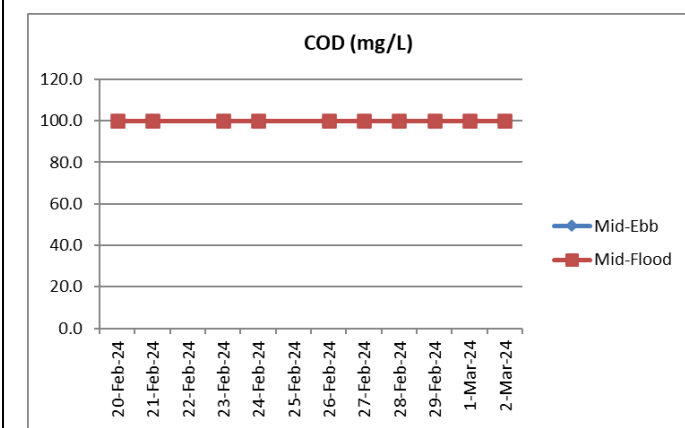
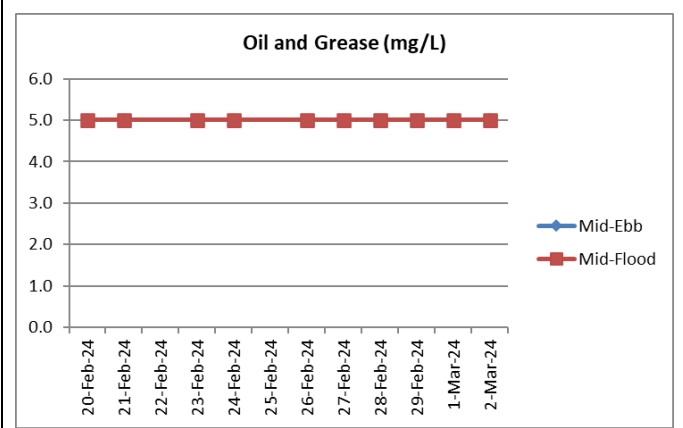
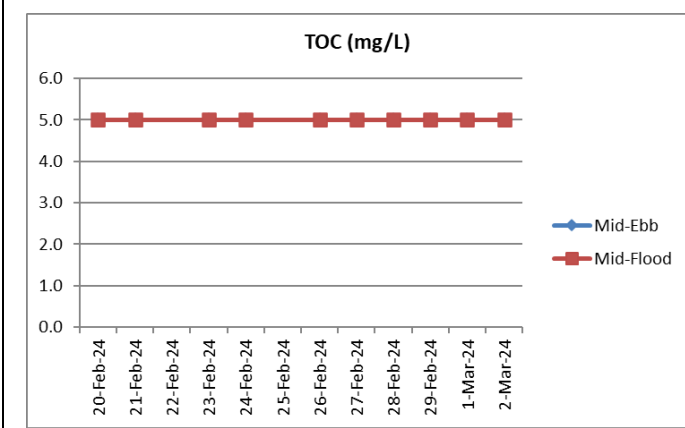
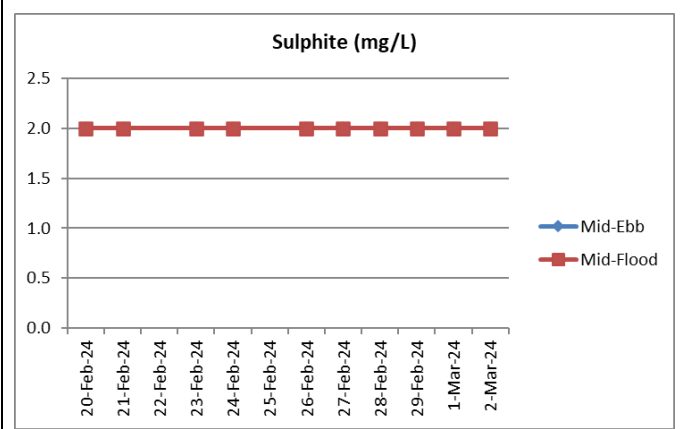
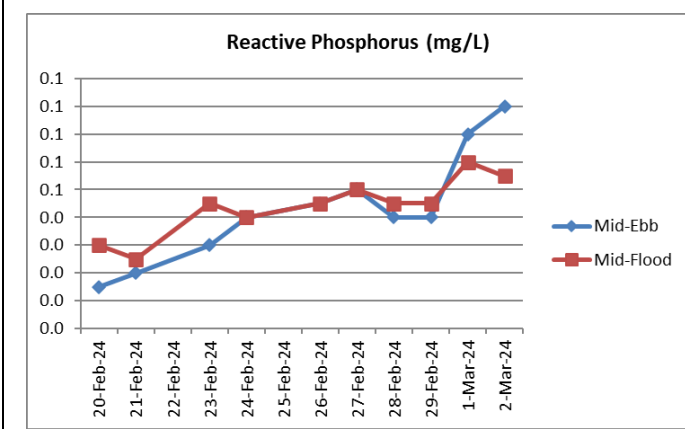
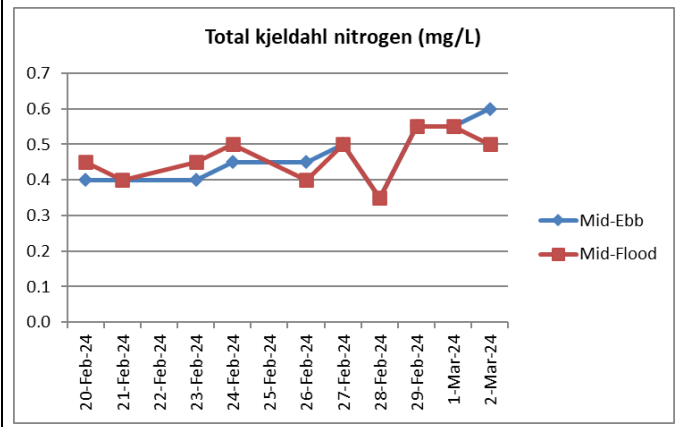
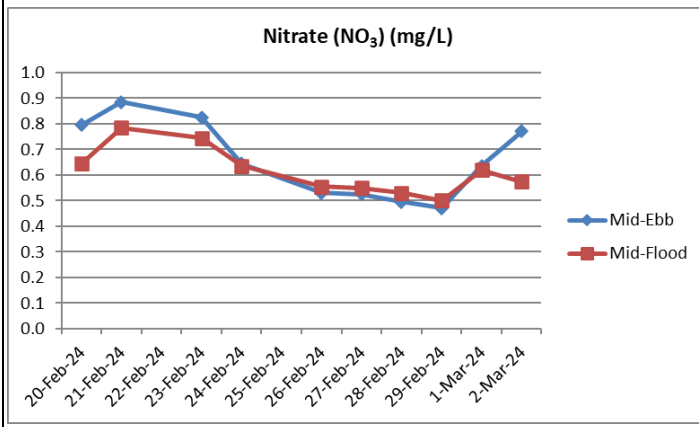
### Graphical Plot of Surface Water Quality Monitoring Results



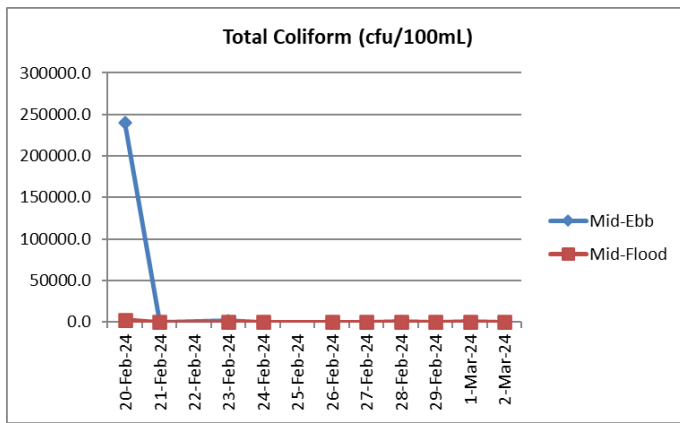
### Graphical Plot of Surface Water Quality Monitoring Results



### Graphical Plot of Surface Water Quality Monitoring Results



### Graphical Plot of Surface Water Quality Monitoring Results



## **Appendix C5**

### **Photographic Record of Surface Water Quality Monitoring**

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## Photographic Record of Surface Water Quality Monitoring



WM1

## **Appendix C6**

### **Meteorological Data during Surface Water Quality Monitoring**

Date		Weather	Total Rainfall (mm)	Lau Fau Shan Weather Station			
				Mean Air Temperature (°C)	Wind Speed (km/h)	Mean Relative Humidity (%)	Wind Direction
20-Feb-24	Tue	Sunny periods. Warm during the day.	0	26.8	20	74.2	S/SE
21-Feb-24	Wed	Coastal fog and one or two light rain patches at night.	0	26.9	11.2	75.7	S/SE
23-Feb-24	Fri	Slightly cooler and mainly cloudy with one or two light rain patches.	Trace	19.9	8.7	77.5	E/NE
24-Feb-24	Sat	Light to moderate east to southeasterly winds.	Trace	17.5	15	72.5	N
26-Feb-24	Mon	Cool with one or two light rain patches tonight.	Trace	17.5	12.5	72	E/NE
27-Feb-24	Tue	Mainly cloudy. Sunny intervals in the afternoon.	Trace	16.7	13	66	NE
28-Feb-24	Wed	Mainly cloudy. Moderate to fresh easterly winds.	Trace	17.4	8.7	77	W/SW
29-Feb-24	Thu	Mainly cloudy. Bright periods in the afternoon.	Trace	16.2	15	91.2	N/NW
1-Mar-24	Fri	Mainly cloudy with bright periods.	Trace	11.2	20	80.7	N
2-Mar-24	Sat	Mainly cloudy and misty with one or two light rain patches tonight.	0.3	10.2	13.2	86.2	NE

## **Appendix D1**

### **Landscape Character Area and Landscape Resources Plan**

**(Extracted from the Landscape Plan)**

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**LEGEND**

500m from FEP/EP WENTX Project Boundary (Landscape Assessment Boundary)

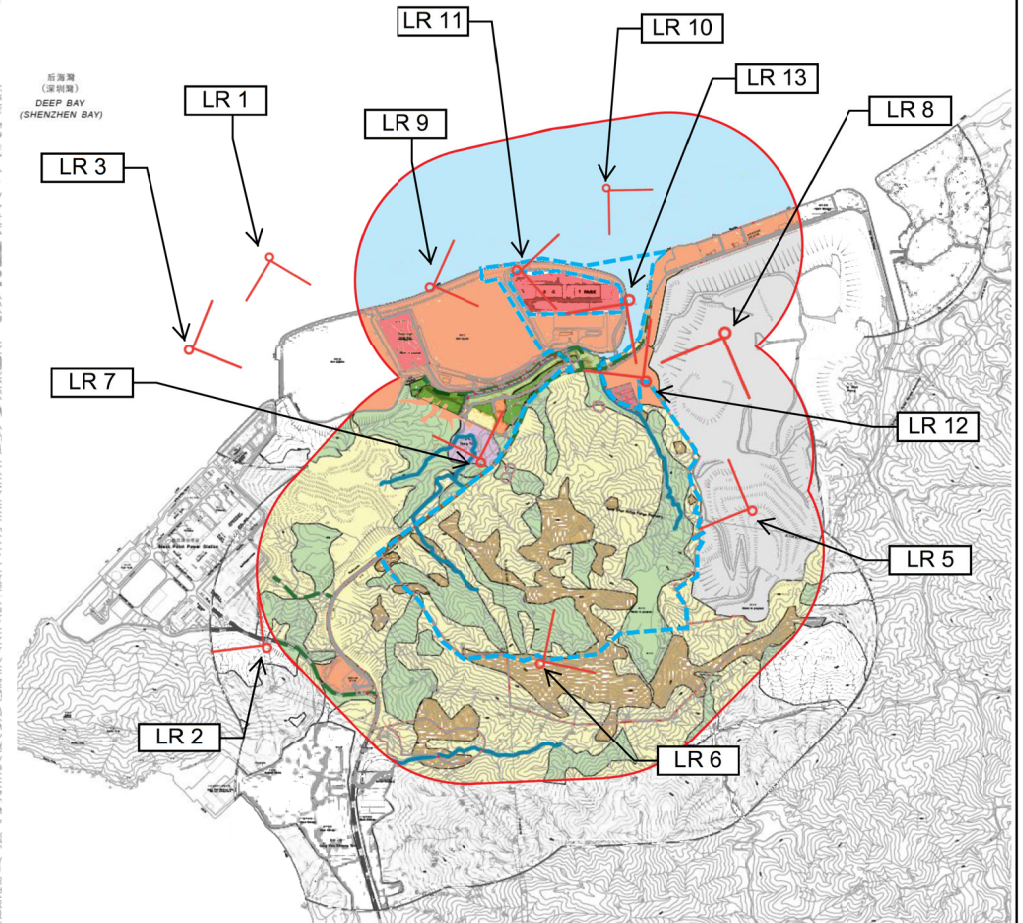
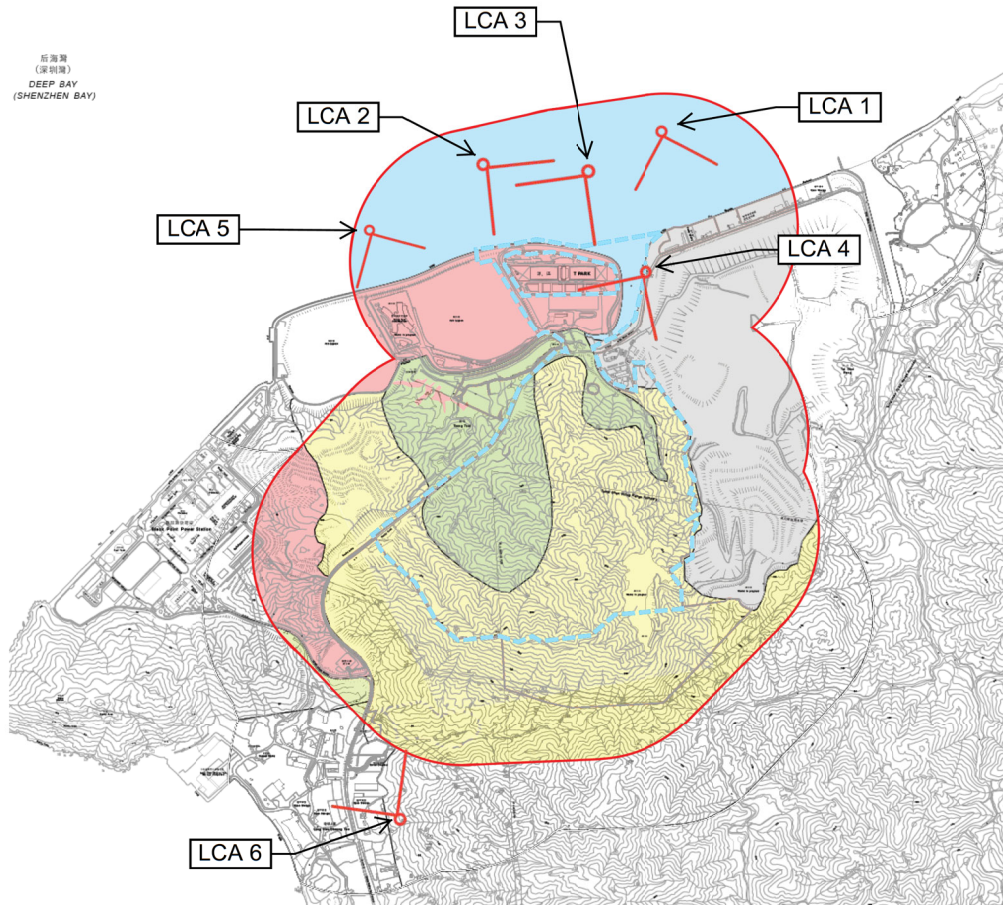
FEP/EP WENTX Project Boundary

**Landscape Character Area**

- LCA1 Landfill Landscape (Existing WENT Landfill Site)
- LCA2 Offshore Water Landscape
- LCA3 Industrial Urban Landscape (Black Point Power Station, Tsang Tsui Ash Lagoons, T.PARK and Tsang Tsui Columbarium)
- LCA4 Upland and Hillside Landscape (Tsing Shan)
- LCA5 Settled Valley Landscape
- LCA6 (Tsang Tsui) Coastal Upland and Hillside Landscape (Lan Kok Tsui)

**Landscape Resources**

- LR1 Built-up Land
- LR2 Public Utilities
- LR3 Sea Water
- LR5 Shrubland
- LR6 Badland
- LR7 Agricultural Village
- LR8 Grassland
- LR9 Government Institution & Community Facilities
- LR10 Landfill (Construction in progress)
- LR11 Roads
- LR12 Woodland
- LR13 Stream



<p>THE CLIENT</p> <p>環境保護署 Environmental Protection Department</p>	<p>THE SERVICE MANAGER</p> <p><b>ARUP</b></p>	<p>TENDERER</p> <p>HK RESOURCES RECOVERY PARK</p>	<p>DESIGNER</p> <p>binnies In Association With <b>ATKINS</b> Member of the SNC-Landis Group</p>	<p>PROJECT</p> <p>CONTRACT NO. EP/SP/186/21 WEST NEW TERRITORIES LANDFILL EXTENSION</p>	<p>TITLE</p> <p>Landscape Character Area and Landscape Resource Plan</p>	<p>SCALE</p> <p>DIMENSIONS ARE IN MILLIMETER</p>	<p>STATUS PRELIMINARY</p> <p>DATE APR 2024</p> <p>COPYRIGHT RESERVED</p>	<p>DRG. NO.</p> <p>WENTX I/EMP/EN/09006</p>
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**Appendix D2**  
**Photographic for LCAs**



LCA1 - Landfill Landscape



LCA2 - Inter-tidal Coast Landscape



LCA3 - Industrial Urban Landscape



LCA4 - Upland and Hillside Landscape



LCA5 - Settled Valley Landscape



LCA6 - Coastal Upland and Hillside Landscape



LCA5 - Settled Valley Landscape



LCA6 - Coastal Upland and Hillside Landscape

**Appendix D3**  
**Photographic Records for LR**

**CONTRACT NO. EP/SP/186/21 WEST NEW TERRITORIES LANDFILL EXTENSION**



LR1 – Build up Land



LR2 – Public Utility



LR3 - Seawater



LR5 - Shrubland

**CONTRACT NO. EP/SP/186/21 WEST NEW TERRITORIES LANDFILL EXTENSION**



LR6 - Badland



LR7 - Agricultural



LR8 - Grassland



LR9 – Government, Institution & Community Facilities

**CONTRACT NO. EP/SP/186/21 WEST NEW TERRITORIES LANDFILL EXTENSION**



LR10 – Landfill (Construction in Progress)



LR11 - Roads



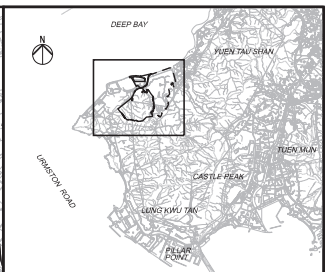
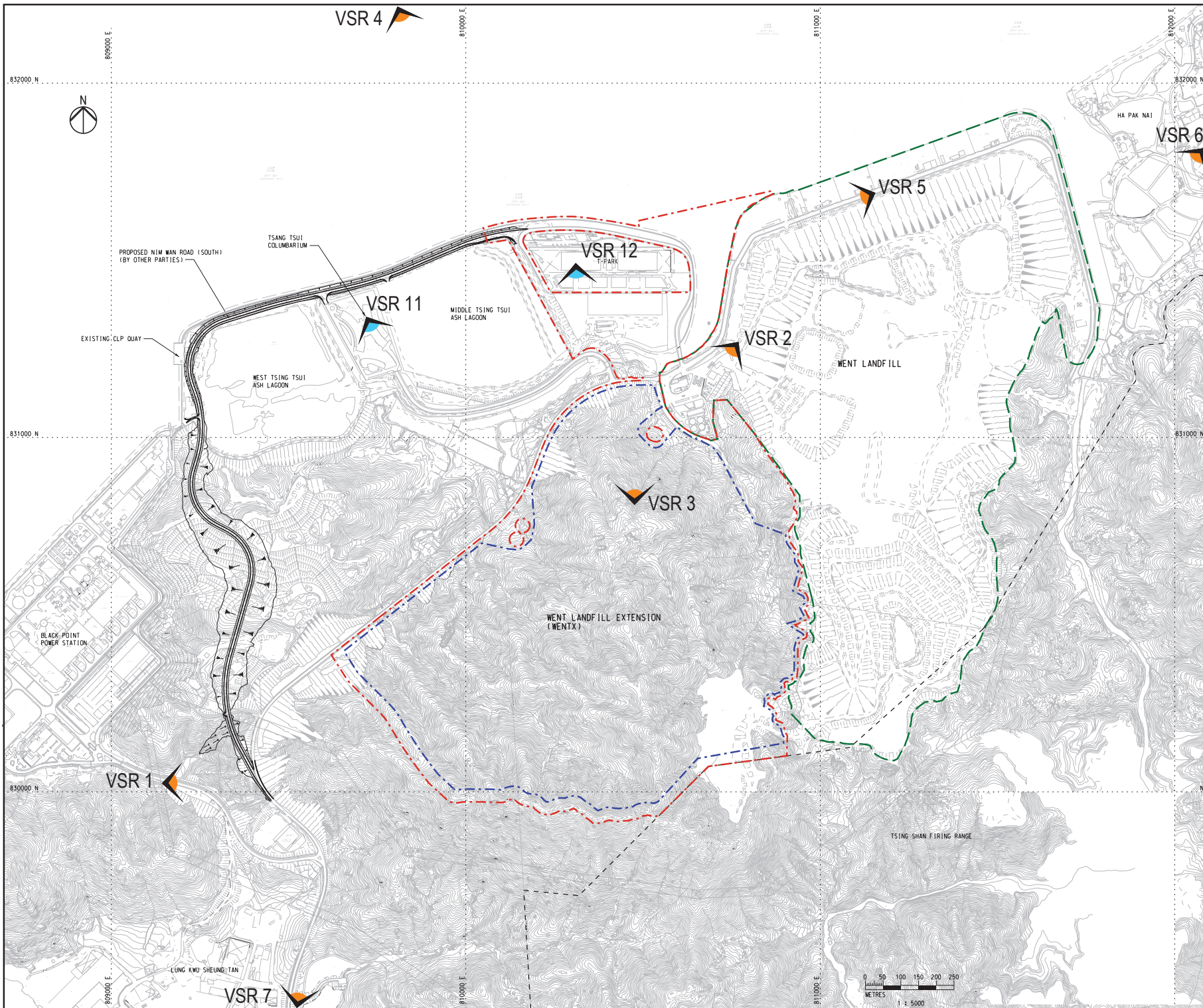
LR12 - Woodland



LR13 - Stream

## **Appendix D4**

### **Visual Sensitive Receivers Plan**



- LEGEND**
- BOUNDARY OF WENT LANDFILL
  - WASTE BOUNDARY OF WENTX
  - PROJECT BOUNDARY OF WENTX
  - BOUNDARY OF TSING SHAN FIRING RANGE
  - VISUAL SENSITIVE RECEIVERS IDENTIFIED IN WENTX ENVIRONMENTAL IMPACT ASSESSMENT REPORT (AEIAR-1472009)
  - NEW VISUAL SENSITIVE RECEIVERS IDENTIFIED IN THE ENVIRONMENTAL REVIEW

Project title  
**Contract No. EP/SP/186/21  
 West New Territories Landfill  
 Extension**

Drawing title  
**LOCATIONS OF VISUAL SENSITIVE  
 RECEIVER PLAN**

COPYRIGHT RESERVED



**Appendix D5**  
**Photographic Records for VSR**

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VSR1 - Black Point Power Station



VSR2 - Existing WENT Landfill Site



VSR3 - Castle Peak



VSR4 - Marine Traffic



VSR5 - Nim Wan Road



VSR6\_Ha Pak Nai



VSR7\_LUNG KWU TAN



VSR11 - Tsang Tsui Columbarium and Garden of Remembrance



VSR12 - T-Park