JOB NO.: TCS00881/18

SITE FORMATION AND ASSOCIATED INFRASTRUCTURAL WORKS FOR DEVELOPMENT OF COLUMBARIUM, CREMATORIUM AND RELATED FACILITIES AT SANDY RIDGE CEMETERY

BASELINE MONITORING REPORT (AIR, NOISE AND WATER)

PREPARED FOR

Hsin Chong Tsun Yip Joint Venture

Date	Reference No.	Prepared By	Certified By
8 August 2018	TCS00881/18/600/R0037v3		
		Ben Tam (Environmental Consultant)	Tam Tak Wing (Environmental Team Leader)

Version	Date	Remarks
1	28 May 2018	First Submission
2	8 August 2018	Amended against EPD's comments
3	5 September 2018	Amended against EPD's comments

Our Ref: TCS00881/18/300/L0132

Hsin Chong Tsun Yip Joint Venture
Hsin Chong Center,
107-109 Wai Yip Street,
Kwun Tong,
Kowloon, Hong Kong

Attn: Mr. HO Man To

10 September 2018
By e-mail and by Hand

Dear Sirs,

Re: CEDD Contract CV/2016/10
Site Formation and Associated Infrastructural Works for Development of Columbarium at Sandy Ridge Cemetery
Baseline Monitoring Report (Air, Noise and Water) (Version 3)

Pursuant to Specific Condition 3.3 of the FEP-01/534/2017 and EP-534/2017, we herewith certify the Baseline Monitoring Report (Air, Noise and Water) (Version 3) which covers the whole site boundary of Environmental Permit No. EP-534/2017.

Should you have any queries, please feel free to contact the undersigned at Tel: 2959-6059 or Fax: 2959-6079 or Email: twtam@fordbusiness.com.

Yours sincerely,
For and on Behalf of
Action-United Environmental Services & Consulting (AUES)

T. W. Tam
Environmental Team Leader
TW/nh

cc	Arup (RE)	Mr. Steve Tang	By-email
	Acuity (IEC)	Mr. Jacky Leung	By-email

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Hsin Chong Tsun Yip Joint Venture (CV/2016/10)
Hsin Chong Centre
107-109 Wai Yip Street
Kwun Tong, Kowloon
Hong Kong

Attention: Mr. HO Man-to

12 September 2018

Dear Sir,

Site formation and Associated Infrastructural Works for Development of Columbarium at Sandy Ridge Cemetery
Baseline Monitoring Report (Air, Noise and Water)

Referred to the email dated 12 September 2018 of your Environmental Team regarding to the revised version of the Baseline Monitoring Report (Air, Noise and Water) (File reference: TCS00881/18/600/R0037v3) for the captioned project, we verify the captioned report pursuant to general condition 1.9 of the Environmental Permit with permit No. EP-534/2017 and the Further Environmental Permit with No. FEP-01/534/2017.

Yours faithfully,

CH Leung

Ir Leung CH Jacky
Independent Environmental Checker

cc. CEDD-DPTL/Land Works – Mr. LI Kwok Hung
ARUP – Mr. LEE Davis
ET Leader – Mr. TAM

EXECUTIVE SUMMARY

ES.01. Civil Engineering and Development Department (hereafter referred as "CEDD") is the Project Proponent for the Project *"Site Formation and Associated Infrastructural Works for Development of Columbarium, Crematorium and Related Facilities at Sandy Ridge Cemetery"* (hereafter referred as "the Project"). The Project is a Designated Project to be implemented under Environmental Permit No. EP-534/2017. To facilitate the Project management, the Project works were separated into three different Contracts and they are listed below.

- *CEDD Contract No. CV/2016/10 - Site Formation and Associated Infrastructural Works for Development of Columbarium at Sandy Ridge Cemetery*
- *CEDD Contract No. CV/2017/02 - Infrastructural Works at Man Kam To Road and Lin Ma Hang Road for Development of Columbarium at Sandy Ridge Cemetery*
- *Other CEDD's Contract as related Development of Columbarium at Sandy Ridge Cemetery*

ES.02. Hsin Chong Tsun Yip Joint Venture (hereafter referred as "HCTYJV") has been awarded the *CEDD Contract No. CV/2016/10 "Site Formation and Associated Infrastructural Works for Development of Columbarium at Sandy Ridge Cemetery"* on 5 December 2017. According to the Contract requirement, HCTYJV shall take over the responsibility for part of the Environmental Permit No. EP-534/2017 for ease of management, therefore application for Further Environmental Permit was submitted by HCTYJV to EPD on 26 January 2018 and Further Environmental Permit No. FEP-01/534/2017 was granted to HCTYJV by EPD on 23 February 2018.

ES.03. Action-United Environmental Services & Consulting (hereinafter referred as "AUES") has been commissioned by HCTYJV as an Environmental Team (hereinafter referred as "the ET") to implement the Environmental Monitoring & Audit (EM&A) programme in accordance with the approved EM&A Manual as well as the associated duties.

ES.04. As part of the EM&A programme, baseline monitoring is required to be conducted prior to commencement of the construction works under the Project. Baseline monitoring for air quality was conducted from ***25 April 2018*** to ***9 May 2018*** and baseline noise monitoring was conducted from ***25 April 2018*** to ***8 May 2018.*** For baseline water quality monitoring, due to accessibility to the monitoring point, it was conducted from ***27 April 2018*** to ***23 May 2018*** for Locations M1, M3 and M4 and from ***12 July 2018 to 6 August 2018*** for Location M2. During the baseline monitoring period, no construction activities under the Project or other external influencing factors of significant concern were observed.

ES.05. This report summarizes the key findings and presents the process and rationale behind determining a set of Action and Limit Levels (A/L Levels) of air quality, construction noise and water quality based on the baseline monitoring data. These A/L Levels will serve as the yardsticks for assessing the acceptability of the environmental impact during construction phase of the Project Works. They are statistical in nature and derived according to the criteria set out in the Approved EM&A Manual.

ES.06. Results of the derived Action and Limit Levels for the air quality, noise and water quality are given in ***Tables ES-1, ES-2*** and ***ES-3*** below.

Table ES-1 Action and Limit Levels of Air Quality Monitoring

Monitoring Station	Action Level (μg /m^3)		Limit Level (μg/m^3)	
	1-hour TSP	24-hour TSP	1-hour TSP	24-hour TSP
ASR-1	331	181	500	260
ASR-2	316	165	500	260
ASR-3	307	160	500	260

Table ES-2 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	
CN-1,CN-2, CN-3, CN-4	When one or more documented complaints are received	75 dB(A)

Note 1: 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.

Table ES-3 Action and Limit Levels of Water Quality Monitoring

Parameter	Performance criteria	Monitoring Location			
		M1	M2	M3	M4
DO (mg/L)	Action Level	3.03	4.99	4.58	3.62
	Limit Level	2.97	4.90	4.49	3.52
Turbidity (NTU)	Action Level	7.1	39.7	5.6	5.4
	Limit Level	7.6	42.2	5.9	5.9
SS (mg/L)	Action Level	8.5	29.0	9.3	4.8
	Limit Level	10.1	31.0	9.5	5.0

ES.07. In case where exceedance of these environmental criteria occurs, actions should be carried out in accordance with the "Event Action Plan" in the Approved EM&A Manual.

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1 INTRODUCTION

1.1 PROJECT BACKGROUND

1.1.1 Civil Engineering and Development Department is the Project Proponent for the Project *"Site Formation and Associated Infrastructural Works for Development of Columbarium, Crematorium and Related Facilities at Sandy Ridge Cemetery"*. The Project is a Designated Project to be implemented under Environmental Permit No. EP-534/2017. The layout plan of the Project is shown in ***Appendix A***. To facilitate the Project management, the Project works were separated into three different Contracts and they are listed below.

1.1.2 *Contract No. CV/2016/10 - Site Formation and Associated Infrastructural Works for Development of Columbarium at Sandy Ridge Cemetery*

- Site formation of about 1.77 ha of land for the proposed pick-up and drop-off area for shuttle bus operation;
- Upgrading of a section of 900m existing Sha Ling Road from 3m wide carriageway to 7.3m wide carriageway with footpath at both sides;
- Construction of one EVA with a total length of about 160m;
- Construction of noise barriers along Sha Ling Road;
- Modification of junction between Man Kam To Road and Sha Ling Road;
- Construction of a new pick up / drop off point at Man Kam To Road;
- Relocation and construction of a new refuse collection point near junction between Man Kam To Road and Sha Ling Road;
- Associated geotechnical works including cut and fill slopes, soil nailing works and retaining structures;
- Associated drainage, sewerage and waterworks along Sha Ling Road; and
- Associated landscaping works.

1.1.3 *Contract No. CV/2017/02 - Infrastructural Works at Man Kam To Road and Lin Ma Hang Road for Development of Columbarium at Sandy Ridge Cemetery*

- Construction of a new road connecting Columbarium site to Crematorium site;
- Construction of one EVA with a total length of about 300m;
- Widening of a section of 1.4 km long Lin Ma Hang Road (between Man Kam To Road and Ping Yuen River) from 6m wide carriageway to 7.3m with 2m width footpath on both sides;
- Provision of a pair of lay-by at Lin Ma Hang Road;
- Construction of a new vehicular access connecting the Sheung Shui Landmark North PTI and Lung Sum Avenue;
- Construction of covered walkway along Fanling Station Road;
- Removal of planters and central divider along Fanling Station Road and San Wan Road;
- Associated drainage, sewerage, waterworks and utility works along Man Kam To Road and Lin Ma Hang Road;
- Associated geotechnical works including cut and fill slopes, soil nailing works and retaining structures; and
- Associated landscaping works.

1.1.4 *CEDD Contract No. (to be advised)*

- Site Formation for the platform of the columbarium site;
- Construction of two 2 at-grade access roads;
- Construction of road junction between Man Kam To Road and the new access road;
- Associated drainage, sewerage and waterworks along the two new access roads;
- Associated geotechnical works including cut and fill slopes, soil nailing works and retaining structures; and
- Associated landscaping works

1.1.5 Hsin Chong Tsun Yip Joint Venture has been awarded the *CEDD Contract No. CV/2016/10 "Site Formation and Associated Infrastructural Works for Development of Columbarium at Sandy Ridge Cemetery"* on 5 December 2017. According to the Contract requirement, HCTYJV shall take over the responsibility for part of Environmental Permit No. EP-534/2017 for ease of

management, therefore application for Further Environmental Permit was submitted by HCTYJV to EPD on 26 January 2018 and Further Environmental Permit No. FEP-01/534/2017 was granted to HCTY-JC by EPD on 23 February 2018. Major works to be executed under the Project shall include to the following:

A Designated Project Under EP-534/2017

(i) Site formation of about 8 hectares of land and associated drainage, sewerage and landscape works for development of Columbarium and Crematorium facilities at the Sandy Ridge Cemetery;
(ii) Construction of a new road (about 600m) including a section of viaduct connecting the platform for Crematorium and Man Kam To Road and the pick-up/drop-off point at Man Kam To Road.;
(iii) Widening of about 900m of the existing Sha Ling Road;
(iv) Widening of about 1.4km of the existing Lin Ma Hang Road; and
(v) Improvement works to the existing barging point at Siu Lam

Non-Designated Project

(i) Construction of a sewage detention tank complete with odour and septicity control mechanism;
(ii) Construction of noise barriers along Sha Ling Road;
(iii) Construction of a new Refuse Collection Point (RCP) near the junction between Man Kam To Road and Sha Ling Road;
(iv) Landscaping works (including both hard and soft landscape works);
(v) Associated tree felling, transplanting and compensatory planting works;
(vi) Associated street lighting, street furniture and road marking, etc.; and
(vii) Other works which are specified in PS of the Contract.

1.1.6 Action-United Environmental Services & Consulting has been commissioned by HCTYJV as an Environmental Team to implement the EM&A programme in accordance with the approved EM&A Manual as well as the associated duties. As part of the EM&A programme, baseline monitoring is required to determine the ambient environmental conditions before construction work commencement.

1.1.7 Baseline monitoring for air quality was conducted from ***25 April 2018*** to ***9 May 2018*** and baseline noise monitoring was conducted from ***25 April 2018*** to ***8 May 2018.*** For baseline water quality monitoring, due to accessibility to the monitoring point, it was conducted from ***27 April 2018*** to ***23 May 2018*** for Locations M1, M3 and M4 and from ***12 July 2018 to 6 August 2018*** for Location M2. During the baseline monitoring period, no construction activities under the Project or other external influencing factors of significant concern were observed.

1.1.8 This Baseline Monitoring Report presents the detailed baseline study including project background, monitoring methodology, monitoring results, summary of findings, and Action/Limit (A/L) Levels established for subsequent use in the Project construction phase EM&A programme.

1.2 REPORT STRUCTURE

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

Section 1 Introduction
Section 2 Summaries of Baseline Monitoring Requirement.
Section 3 Baseline Monitoring Methodology
Section 4 Baseline Monitoring Results
Section 5 Conclusions and Recommendations

2 SUMMARY OF BASELINE MONITORING REQUIREMENT

2.1 GENERAL

2.1.1 The Environmental Monitoring and Audit requirements are set out in the Approved EM&A Manual. Environmental issues such as air quality, construction noise and water quality were identified as the key issues during the construction phase of the Project.

2.1.2 This report presents the results obtained during the baseline monitoring of air quality, noise and water quality. A summary of the baseline EM&A requirement for air quality, noise and water quality monitoring are presented in the sub-sections below.

2.2 MONITORING PARAMETERS

2.2.1 The EM&A baseline monitoring shall cover the following environmental aspect:
- Air quality;
- Construction noise; and
- Water quality.

2.2.2 A summary of the monitoring parameters is presented in ***Table 2-1*** below

Table 2-1 Summary of EM&A Requirements

Environmental Issue	Parameters
Air Quality	• 1-hour TSP; • 24-hour TSP
Noise	• Leq (30min) in normal working days (Monday to Saturday) 07:00-19:00 except public holiday; and • 3 sets of consecutive Leq (5min) on restricted hours i.e. 19:00 to 07:00 next day, and whole day of public holiday or Sunday
Water Quality	**In-situ Measurements** • Dissolved Oxygen Concentration (mg/L); • Dissolved Oxygen Saturation (%); • Temperature (℃); • Turbidity (NTU); • Salinity (ppm) • pH unit; • Water depth (m); and • Stream Flow Velocity (m/sec).
	Laboratory Analysis • Suspended Solids (mg/L)

2.3 MONITORING LOCATIONS

2.3.1 According to the Approved EM&A Manual, the designated monitoring locations for air quality, noise and water quality under the monitoring programme are shown in ***Appendix B***.

Air Quality

2.3.2 There were three (3) air quality monitoring stations / air quality sensitive receivers (ASR) recommended in the Approved EM&A Manual Section 5.6.1.1. When alternative monitoring locations area proposed. The proposed site should be selected based on the following criteria as far as practicable:

i) Be at the site boundary or such locations close to the major dust emission source;
ii) Close to the sensitive receptors;
iii) Take into account the prevailing meteorological conditions;
iv) For monitoring location located in the vicinity of the ASRs, care shall be taken to cause minimal disturbance to the occupants during monitoring.
v) When positioning the HVS, the following points shall be noted:
   a. a horizontal platform with appropriate support to secure the samples against gusty wind shall be provided;

b. no two samplers shall be placed less than 2m apart;
c. the distance between the HVS and an obstacle, such as buildings, must be at least twice the height that the obstacle protrudes above the HVS;
d. a minimum of 2 m separation from walls, parapets and penthouses is required for HVS at the rooftop;
e. a minimum of 2 m separation from any supporting structure, measures horizontally is required;
f. no furnace or incinerator flue is nearby;
g. airflow around the sampler is unrestricted;
h. the HVS is more than 20 m from the dripline;
i. any wire fence and gate to protect the HVS, shall not cause any obstruction during monitoring;
j. permission must be obtained to set up the HVS and to obtain access to the monitoring stations; and
k. a secured supply of electricity is needed to operate the HVS.

2.3.3 Site visits were conducted by the Contractor and ET on 6th & 10th April 2018 to review and study sensitive receivers at surrounding and adjacent to the Project. Three (3) designated air quality monitoring locations recommended in the Approved EM&A Manual were identified during the site visit. Moreover, the premises owners for these 3 locations were agreed to set up the monitoring equipment for monitoring work. The locations chosen to conduct air quality baseline monitoring are considered capable of effectively representing the baseline conditions at the impact monitoring locations. The baseline air quality monitoring locations are listed in ***Table 2-2*** and illustrated in ***Appendix C***.

Table 2-2 Baseline Monitoring Locations for Air Quality

Location ID	Location ID in EM&A Manual	Description	Location
ASR-1	A1	Village House along Man Kam To Road	Sha Ling Village House No.6
ASR-2	A2	Village House at San Uk Ling	San Uk Ling Village House No.1
ASR-3	A3	Village House at Muk Wu Nga Yiu	Muk Wu Nga Yiu House No.28

Construction Noise

2.3.4 There were four (4) noise monitoring locations / noise sensitive receivers (NSR) recommended in the Approved EM&A Manual Section 6.5.1.1. Site visits were conducted by the Contractor and ET on 6th & 10th April 2018 to review and study sensitive receivers at surrounding and adjacent to the Project. Four designated noise monitoring locations recommended in the Approved EM&A Manual were identified during the site visit. They are listed in ***Table 2-3*** and shown in ***Appendix C***.

Table 2-3 Baseline Monitoring Locations for Construction Noise

Location ID	NSR ID in EIA	Description	Location
CN-1	N5-2	Village house to the west of Sha Ling Road	Village house to the west of Sha Ling Road (free field condition)
CN-2	N9-1	Village house to the north of Man Kam To Road	Sha Ling Village House No. 25 (free field condition)
CN-3	N18-5	Village house near San Uk Ling	San Uk Ling Village House No. 18 (free field condition)
CN-4	N21-4	Village house of Muk Wu	Muk Wu Village House No. 267 (1m façade from the building)

Water Quality

2.3.5 There were four (4) water quality monitoring locations recommended in the Approved EM&A

Manual Section 7.6.1.2. Site visits were conducted by the Contractor and ET on 6th & 10th April 2018 to review and study sensitive receivers at surrounding and adjacent to the Project. Water quality monitoring stations M1, M3 and M4 have been identified during the site visit. Having assessed the possible routes to M2, the access to M2 was finally granted in late June 2018.

2.3.6 The location and coordinates for baseline water quality monitoring are listed in ***Table 2-4*** and illustrated in ***Appendix C***.

Table 2-4 Baseline Monitoring Stations for Water Quality

Proposed Location ID	Co-ordinates		Description
	North	East	
M1	843 431	831 308	Midstream of Nam Hang Stream
M2	843 840	831 101	Downstream of Nam Hang Stream
M3	843 509	830 040	Wetland in the Conservation Area (CA) near Yuen Leng Chai
M4	843 997	831 783	Watercourse across Lin Ma Hang Road, running from east of San Uk Ling to Man Kam To Boundary Control Point

2.4 MONITORING FREQUENCY AND PERIOD

2.4.1 The requirements of baseline monitoring are stipulated in *Sections 5.7.1.1, 6.6.1.1* and *7.7.1.2* of the approved *EM&A Manual* and presented as follows.

Air Quality Monitoring

2.4.2 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 two weeks.
- 24-Hour TSP — Continuous monitoring of 24-hour shall be carried out daily for a period of at least two weeks.

Noise Monitoring

2.4.3 The baseline noise monitoring shall be carried out continuous daily for a period of at least two weeks. The baseline noise measurement for the time period between 0700 and 1900 hours shall be measured in terms of L_{eq} (30 minutes) or 6 sets of L_{eq} (5mins). For restricted hours between 19:00 and 07:00 (next morning), 3 sets of L_{eq} (5mins) of noise level measurement shall be carry out daily for a period of at least two weeks. However, the baseline monitoring for construction noise in restricted hours was considered as less significance with the following rationales:

- Setting A/L Levels for construction noise is not based on baseline noise levels at any monitoring stations (refer to the following *Section 6.8: Action/Limit Levels and Event Action Plan*); and
- No construction activities are to be undertaken during the restricted hours, no construction noise impacts related to the works under the Project are therefore envisaged during the restricted hours.

Water Quality Monitoring

2.4.4 The baseline monitoring frequency shall be 3 days per week, for at least 4 weeks prior to the commencement of construction works. The interval between two sets of monitoring shall not be less than 36 hours.

2.5 MONITORING EQUIPMENT

Air Quality Monitoring

2.5.1 The 24-hour and 1-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. If the ET proposes to use a direct reading dust meter to measure 1-hour TSP levels, it shall submit sufficient information to the IEC to approve.

2.5.2 The filter paper of 24-hour TSP measurement shall be determined by HOKLAS accredited laboratory.

2.5.3 All equipment used for baseline air quality monitoring is listed in ***Table 2-5***.

Table 2-5 Air Quality Monitoring Equipment

Equipment	Model
24-Hr TSP	
High Volume Air Sampler (HVAS)	TISCH High Volume Air Sampler, HVS Model TE-5170
Calibration Kit	TISCH Model TE-5025A
1-Hour TSP	
Portable Dust Meter	Sibata LD-3 Laser Dust monitor Particle Mass Profiler & Counter

Wind Data Monitoring Equipment

2.5.4 According to the approved EM&A Manual, wind data monitoring equipment shall also be provided and set up for logging wind speed and wind direction near the dust monitoring locations. The equipment installation location shall be proposed by the ET and agreed with the IEC. For installation and operation of wind data monitoring equipment, the following points shall be observed:

1) The wind sensors should be installed 10 m above ground so that they are clear of obstructions or turbulence caused by buildings.
2) The wind data should be captured by a data logger. The data shall be downloaded for analysis at least once a month.
3) The wind data monitoring equipment should be re-calibrated at least once every six months.
4) Wind direction should be divided into 16 sectors of 22.5 degrees each.

2.5.5 ET has liaised with the premises owners/ landlords to grant the permission for the HVS installation. However, they rejected to set up wind data monitoring equipment installation at their premises.

2.5.6 Under this situation, the ET proposed to use alternative method to obtain representative wind data which extract from the Hong Kong Observatory Ta Kwu Ling Weather Station. Ta Kwu Ling Station is is located near the Project site which situated at the sea level above 15mPD and the wind data monitoring equipment is installed 10 m above the existing ground.

Noise Monitoring

2.5.7 Sound level meter in compliance with the International Electrotechnical Commission Publications 651: 1979 (Type 1) and 804: 1985 (Type 1) specifications shall be used for carrying out the noise monitoring. The sound level meter shall be checked using an acoustic calibrator. The wind speed shall be checked with a portable wind speed meter capable of measuring the wind speed in ms^{-1}.

2.5.8 Noise monitoring equipment used for baseline monitoring is listed in ***Table 2-6***.

Table 2-6 Construction Noise Monitoring Equipment

Equipment	Model
Integrating Sound Level Meter	B&K Type 2238 / Rion NL-52 / NL-31
Calibrator	B&K Type 4231 / Rion NC-73 / NC-74
Portable Wind Speed Indicator	Testo Anemometer

2.5.9 Sound level meters listed above comply with the *International Electrotechnical Commission*

Publications 651: 1979 (Type 1) and *804: 1985 (Type 1)* specifications, as recommended in TM issued under the NCO. The acoustic calibrator and sound level meter used in the baseline monitoring was calibrated yearly.

Water Quality Monitoring

2.5.10 Water quality parameters include dissolved oxygen, water temperature & depth, turbidity, salinity, pH and stream flow velocity shall be measured *in-situ*, and suspended solids shall be analyzed by a HOKLAS-accredited testing laboratory.

Dissolved Oxygen and Temperature Measurement

2.5.11 The dissolved oxygen (DO) measuring instruments should be portable and weatherproof. The equipment should also complete with cable and sensor, and DC power source. It should be capable of measuring:

- A DO level in the range of 0 – 20 mg/L and 0 – 200% saturation; and
- A temperature of 0 – 45 degree Celsius.

2.5.12 The equipment should have a membrane electrode with automatic temperature compensation complete with a cable.

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

Turbidity Measurement

2.5.14 The turbidity measuring instruments should be a portable and weatherproof with DC power source. It should have a photoelectric sensor capable of measuring turbidity level between 0–1000 NTU (for example, Hach model 2100P or an approved similar instrument).

Salinity Measurement

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

pH Measurement

2.5.16 A portable pH meter capable of measuring a range between 0.0 and 14.0 should be provided to measure pH under the specified conditions accordingly to the APHA Standard Methods.

Water Depth Measurement

2.5.17 A portable, battery-operated echo sounder or an approved similar instrument should be used for water depths determination at each designated monitoring station.

Stream Flow Velocity Equipment

2.5.18 Since the EM&A Manuals do not specified instrument to use stream flow velocity measurement, the monitoring of stream flow velocity is therefore proposed to be conducted by using a flow probe which is a digital water velocity meter.

Water Sampling Equipment

2.5.19 A water sampler is required for suspended solid (SS) monitoring. A water sampler e.g. Kahlsico Water Sampler, which is a transparent PVC cylinder with capacity not less than 2 litres, will be used for water sampling if water depth over than 0.5m.

2.5.20 For sampling from very shallow water depths e.g. <0.5 m, water sample collection will be directly from water surface below 100mm use sampling plastic bottle to avoid inclusion of bottom sediment or humus. Moreover, Teflon/stainless steel bailer or self-made sampling buckets maybe used for water sampling. The equipment used for sampling will be depended the sampling location and depth situations.

Sample Containers and Storage

2.5.21 Water samples for suspended solid should be stored in high density polythene bottles with no preservative added, packed in ice (cooled to 4°C without being frozen) and delivered to the laboratory within 24 hours of collection and be analyzed as soon as possible after collection.

2.5.22 Analysis of suspended solids should be carried out in a HOKLAS or other accredited laboratory. Water samples of about 1L should be collected at the monitoring stations for carrying out the laboratory suspended solids determination. The SS determination work should start within 24 hours after collection of the water samples. The SS analyses should follow the *APHA Standard Methods 2540D* with Limit of Reporting of 2 mg/L.

2.5.23 Water quality monitoring equipment used in the baseline monitoring is listed in **Table 2-7**.

Table 2-7 Water Quality Monitoring Equipment

Equipment	Model
Water Depth Detector	Eagle Sonar CUDA 300 or tape measures
Water Sampler	A 2-litre transparent PVC cylinder with latex cups at both ends or teflon/stainless steel bailer or self-made sampler
Thermometer & DO meter	YSI ProDSS Digital Sampling System Water Quality Meter or YSI Professional Plus Multifunctional Meter
pH meter	YSI ProDSS Digital Sampling System Water Quality Meter or YSI Professional Plus Multifunctional Meter
Turbidimeter	YSI ProDSS Digital Sampling System Water Quality Meter or Hach 2100Q
Salinometer	YSI ProDSS Digital Sampling System Water Quality Meter or YSI Professional Plus Multifunctional Meter
Stream Flow Velocity	FP211 Global Flow Probe
Sample Container	High density polythene bottles (provided by laboratory)
Storage Container	'Willow' 33-litter plastic cool box with Ice pad

2.5.24 Furthermore**,** Suspended solids (SS) analysis is carried out by a local HOKLAS-accredited laboratory - *ALS Technichem (HK) Pty Ltd*.

2.6 DERIVATION OF ACTION/LIMIT (A/L) LEVELS

2.6.1 The baseline results form the basis for determining the environmental acceptance criteria for the impact monitoring. A summary of derivation of Action/Limit (A/L) Levels for air quality, construction noise and water quality are shown in ***Table 2-8***, ***2-9*** and ***2-10*** respectively.

Table 2-8 Derivation of Action and Limit Levels for Air Quality

Parameter	Action Level	Limit Level
24-hour TSP	For baseline level ≤ 200 μg/m^3: Action level = (Baseline × 1.3 + Limit level)/2	260 μg/m^3
	For baseline level > 200 μg/m^3: Action level = Limit level	
1-hour TSP	For baseline level ≤ 384 μg/m^3: Action level = (Baseline × 1.3 + Limit level)/2	500 μg/m^3
	For baseline level > 384 μg/m^3: Action level = Limit level	

Table 2-9 Derivation of Action and Limit Levels for Construction Noise

Time Period	Action Level in dB(A)	Limit Level in dB(A)
0700-1900 hours on normal weekdays	When one documented complaint is received	75* dB(A)

Note: (*) *Reduces to 70 dB(A) for schools and 65 dB(A) during the school examination periods. 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.*

Table 2-10 Derivation of Action and Limit Levels for Water Quality

Parameters	Action	Limit
DO in mg/l	5 percentile of baseline data [1]	4 mg/L or 1 percentile of baseline data [1]
SS in mg/l	95 percentile of baseline data [2]	99 percentile of baseline data [2]
Turbidity in NTU	95 percentile of baseline data [2]	99 percentile of baseline data [2]

Notes:

[1] For DO measurement, non-compliance occurs when monitoring result is lower than the limits.

[2] For SS and turbidity, non-compliance of water quality results when monitoring results is higher than the limits.

Remarks:

All the figures given in the table are used for reference only and the EPD may amend the figures whenever necessary.

3 BASELINE MONITORING METHDOLOGY

3.1 GENERAL

3.1.1 The baseline monitoring of air quality, noise and water quality were conducted prior commencement of the Project. During the baseline monitoring period, there were no construction activities of this project or other external influencing factors of significant concern observed by the ET.

3.2 LOCATION OF BASELINE MONITORING

3.2.1 Baseline monitoring for air quality was conducted from ***25 April 2018*** to ***9 May 2018*** and baseline noise monitoring was conducted from ***25 April 2018*** to ***8 May 2018.*** For baseline water quality monitoring, due to accessibility to the monitoring point, it was conducted from ***27 April 2018*** to ***23 May 2018*** for Locations M1, M3 and M4 and from ***12 July 2018 to 6 August 2018*** for Location M2. The information of monitoring stations is referred to ***Tables 2-2***, ***2-3*** and ***2-4*** and the location of monitoring locations are shown in ***Appendix C***.

3.3 MONITORING EQUIPMENT AT BASELINE MONITORING

3.3.1 All the monitoring equipment to be used for baseline monitoring are listed in ***Tables 2-5***, ***2-6*** and ***2-7*** and they has been agreed with the IEC prior to commencement of the baseline monitoring.

3.4 MONITORING PROCEDURES

Air Quality

1-hour TSP

3.4.1 The 1-Hour TSP monitor, a Sibata LD-3 Laser Dust monitor Particle Mass Profiler & Counter was used for baseline monitoring, which is a portable, battery-operated laser photometer. The 1-hour TSP meter provides a real time 1-hour TSP measurement based on 90^0 light scattering. The 1-hour TSP monitor consisted of the following:

a. A pump to draw sample aerosol through the optic chamber where TSP is measured;
b. A sheath air system to isolate the aerosol in the chamber to keep the optics clean for maximum reliability; and
c. A built-in data logger compatible with Windows based program to facilitate data collection, analysis and reporting.

3.4.2 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. A valid calibration certificate is attached in ***Appendix D***.

24-hour TSP

3.4.3 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:

a. An anodized aluminum shelter;
b. A 8"x10" stainless steel filter holder;
c. A blower motor assembly;
d. A continuous flow/pressure recorder;
e. A motor speed-voltage control/elapsed time indicator;
f. A 7-day mechanical timer, and
g. A power supply of 220v/50 hz

3.4.4 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-5025A).

The 24-hour TSP Monitoring using the HVS was also processed in accordance with the manufacturer's Operations Manual. A valid calibration certificate of the calibration kit with the certificate of HVS calibrated is attached in ***Appendix D***.

3.4.5 24-hour TSP was collected by the ET on filters of HVS and quantified by a local HOKLAS accredited laboratory, ALS Technichem (HK) Pty Ltd (ALS), upon receipt of the samples. The ET keeps all the sampled 24-hour TSP filters in normal air conditioned room conditions, i.e. 70% HR (Relative Humidity) and 25^{o}C, for six months prior to disposal.

Background Noise

3.4.6 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. A valid of calibration certificates including sound level meter and an acoustic were shown in ***Appendix D***.

3.4.7 The noise measurement was performed with the meter set to FAST response and on the A-weighted equivalent continuous sound pressure level (Leq). Leq(30min) in six consecutive Leq(5min) and three sets of Leq(5min) measurements were respective used as the monitoring parameter throughout the baseline monitoring period during the daytime and the restricted hours.

3.4.8 During the baseline monitoring, the sound level meter was mounted on a tripod at a height of about 1.2 m and placed at the monitoring locations and oriented such that the microphone was pointed to the site with the microphone facing perpendicular to the line of sight. The windshield was fitted for the measurement. For the baseline noise monitoring, CN-1, CN-2 and CN-3 were conducted in a free-field situation i.e. at least 3.5 m away from reflective surfaces of the adjacent buildings or walls; furthermore CN-4 measurement was carried at 1 m from the exterior of the building façade.

3.4.9 Prior baseline 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.

3.4.10 During the noise measurement, a portable wind speed meter was used to check wind speed (m/s). For baseline noise monitoring, no wind speed was exceeding 5m/s or gusts exceeding 10m/s. Also, noise measurement in time was no fog and rain.

Water Quality

3.4.11 Water quality monitoring was conducted at the four designated locations. In-situ of replicate measurements was undertaken during baseline monitoring; where the difference in value between the first and second in-situ measurement of DO or turbidity parameters is more than 25% of the value of the first reading, the reading was discarded then further readings to be take. Moreover, duplicate sample collection was also conducted from each monitoring location. The sampling and in-situ measurement process are below:

Sampling Procedure

3.4.12 A Digital Global Positioning System (GPS) was used to identify the designated monitoring stations. Prior to water sampling, a portable, battery-operated echo sounder or tape measure was used for the determination of water depth at each station. At each station, water samples were collected from 0.1m below water surface or water surface to prevent the river bed sediment for stirring.

3.4.13 The sample container was rinsed with a portion of the water sample. The water sample then was transferred to the high-density polythene bottles as provided by the laboratory, labeled with a unique sample number and sealed with a screw cap.

3.4.14 Before commencement of the sampling, general information such as the date and time of sampling and weather condition as well as the personnel responsible for the monitoring were be recorded on the monitoring field data sheet.

3.4.15 A 'Willow' 33-liter plastic cool box packed with ice was used to preserve the collected water samples prior to arrival at the laboratory for chemical determination. The water temperature of the cool box was maintained at a temperature as close to 4℃ as possible without being frozen. Samples collected were delivered to the laboratory upon collection.

In-situ Measurement

3.4.16 YSI Professional Plus Multifunctional Meter was used for water in-situ measures, which automates the measurements and data logging of water temperature, dissolved oxygen & dissolved oxygen saturation, pH unit and salinity. Before each round of monitoring, the instrument was checked in accordance with the manufactory manual instruction to sure it valid.

3.4.17 A portable Hach 2100Q Turbidimeter was used for in-situ turbidity measurement. The turbidity meter is capable of measuring turbidity in the range of 0 – 1000 NTU. StablCal® Standards 10NTU and 100NTU are used for calibration of the instrument before and after measurement.

3.4.18 All in-situ measurement equipment were calibrated by HOKLAS accredited laboratory of three month interval. The valid certificates are shown in ***Appendix D***.

3.4.19 A flow probe brand named FP211 Global Flow Probe was used to carry out stream/river flow velocity measurement. The measurement was conducted between water surface and 0.1m below at each water quality monitoring location.

Laboratory Analysis

3.4.20 All water samples were analyzed the concentration of Suspended Solids (SS) as specified in the *EM&A Manual* by a local HOKLAS-accredited testing laboratory (ALS Technichem (HK) Pty Ltd HOKLAS registration no. 66). SS analysis was determined by the laboratory upon receipt of the water samples using *APHA Standard Methods 2540D*. HOKLAS-accreditation certificate of the testing laboratory is provided in ***Appendix E***. The SS determination is started within 48 hours upon receipt, which is well within the required maximum sample storage time of the parameter of 7 days.

3.5 DATA MANAGEMENT AND DATA QA/QC CONTROL

3.5.1 The baseline monitoring data were handled by the ET's in-house data recording and management system.

3.5.2 The monitoring data recorded in the equipment were downloaded directly from the equipment at the end of each monitoring day. The downloaded monitoring data were input into a computerized database properly maintained by the ET. The laboratory results were input directly into the computerized database and checked by personnel other than those who input the data.

3.5.3 For monitoring parameters that require laboratory analysis, the local laboratory shall follow the QA/QC requirements as set out under the HOKLAS scheme for the relevant laboratory tests

4 BASELINE MONITORING RESULTS

4.1 GENERAL

4.1.1 The baseline monitoring schedules are presented in ***Appendix F*** and the monitoring results are presented in the following sub-sections.

4.2 RESULTS OF AIR QUALITY MONITORING

4.2.1 Baseline air quality monitoring was carried out at ASR-1, ASR-2 and ASR-3 during the period between ***25 April 2018*** and ***9 May 2018***. The results for 24-hour and 1-hour TSP are summarized in ***Tables 4-1 to 4-3***. The detailed 24-hour TSP data are shown in ***Appendix G***.

Table 4-1 Summary of 24-hour and 1-hour TSP Monitoring Results – ASR-1

Date	24-hour TSP (μg/m³)	1-hour TSP (μg/m³)				
		Date	Start Time	1st Measurement	2nd Measurement	3rd Measurement
25/4/2018	136	25/4/2018	9:36	87	92	110
26/4/2018	101	26/4/2018	9:31	272	255	241
27/4/2018	71	27/4/2018	9:37	*350*	276	249
28/4/2018	131	28/4/2018	9:33	129	137	137
29/4/2018	69	29/4/2018	10:08	159	156	154
30/4/2018	113	30/4/2018	9:54	86	96	103
01/5/2018	48	01/5/2018	9:34	123	128	131
02/5/2018	59	02/5/2018	9:24	74	80	86
03/5/2018	38	03/5/2018	9:28	89	84	90
04/5/2018	128	04/5/2018	9:21	121	120	126
05/5/2018	63	05/5/2018	8:51	80	78	71
06/5/2018	19	06/5/2018	9:43	68	69	76
07/5/2018	63	07/5/2018	9:34	58	60	***53***
08/5/2018	62	08/5/2018	9:36	79	83	82
Average (Range)	**78 (19-136)**	Average (Range)		**124 (53-350)**		

Table 4-2 Summary of 24-hour and 1-hour TSP Monitoring Results – ASR-2

Date	24-hour TSP (μg/m³)	1-hour TSP (μg/m³)				
		Date	Start Time	1st Measurement	2nd Measurement	3rd Measurement
25/4/2018	***PSF***	25/4/2018	9:29	85	95	106
26/4/2018	74	26/4/2018	9:34	221	214	211
27/4/2018	83	27/4/2018	9:44	255	208	172
28/4/2018	65	28/4/2018	9:39	119	121	128
29/4/2018	60	29/4/2018	9:49	100	108	114
30/4/2018	45	30/4/2018	10:02	80	84	93
01/5/2018	41	01/5/2018	9:57	63	66	74
02/5/2018	68	02/5/2018	9:34	62	63	68
03/5/2018	41	03/5/2018	9:37	91	92	87
04/5/2018	59	04/5/2018	9:30	94	92	94
05/5/2018	45	05/5/2018	8:58	85	77	66
06/5/2018	36	06/5/2018	9:54	46	53	62
07/5/2018	45	07/5/2018	9:40	50	51	53
08/5/2018	41	08/5/2018	9:45	78	84	79
09/5/2018	47					
Average (Range)	**54 (36-83)**	Average (Range)		**101 (46-255)**		

Remarks: PSF – Power Supply Failure

Table 4-3 Summary of 24-hour and 1-hour TSP Monitoring Results – ASR-3

Date	24-hour TSP (μg/m³)	1-hour TSP (μg/m³)				
		Date	Start Time	1st Measurement	2nd Measurement	3rd Measurement
25/4/2018	76	25/4/2018	9:22	88	94	108
26/4/2018	64	26/4/2018	9:45	195	180	166
27/4/2018	70	27/4/2018	9:59	98	65	104
28/4/2018	46	28/4/2018	9:39	108	117	132
29/4/2018	54	29/4/2018	10:11	90	107	114
30/4/2018	40	30/4/2018	10:06	89	85	102
01/5/2018	37	01/5/2018	10:10	63	65	71
02/5/2018	43	02/5/2018	9:41	58	61	64
03/5/2018	***PSF***	03/5/2018	9:49	85	86	87
04/5/2018	55	04/5/2018	9:41	83	81	82
05/5/2018	41	05/5/2018	9:03	76	82	77
06/5/2018	20	06/5/2018	10:09	49	54	60
07/5/2018	32	07/5/2018	9:46	49	47	51
08/5/2018	33	08/5/2018	9:54	73	74	71
09/5/2018	29					
Average (Range)	**46 (20-76)**	Average (Range)		**88 (47-195)**		

Remarks: PSF – Power Supply Failure

4.2.2 During the baseline monitoring period, no construction activities under the project were observed. However, other dust source from the road traffic of Sha Ling Road and Lin Ma Hang Road was observed at ASR-1 and ASR-2 respectively since they are road side stations. The dust source from the road traffic is considered as the background condition as it already existed before the project commencement.

4.2.3 The meteorological data during the baseline monitoring period are summarized in ***Appendix H***.

Action/Limit Levels for Air Quality

4.2.4 Following the criteria shown in ***Table 2-8*** of this report, the proposed Action and Limit Levels for 24-hour and 1-hour TSP are listed in ***Table 4-4***.

Table 4-4 Action and Limit Levels for Air Quality Monitoring for all Stations

Monitoring Station	Action Level (μg /m³)		Limit Level (μg/m³)	
	1-hour TSP	24-hour TSP	1-hour TSP	24-hour TSP
ASR-1	331	181	500	260
ASR-2	316	165	500	260
ASR-3	307	160	500	260

Note: 1-hour & 24-hour TSP Action Level = (Baseline × 1.3 + Limit level)/2

4.3 RESULTS OF NOISE MONITORING

4.3.1 The baseline noise monitoring was undertaken at CN-1, CN-2, CN-3 and CN-4 form ***25 April 2018*** to ***8 May 2018***. During the noise measurement, a portable wind speed meter was used to check wind speed (m/s) to ensure no wind speed was exceeding 5m/s or gusts exceeding 10m/s and no noise measurement were carried out under rain. The measurement data are shown in ***Appendix F*** and summarized in ***Table 4-5*** to ***Table 4-8***.

Table 4-5 Summary of Noise Monitoring Results (dB(A)) – CN-1

Date	Daytime (07:00 – 19:00)		Restricted Hours (19:00 – 07:00 next day)			
	(#)$L_{Aeq30mins}$	Observation	1st (#)$L_{Aeq5mins}$	2nd (#)$L_{Aeq5mins}$	3rd (#)$L_{Aeq5mins}$	Observation
25-Apr-18	67.4	Normal	55.8	55.7	54.6	Normal
26-Apr-18	66.0	Normal	64.4	67.4	63.7	Normal
27-Apr-18	66.9	Normal	57.7	55.2	58.1	Normal
28-Apr-18	71.3	Dog Barking	74.3	68.0	70.6	Dog Barking
29-Apr-18*	54.7	Normal	63.8	60.8	65.8	Normal
30-Apr-18	75.5	Dog Barking	57.0	63.5	57.1	Normal
1-May-18*	53.0	Normal	74.2	63.4	57.5	Dog Barking
2-May-18	72.3	Barking	62.2	63.4	58.6	Normal
3-May-18	70.0	Dog Barking	63.4	52.5	60.7	Normal
4-May-18	76.1	Vehicle Noise	70.2	67.2	62.6	Normal
5-May-18	72.9	Dog Barking	52.5	53.9	66.5	Normal
6-May-18*	52.8	Normal	63.9	62.9	58.5	Dog Barking
7-May-18	79.2	Vehicle Noise	72.5	58.2	62.7	Dog Barking
8-May-18	68.5	Normal	72.8	57.6	73.6	Dog Barking

Remarks:
(#) Sound level meter set at CN-1 is made free-field measurement, façade correction (+3dB(A)) has added according to acoustical principles and EPD guidelines
(*) Sunday or Public Holiday
Note:
Figures refer to the measurement recorded at the designated station during the entire baseline period for general reference.

Table 4-6 Summary of Noise Monitoring Results (dB(A)) – CN-2

Date	Daytime (07:00 – 19:00)		Restricted Hours (19:00 – 07:00 next day)			
	(#)$L_{Aeq30mins}$	Observation	1st (#)$L_{Aeq5mins}$	2nd (#)$L_{Aeq5mins}$	3rd (#)$L_{Aeq5mins}$	Observation
25-Apr-18	65.1	Normal	63.4	64.4	64.2	Normal
26-Apr-18	64.3	Normal	65.3	65.3	56.4	Normal
27-Apr-18	67.5	Normal	62.2	63.3	64.5	Normal
28-Apr-18	67.1	Normal	60.4	61.0	61.3	Normal
29-Apr-18*	63.2	Normal	62.2	64.4	62.9	Normal
30-Apr-18	67.4	Normal	67.0	62.1	64.1	Normal
1-May-18*	62.9	Normal	63.3	63.5	62.0	Normal
2-May-18	67.7	Normal	64.8	63.5	63.6	Normal
3-May-18	65.1	Normal	64.9	64.4	67.7	Normal
4-May-18	67.7	Normal	64.9	67.8	63.7	Normal
5-May-18	68.2	Normal	60.8	63.9	62.2	Normal
6-May-18*	68.0	Normal	63.8	63.6	64.8	Normal
7-May-18	67.0	Normal	64.6	64.9	64.5	Normal
8-May-18	65.0	Normal	66.9	65.5	64.2	Normal

Remarks:
(#) Sound level meter set at CN-2 is made free-field measurement, façade correction (+3dB(A)) has added according to acoustical principles and EPD guidelines
(*) Sunday or Public Holiday
Note:
Figures refer to the measurement recorded at the designated station during the entire baseline period for general reference.

Table 4-7 Summary of Noise Monitoring Results (dB(A)) – CN-3

Date	Daytime (07:00 – 19:00)		Restricted Hours (19:00 – 07:00 next day)			
	(#)$L_{Aeq30mins}$	Observation	1st (#)$L_{Aeq5mins}$	2nd (#)$L_{Aeq5mins}$	3rd (#)$L_{Aeq5mins}$	Observation
25-Apr-18	62.7	Normal	55.6	54.5	57.8	Normal
26-Apr-18	61.5	Normal	56.8	54.7	56.9	Normal
27-Apr-18	60.3	Normal	55.4	63.9	67.5	Normal
28-Apr-18	60.6	Normal	51.2	54.2	51.4	Normal
29-Apr-18*	58.1	Normal	77.2	59.9	60.7	Dog Barking
30-Apr-18	62.8	Normal	58.8	59.5	57.5	Normal
1-May-18*	58.3	Normal	57.6	58.4	60.2	Normal
2-May-18	61.0	Normal	59.6	60.8	60.4	Normal
3-May-18	60.9	Normal	54.2	56.0	62.4	Normal
4-May-18	60.8	Normal	59.1	58.8	58.2	Normal
5-May-18	60.8	Normal	51.5	50.2	54.5	Normal
6-May-18*	58.8	Normal	59.9	59.1	60.6	Normal
7-May-18	58.0	Normal	59.8	57.6	59.8	Normal
8-May-18	61.3	Normal	60.8	60.6	58.9	Normal

Remarks:
(#) Sound level meter set at CN-3 is made free-field measurement, façade correction (+3dB(A)) has added according to acoustical principles and EPD guidelines
(*) Sunday or Public Holiday
Note:
Figures refer to the measurement recorded at the designated station during the entire baseline period for general reference.

Table 4-8 Summary of Noise Monitoring Results (dB(A)) – CN-4

Date	Daytime (07:00 – 19:00)		Restricted Hours (19:00 – 07:00 next day)			
	$L_{Aeq30mins}$	Observation	1st $L_{Aeq5mins}$	2nd $L_{Aeq5mins}$	3rd $L_{Aeq5mins}$	Observation
25-Apr-18	62.1	Normal	61.5	63.1	62.6	Normal
26-Apr-18	61.3	Normal	62.7	61.3	62.6	Normal
27-Apr-18	60.0	Normal	64.7	66.8	64.6	Normal
28-Apr-18	58.3	Normal	67.2	64.7	62.9	Normal
29-Apr-18*	53.2	Normal	50.8	44.1	54.0	Normal
30-Apr-18	59.5	Normal	64.5	59.0	57.6	Normal
1-May-18*	56.1	Normal	57.8	59.0	62.0	Normal
2-May-18	62.6	Normal	60.9	54.5	59.4	Normal
3-May-18	58.8	Normal	67.4	70.6	63.3	Normal
4-May-18	60.2	Normal	61.4	69.9	64.8	Normal
5-May-18	61.3	Normal	61.1	57.4	57.9	Normal
6-May-18*	55.0	Normal	50.6	54.6	60.2	Normal
7-May-18	62.5	Normal	62.0	59.6	57.8	Normal
8-May-18	62.8	Normal	64.8	62.2	57.2	Normal

Remarks:
(*) Sunday or Public Holiday
Note:
Figures refer to the measurement recorded at the designated station during the entire baseline period for general reference.

4.3.2 During the baseline monitoring period, no construction activities under the project were observed. However, traffic noise was observed at CN-1 since it is a road side station adjacent to Sha Ling Road. The traffic noise is considered as the background condition as it already existed before the project commencement.

Action/Limit Levels for Noise

4.3.3 The Action and Limit Levels for construction noise are illustrated in ***Table 4-9***.

Table 4-9 Action and Limit Levels of Construction Noise Monitoring

Time Period	Action Level	Limit Level in dB(A)
0700-1900 hours on normal weekdays	When one documented complaint is received	75* dB(A)

*Note: *Reduces to 70dB(A) for schools and 65dB(A) during the school examination periods.*

4.4 RESULTS OF WATER QUALITY MONITORING

4.4.1 The baseline water quality monitoring at four (4) designated monitoring stations was performed in 4 weeks between ***27 April 2018*** and ***23 May 2018*** for Location M1, M3 and M4, and between ***12 July 2018 and 6 August 2018*** for Location M2. During the baseline monitoring period, no construction activities under the project or other external influencing factors of significant concern were observed.

4.4.2 The monitoring results including Dissolved Oxygen, Turbidity, Suspended Solids and pH, Salinity and Stream Flow Velocity at each designated monitoring station are summarized in ***Tables 4-10*** to ***4-12.*** Detailed monitoring results including in-situ measurements and laboratory analysis data are shown in ***Appendix H***.

Table 4-10 Summary of Water Quality Monitoring Results - Dissolved Oxygen, mg/L

Date	Sampling Location			
	M1	M2	M3	M4
27-Apr-2018	3.84		8.28	3.49
30-Apr-2018	3.75		7.89	4.72
2-May-2018	3.84		7.32	4.11
4-May-2018	3.75		7.40	5.59
7-May-2018	3.79		5.87	5.36
9-May-2018	5.24			7.60
10-May-2018			7.73	
11-May-2018	3.82			5.40
12-May-2018			6.78	
14-May-2018	2.96		4.68	4.09
16-May-2018	3.31		4.83	5.06
18-May-2018	3.58		6.02	5.81
21-May-2018	3.10		6.24	4.67
23-May-2018	3.09		4.47	3.74
12-Jul-2018		6.51		
14-Jul-2018		7.36		
16-Jul-2018		5.10		
18-Jul-2018		7.50		
20-Jul-2018		5.37		
24-Jul-2018		5.45		
26-Jul-2018		6.66		
28-Jul-2018		5.08		
30-Jul-2018		4.88		
1-Aug-2018		8.46		
3-Aug-2018		9.26		
6-Aug-2018		5.27		
5%-ile	3.03	4.99	4.58	3.62
1%-ile	2.97	4.90	4.49	3.52
Average	3.67	6.41	6.46	4.97
Min	2.96	4.88	4.47	3.49
Max	5.24	9.26	8.28	7.60

Note: Water quality monitoring at Location M3 was unable to carry out on 9th May 2018 due to unsafe access under the condition of heavy rain and inclement weather. Hence, the baseline water quality monitoring for M3 will be rescheduled to 10th & 12th May 2018.

Table 4-11 Summary of Water Quality Monitoring Results – Turbidity, NTU

Date	Sampling Location			
	M1	**M2**	**M3**	**M4**
27-Apr-2018	2.56		9.93*	3.42
30-Apr-2018	3.51		5.21	4.82
2-May-2018	3.05		4.18	6.01
4-May-2018	6.40		5.92	4.71
7-May-2018	7.74		2.74	3.65
9-May-2018	37.4*			29.5*
10-May-2018			4.12	
11-May-2018	2.91			2.47
12-May-2018			3.90	
14-May-2018	2.65		1.87	2.05
16-May-2018	4.93		2.95	3.49
18-May-2018	3.98		3.98	3.19
21-May-2018	4.06		2.10	3.77
23-May-2018	3.32		2.80	4.41
12-Jul-2018		12.5		
14-Jul-2018		59.5 *		
16-Jul-2018		24.0		
18-Jul-2018		17.7		
20-Jul-2018		6.3		
24-Jul-2018		22.7		
26-Jul-2018		36.0		
28-Jul-2018		42.8		
30-Jul-2018		18.2		
1-Aug-2018		33.8		
3-Aug-2018		69.6 *		
6-Aug-2018		9.6		
95%-ile	7.07	39.74	5.56	5.41
99%-ile	7.61	42.19	5.85	5.89
Average	6.87	29.37	4.14	5.96
Min	2.56	6.32	1.87	2.05
Max	37.4	69.60	9.93	29.5

Note: Water quality monitoring at Location M3 was unable to carry out on 9th May 2018 due to unsafe access under the condition of heavy rain and inclement weather. Hence, the baseline water quality monitoring for M3 will be rescheduled to 10th & 12th May 2018.
Remarks: (*) The figure(s) were irregular due to the impact on rain and these figure(s) were excluded from statistical calculation of the percentiles for establishment of the Action/ Limit Levels.

Table 4-12 Summary of Water Quality Monitoring Results – Suspended Solids, mg/L

Date	Sampling Location			
	M1	**M2**	**M3**	**M4**
27-Apr-2018	6.5		23.5*	5.0
30-Apr-2018	3.5		9.5	4.5
2-May-2018	4.0		7.5	4.5
4-May-2018	4.5		9.0	2.5
7-May-2018	10.5		4.5	<2
9-May-2018	19.5*			25.0*

Date	Sampling Location			
	M1	M2	M3	M4
10-May-2018			7.5	
11-May-2018	4.0			3.5
12-May-2018			6.0	
14-May-2018	<2		3.0	<2
16-May-2018	2.5		4.0	<2
18-May-2018	<2		6.0	<2
21-May-2018	5		7.0	3.5
23-May-2018	<2		4.0	3.0
12-Jul-2018		9.0		
14-Jul-2018		36.5 *		
16-Jul-2018		16.0		
18-Jul-2018		11.5		
20-Jul-2018		3.5		
24-Jul-2018		11.5		
26-Jul-2018		31.5		
28-Jul-2018		21.5		
30-Jul-2018		8.0		
1-Aug-2018		26.0		
3-Aug-2018		52.5 *		
6-Aug-2018		3.0		
95%-ile	8.5	29.0	9.3	4.8
99%-ile	10.1	31.0	9.5	5.0
Average	5.5	19.2	7.6	5.0
Min	<2.0	3.0	3.0	<2.0
Max	19.5	52.5	23.5	25.0

Note: Water quality monitoring at Location M3 was unable to carry out on 9th May 2018 due to unsafe access under the condition of heavy rain and inclement weather. Hence, the baseline water quality monitoring for M3 will be rescheduled to 10th & 12th May 2018.
If the SS value is < 2, it will be assumed as 1.9999 when conduct percentage calculation
Remarks: (*) The figure(s) were irregular due to the impact on rain and these figure(s) were excluded from statistical calculation of the percentiles for establishment of the Action/ Limit Levels.

4.4.3 According to the Approved EM&A Manual, **EITHER** the 95%-ile and 99%-ile of baseline data **OR** the 120% and 130% of upstream control station of the same day would trigger 'Exceedance Actions' of the Event and Action Plan. Since no upstream control station was provided and required under the EM&A Manual, the requirement of "120% and 130% of upstream control station" is not applicable for the Action/Limit Levels for water quality of the Project.

Action/Limit Levels for Water Quality

4.4.4 The Action and Limit Levels for water quality are illustrated in ***Table 4-13***. The proposed environmental performance criteria are recommended according to ***Table 2-10*** of this report.

Table 4-13 Action and Limit Levels for Water Quality Monitoring

Parameter	Performance criteria	Monitoring Location			
		M1	M2	M3	M4
DO (mg/L)	Action Level	3.03	4.99	4.58	3.62
	Limit Level	2.97	4.90	4.49	3.52
Turbidity (NTU)	Action Level	7.1	39.7	5.6	5.4
	Limit Level	7.6	42.2	5.9	5.9
SS (mg/L)	Action Level	8.5	29.0	9.3	4.8
	Limit Level	10.1	31.0	9.5	5.0

Remarks:
*The Proposed **Action Level** of Dissolved Oxygen is adopted to be used 5%-ile of baseline data*
*The Proposed **Limit Level** of Dissolved Oxygen is used 4mg/L or 1%-ile of baseline data*
Notes:
All the figures given in the table are used for reference only and the EPD may amend the figures whenever it is considered necessary.

4.5 DISCUSSION AND RECOMMENDATIONS

Air Quality

Possible Influence of Seasonal Changes

4.5.1 The air quality baseline monitoring was conducted from ***25 April 2018*** to ***9 May 2018*** during typical Hong Kong wet season. The baseline data collected therefore represent the baseline air quality of the wet season immediately prior to commencement of the Project. The baseline data may not reflect the air quality conditions of dry seasons in Hong Kong, which are normally significantly different.

4.5.2 It is therefore recommended that the interpretation of the air quality monitoring data should take into account the influence of the seasonal changes, and the baseline conditions should be regularly reviewed in particular during seasonal changes.

Water Quality

Environmental Performance Criteria of DO, SS, and turbidity

4.5.3 The baseline suspended solids (SS) and turbidity levels reflect typical water quality at the monitoring locations during wet seasons (April to October). The established environmental performance criteria, i.e. Action & Limit Levels, are therefore applicable to the Event and Action Plan in Hong Kong during rainy season immediately prior to the commencement of the construction activities of the Project. Similarly, this applies to dissolved oxygen (DO) which is influenced by the same seasonable changes as SS and turbidity.

5 CONCLUSIONS AND RECOMMENTATIONS

5.1 CONCLUSIONS

5.1.1 The baseline monitoring was carried out during the period between ***25 April 2018*** and ***23 May 2018,*** and between ***12 July 2018*** and ***6 August 2018*** at the designated monitoring locations by the ET according to the approved EM&A Manual. During the baseline monitoring, there were no construction activities undertaken under this Project.

5.1.2 Based on the baseline monitoring results, the recommended environmental performance criteria for air quality, construction noise and water quality are summarized as follows:

Recommended Action & Limit Levels of Air Quality				
Monitoring Station	**Action Level (μg /m^3)**		**Limit Level (μg/m^3)**	
	1-hour TSP	**24-hour TSP**	**1-hour TSP**	**24-hour TSP**
ASR-1	331	181	500	260
ASR-2	316	165	500	260
ASR-3	307	160	500	260

Recommended Action & Limit Levels of Construction Noise		
Monitoring Location	**Action Level**	**Limit Level**
	0700-1900 hours on normal weekdays	
CN-1	When one or more documented complaints are received	75 dB(A) of Leq(30min) during normal hours from 0700 to 1900 hours on normal weekdays, reduced to 70 dB(A) of Leq(30min) for schools and 65 dB(A) during school examination periods
CN-2		
CN-3		
CN-4		

Recommended Action & Limit Levels of Water Quality					
Parameter	**Performance criteria**	**Monitoring Location**			
		M1	**M2**	**M3**	**M4**
DO (mg/L)	Action Level	3.03	4.99	4.58	3.62
	Limit Level	2.97	4.90	4.49	3.52
Turbidity (NTU)	Action Level	7.1	39.7	5.6	5.4
	Limit Level	7.6	42.2	5.9	5.9
SS (mg/L)	Action Level	8.5	29.0	9.3	4.8
	Limit Level	10.1	31.0	9.5	5.0
Remarks: *The Proposed **Action Level** of Dissolved Oxygen is adopted to be used 5%-ile of baseline data* *The Proposed **Action & Limit Level** of Dissolved Oxygen is used 4mg/L and 1%-ile of baseline data* ***Notes:*** *All the figures given in the table are used for reference only and the EPD may amend the figures whenever it is considered necessary.*					

5.2 RECOMMENDATIONS

5.2.1 The baseline monitoring of air quality, noise and water quality was conducted during typical wet season (April to October) in Hong Kong. It is important to note that influence of seasonal changes should be taken into account when interpreting monitoring data obtained during dry season. Review of the baseline conditions may need to be conducted regularly, in particular during seasonal changes. If the changes in baseline conditions are evident, the environmental performance criteria should be re-established by agreement of the ER and IEC and submitted for EPD endorsement.

5.2.2 To facilitate the project management, the Project ""*Site Formation and Associated Infrastructural Works for Development of Columbarium, Crematorium and Related Facilities at Sandy Ridge Cemetery*" is divided into three Works Contracts and all Contracts will be commenced at different time. Therefore, the impact monitoring will only be performed at the Contract-related monitoring stations upon commencement of each Contracts.

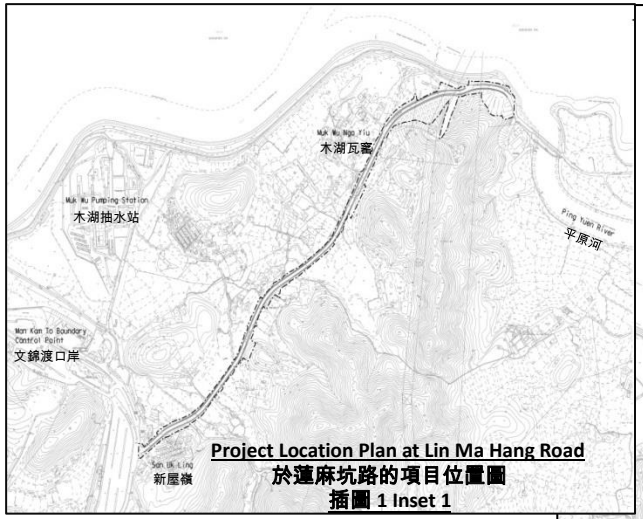
5.2.3 In order to perform the environmental monitoring for the three Contracts during construction phase, the Contract- related monitoring station are recommended below.

Designated Monitoring Location to be perform under the CEDD Contracts

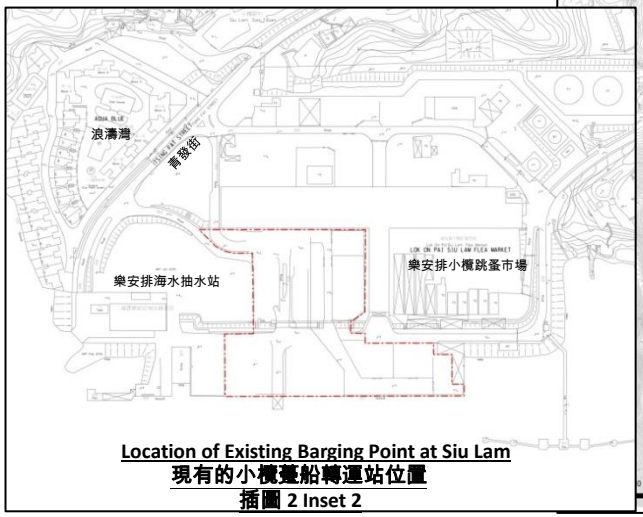
Impact Monitoring	*For Contract No. CV/2016/10*	*For Contract No. CV/2017/02 and/or Other CEDD's Contract as to be related of the Project*
Air Quality	A1	A2 and A3
Construction Noise	CN-1 and CN-2	CN-3 and CN-4
Water Quality	M3	M1, M2 and M4

Appendix A

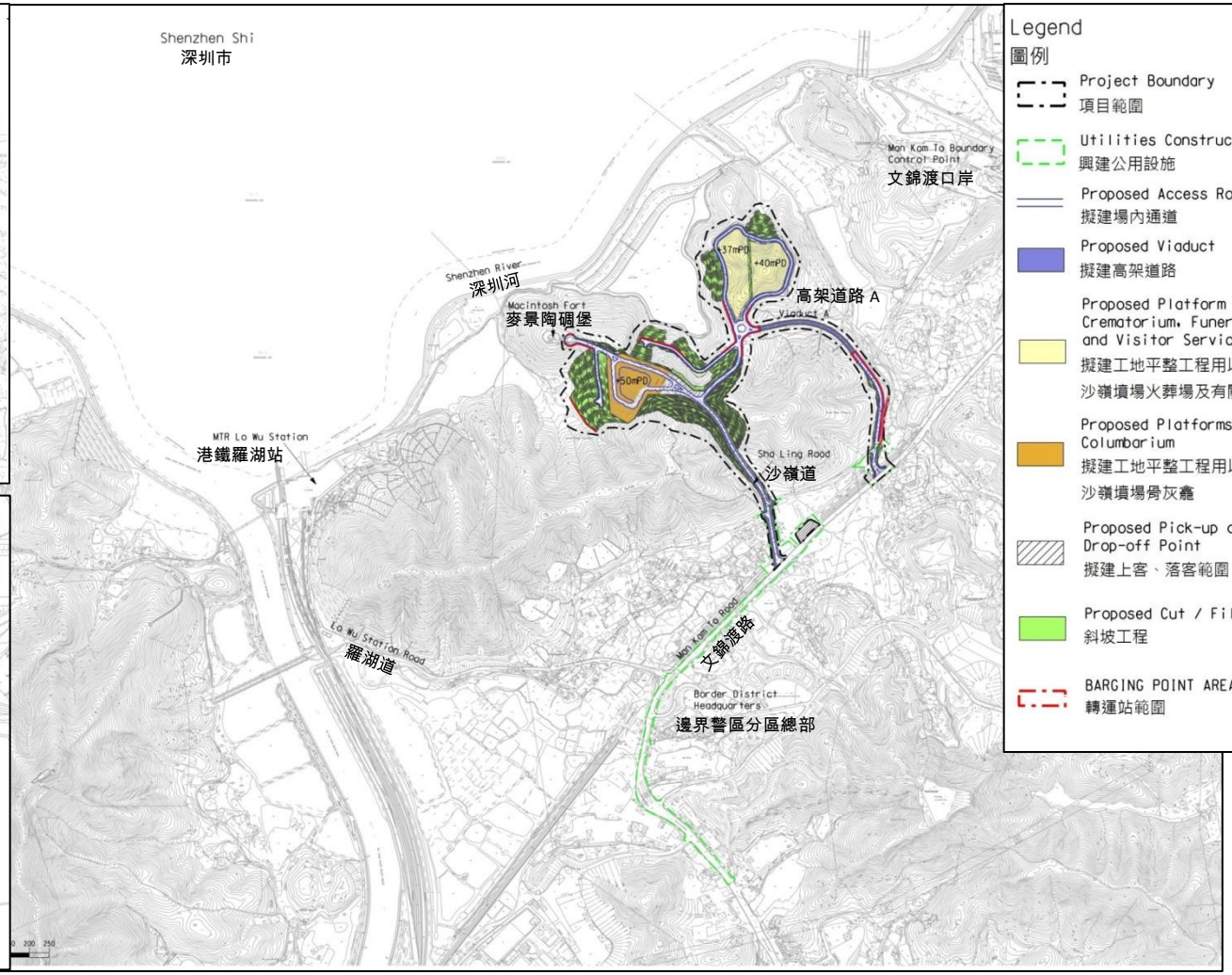
Layout plan of the Project



Project Location Plan at Lin Ma Hang Road
於蓮麻坑路的項目位置圖
插圖 1 Inset 1



Location of Existing Barging Point at Siu Lam
現有的小欖運船轉運站位置
插圖 2 Inset 2



Project Title: Site Formation and Associated Infrastructural Works for Development of Columbarium, Crematorium and Related Facilities at Sandy Ridge Cemetery

工程名稱：沙嶺墳場興建骨灰龕、火葬場及有關設施的工地平整及相關基建工程

Figure 1: Project Location Plan

圖 1：項目位置圖

(This figure was prepared based on Figures 1.1-1.3 of the Approved EIA Report No. AEIAR-198/2016)
(本圖是根據環境影響評估報告編號 AEIAR-198/2016，圖 1.1-1.3 編制)

Environmental Permit No.: EP-534/2017
環境許可證編號：EP-534/2017

Appendix B

Designated Monitoring Locations as Recommended in the Approved EM&A Manual

Location ID	Description
A1	Village House along Man Kam To Road
A2	Village House at San Uk Ling
A3	Village House at Muk Wu Chuen Yiu

N

Shenzhen Shi

Future Crematorium
(By others)

Man Kam To Boundary
Control Point

Figure 5.1.4

Lin Ma Hang Road

San Uk Ling

Shenzhen River

Planned Road Networks

Figure 5.1.3

MTR Lo Wu Station

Proposed
Pick-up and
Drop-off Area

Sha Ling Road

Proposed Pick-up
and Drop-off Point
at Man Kam To Road

Liu Pok

Man Kam To Road

Kong Nga Po

Figure 5.1.2

Lo Wu Station Road

Tai Shek Mo

Cheung Po Tau

Sheung Shui
Treatment
Works

0 75 150 225 300
METRES

Legend

- Project Boundary
- Utilities Construction
- 500m Assessment Area
- Proposed Construction Dust Monitoring Locations

Rev	Description	By	Date
F	SIXTH ISSUE	GL	02/16
E	FIFTH ISSUE	GL	01/16
D	FOURTH ISSUE	GL	12/15
C	THIRD ISSUE	GL	10/15

Consultant

ARUP

Contract No. and Title:

Agreement No. CE 1/2013(CE)

Site Formation and Associated Infrastructural Works for Development of Columbarium, Crematorium and Related Facilities at Sandy Ridge Cemetery - Design and Construction

Drawing title

Locations of Construction Dust Monitoring (Sheet 1 of 4)

Drawing no.	Rev.
Figure 5.1.1	F

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Sandy Ridge Cemetery

Sha Ling Road

A1

Proposed Pick-up and Drop-off Point

Man Kam To Road

SHA LING

SANDY RIDGE

Location ID	Description
A1	Village House along Man Kam To Road

0 25 50
METRES

Legend

- Project Boundary
- Utilities Construction
- Proposed Construction Dust Monitoring Location

Rev	Description	By	Date
E	FIFTH ISSUE	GL	02/16
D	FOURTH ISSUE	GL	12/15
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Locations of Construction Dust Monitoring (Sheet 2 of 4)

Drawing no.			Rev.
Figure 5.1.2			E
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Man Kam To Boundary Control Point

Lin Ma Hang Road

San Uk Ling

A2

Location ID	Description
A2	Village House at San Uk Ling

0 25 50
METRES

Legend

- Project Boundary
- Proposed Construction Dust Monitoring Location

Rev	Description	By	Date
E	FIFTH ISSUE	GL	02/16
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C	THIRD ISSUE	GL	10/15
B	SECOND ISSUE	GL	02/15

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Drawing title

Locations of Construction Dust Monitoring (Sheet 3 of 4)

Drawing no.	Rev.
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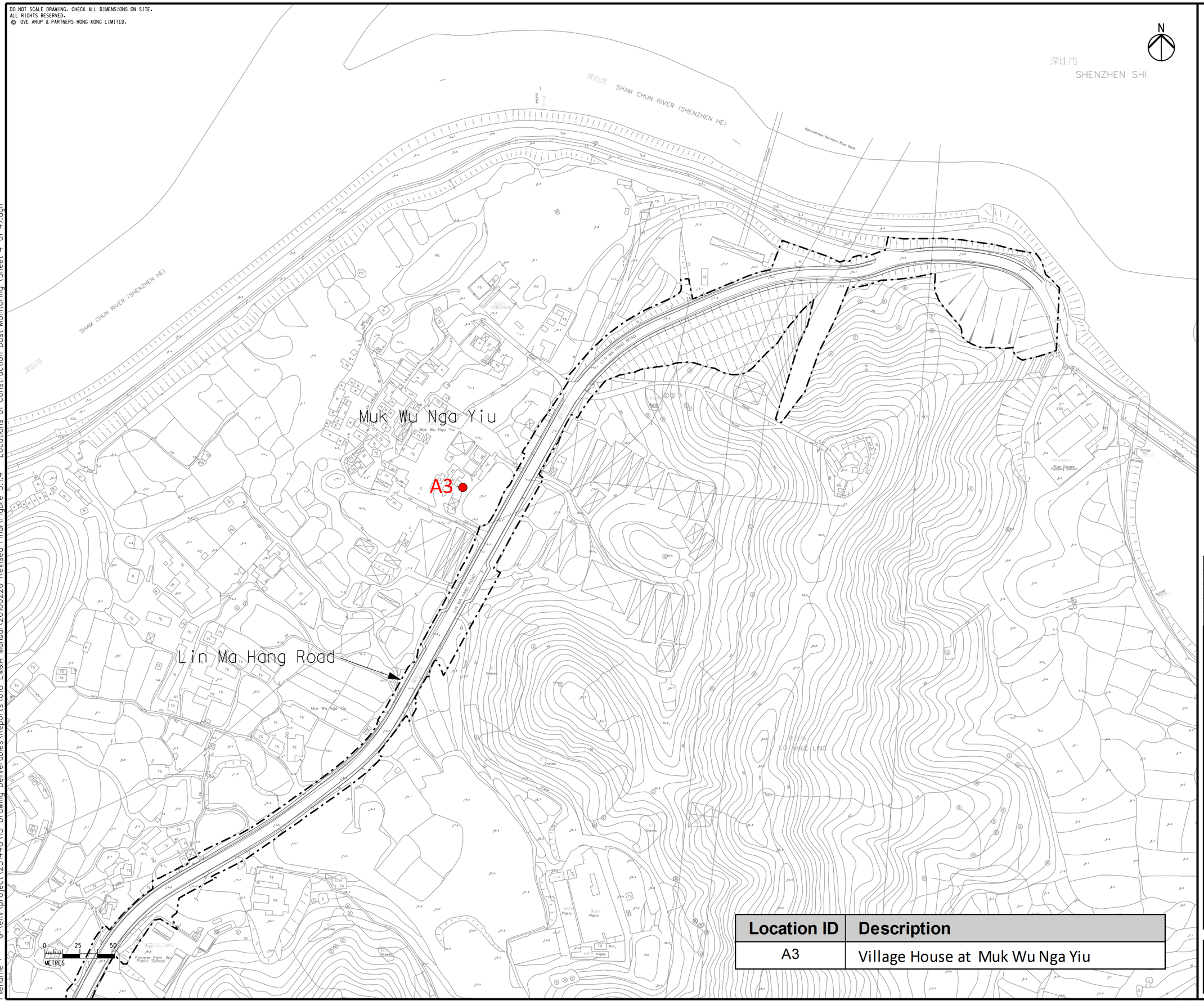

Location ID	Description
A3	Village House at Muk Wu Nga Yiu

Legend

- Project Boundary
- Proposed Construction Dust Monitoring Location

Rev	Description	By	Date
E	FIFTH ISSUE	GL	02/16
D	FOURTH ISSUE	GL	12/15
C	THIRD ISSUE	GL	10/15
B	SECOND ISSUE	GL	02/15

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Drawing title

Locations of Construction Dust Monitoring (Sheet 4 of 4)

Drawing no.	Rev.
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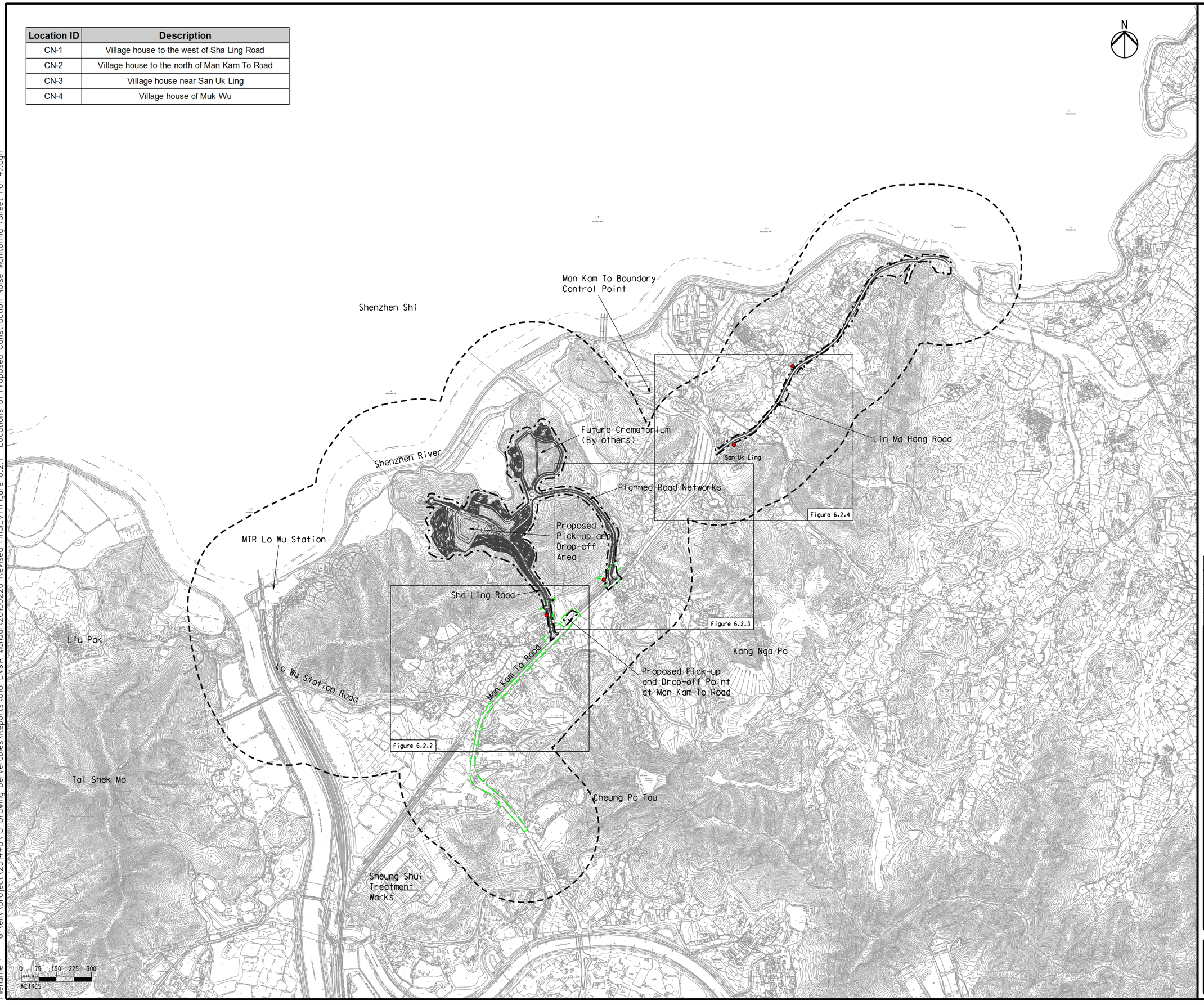
Filename : G:\env\project\231448\13 Drawing Deliverables\Reports\018 EM&A Manual\20160226 Revised Final\Figure 5.1.4 - Locations of Construction Dust Monitoring (Sheet 4 of 4).dgn

Location ID	Description
CN-1	Village house to the west of Sha Ling Road
CN-2	Village house to the north of Man Kam To Road
CN-3	Village house near San Uk Ling
CN-4	Village house of Muk Wu



Legend

- Project Boundary
- Utilities Construction
- 300m Assessment Area
- Proposed Construction Noise Monitoring Locations

Rev	Description	By	Date
F	SIXTH ISSUE	GL	02/16
E	FIFTH ISSUE	GL	01/16
D	FOURTH ISSUE	GL	12/15
C	THIRD ISSUE	GL	10/15

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Drawing title

Locations of Proposed Construction Noise Monitoring (Sheet 1 of 4)

Drawing no.	Rev.
Figure 6.2.1	F

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GL	02/16	EL	ST

Scale: AS SHOWN

Status: PRELIMINARY

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Sha Ling Road

Proposed Pick-up and Drop-off Point

CN-1

Man Kam To Road

N

SHA LING

SANDY RIDGE

LO WU STATION ROAD

MAN KAM TO ROAD

Police Dog Unit And Force Search Unit Training School

0 25 50
METRES

Legend

- Project Boundary
- Utilities Construction
- 300m Assessment Area
- Proposed Construction Noise Monitoring Locations

Location ID	Description
CN-1	Village house to the west of Sha Ling Road

Rev	Description	By	Date
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D	FOURTH ISSUE	GL	12/15
C	THIRD ISSUE	GL	10/15
B	SECOND ISSUE	GL	02/15

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Drawing title

Locations of Proposed Construction Noise Monitoring (Sheet 2 of 4)

Drawing no.	Rev.
Figure 6.2.2	E

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Planned Road Network

CN-2

Man Kam To Road

Sandy Ridge Cemetery

0 25 50
METRES

N

Legend

- Project Boundary
- Utilities Construction
- 300m Assessment Area
- Proposed Construction Noise Monitoring Locations

Location ID	Description
CN-2	Village house to the north of Man Kam To Road

Rev	Description	By	Date
E	FIFTH ISSUE	GL	02/16
D	FOURTH ISSUE	GL	12/15
C	THIRD ISSUE	GL	10/15
B	SECOND ISSUE	GL	02/15

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Drawing title

Locations of Proposed Construction Noise Monitoring (Sheet 3 of 4)

Drawing no.	Rev.
Figure 6.2.3	E

Drawn	Date	Checked	Approved
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Man Kam To Boundary Control Point

Lin Ma Hang Road

San Uk Ling

CN-4

CN-3

N

0 25 50
METRES

Legend

- Project Boundary
- 300m Assessment Area
- Proposed Construction Noise Monitoring Locations

Location ID	Description
CN-3	Village house near San Uk Ling
CN-4	Village house of Muk Wu

Rev	Description	By	Date
E	FIFTH ISSUE	GL	02/16
D	FOURTH ISSUE	GL	12/15
C	THIRD ISSUE	GL	10/15
B	SECOND ISSUE	GL	02/15

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Drawing title

Locations of Proposed Construction Noise Monitoring (Sheet 4 of 4)

Drawing no.	Rev.
Figure 6.2.4	E

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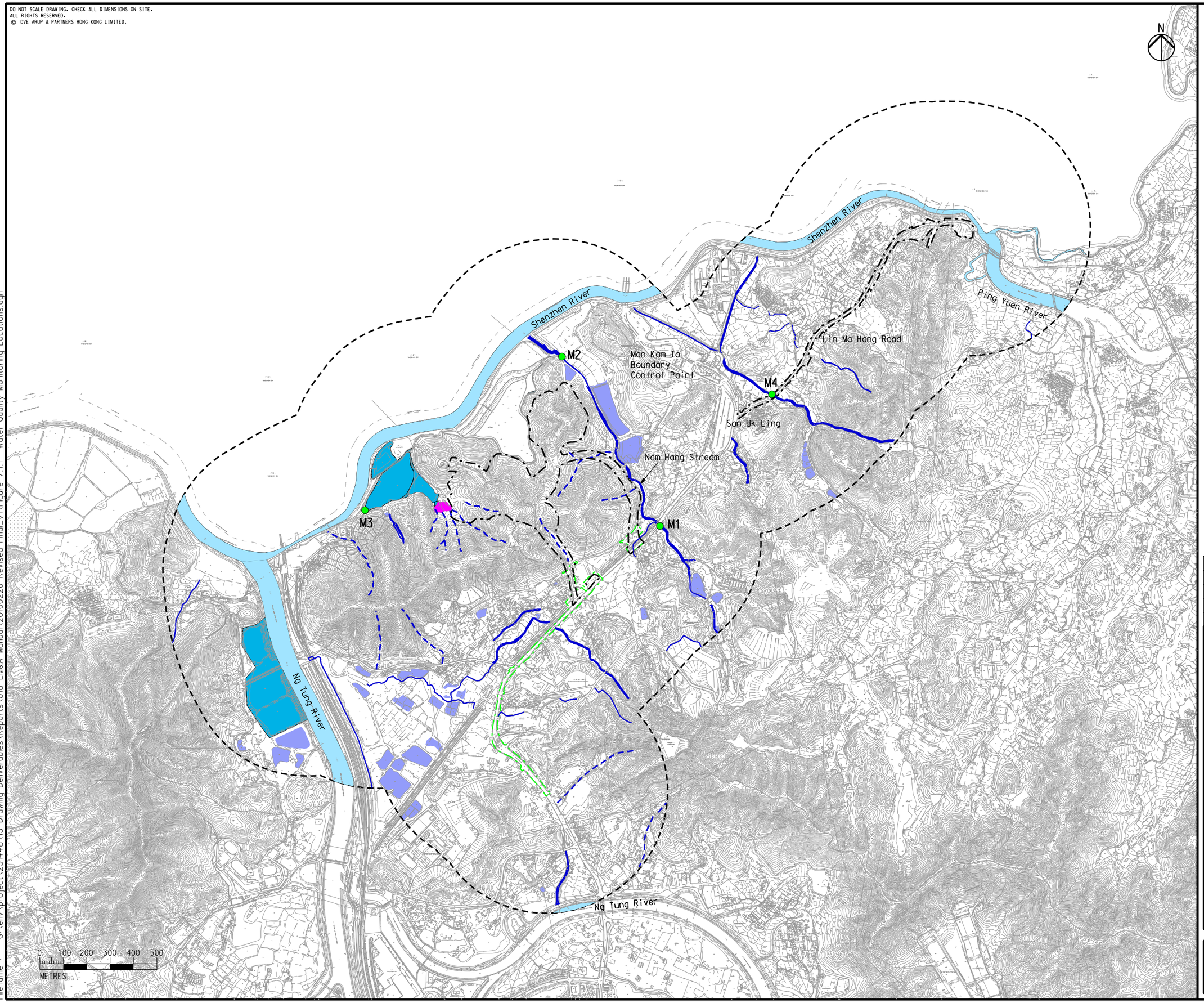

Legend

- Project Boundary
- Utilities Construction
- 500m Assessment Area
- Channelized River
- Pond
- Watercourse
- Conservation Area (CA)
- Wet Woodland
- Seasonal Watercourse
- Baseline Monitoring Station

Rev	Description	By	Date
E	FIFTH ISSUE	GL	02/16
D	FOURTH ISSUE	GL	12/15
C	THIRD ISSUE	GL	10/15
B	SECOND ISSUE	GL	02/15

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Site Formation and Associated Infrastructural Works for Development of Columbarium, Crematorium and Related Facilities at Sandy Ridge Cemetery - Design and Construction

Drawing title

Water Quality Monitoring Locations

Drawing no.			Rev.
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Appendix C

Monitoring Locations for Baseline Monitoring

Legend

- Project Boundary
- Utilities Construction
- Proposed Air Monitoring Stations

Sha Ling Road

ASR-1

Proposed Pick-up and Drop-off Point

Man Kam To Road

Location ID	Description
ASR-1	Village House along Man Kam To Road

Rev	Description	By	Date
E	FIFTH ISSUE	GL	02/16
D	FOURTH ISSUE	GL	12/15
C	THIRD ISSUE	GL	10/15
B	SECOND ISSUE	GL	02/15

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Contract No. and Title:

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Drawing title

0 25 50 METRES

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Man Kam To Boundary Control Point

Lin Ma Hang Road

ASR-2

San Uk Ling

Location ID	Description
ASR-2	Village House at San Uk Ling

Legend

Project Boundary

Proposed Air Monitoring Stations

Rev	Description	By	Date
E	FIFTH ISSUE	GL	02/16
D	FOURTH ISSUE	GL	12/15
C	THIRD ISSUE	GL	10/15
B	SECOND ISSUE	GL	02/15

Consultant

Contract No. and Title:

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Drawing title

0 25 50 METRE

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Muk Wu Nga Yiu

ASR-3

Lin Ma Hang Road

SHAM CHUN RIVER (SHENZHEN HE)

SHENZHEN SHI

LO SHUE LING

N

0 25 50 METRES

Legend

Project Boundary

Proposed Air Monitoring Stations

Location ID	Description
ASR-3	Village House at Muk Wu Nga Yiu

Rev	Description	By	Date
E	FIFTH ISSUE	GL	02/16
D	FOURTH ISSUE	GL	12/15
C	THIRD ISSUE	GL	10/15
B	SECOND ISSUE	GL	02/15

Consultant

Contract No. and Title:

Agreement No. CE 1/2013(CE)

Site Formation and Associated Infrastructural Works for Development of Columbarium, Crematorium and Related Facilities at Sandy Ridge Cemetery - Design and Construction

Drawing title

Printed by : 2/26/2016
Filename : G:\env\project\231448\13 Drawing Deliverables\Reports\018 EM&A Manual\20160226 Revised Final\Figure 5.1.4 - Locations of Construction Dust Monitoring (Sheet 4 of 4).dgn

Sha Ling Road

Proposed Pick-up and Drop-off Point

CN-1

Man Kam To Road

N

Legend

- Project Boundary
- Utilities Construction
- 300m Assessment Area
- Proposed Construction Noise Monitoring Locations

Location ID	Description
CN-1	Village house to the west of Sha Ling Road

0 25 50
METRES

Rev	Description	By	Date
E	FIFTH ISSUE	GL	02/16
D	FOURTH ISSUE	GL	12/15
C	THIRD ISSUE	GL	10/15
B	SECOND ISSUE	GL	02/15

Consultant

Contract No. and Title:

Agreement No. CE 1/2013(CE)

Site Formation and Associated Infrastructural Works for Development of Columbarium, Crematorium and Related Facilities at Sandy Ridge Cemetery - Design and Construction

Drawing title

Printed by : 2/29/2016
Filename : G:\env\project\231448\13 Drawing Deliverables\Reports\018 EM&A Manual\20160226 Revised Final_v1\Figure 6.2.2 - Locations of Proposed Construction Noise Monitoring (Sheet 2 of 4).dgn

Planned

Sandy Ridge Cemetery

Man Kam To Road

CN-2

0 25 50
METRES

Legend

- Project Boundary
- Utilities Construction
- 300m Assessment Area
- Proposed Construction Noise Monitoring Locations

Location ID	Description
CN-2	Village house to the north of Man Kam To Road

Rev	Description	By	Date
E	FIFTH ISSUE	GL	02/16
D	FOURTH ISSUE	GL	12/15
C	THIRD ISSUE	GL	10/15
B	SECOND ISSUE	GL	02/15

Consultant

Contract No. and Title:

Agreement No. CE 1/2013(CE)

Site Formation and Associated Infrastructural Works for Development of Columbarium, Crematorium and Related Facilities at Sandy Ridge Cemetery - Design and Construction

Drawing title

Printed by : 2/29/2016
Filename : G:\env\project\231448\13 Drawing Deliverables\Reports\018 EM&A Manual\20160226 Revised Final_v1\Figure 6.2.3 - Locations of Proposed Construction Noise Monitoring (Sheet 3 of 4).dgn

Man Kam To Boundary Control Point

Lin Ma Hang Road

San Uk Ling

CN-4

CN-3

N

Legend

- Project Boundary
- 300m Assessment Area
- Proposed Construction Noise Monitoring Locations

Location ID	Description
CN-3	Village house near San Uk Ling
CN-4	Village house of Muk Wu

0 25 50
METRES

Rev	Description	By	Date
E	FIFTH ISSUE	GL	02/16
D	FOURTH ISSUE	GL	12/15
C	THIRD ISSUE	GL	10/15
B	SECOND ISSUE	GL	02/15

Consultant

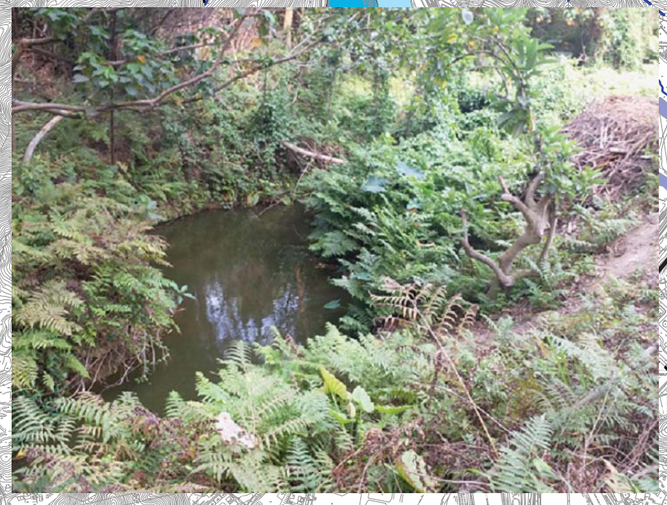
Contract No. and Title:

Agreement No. CE 1/2013(CE)

Site Formation and Associated Infrastructural Works for Development of Columbarium, Crematorium and Related Facilities at Sandy Ridge Cemetery - Design and Construction

Drawing title

Printed by : 2/29/2016
Filename : G:\env\project\231448\13 Drawing Deliverables\Reports\018 EM&A Manual\20160226 Revised Final_v1\Figure 6.2.4 - Locations of Proposed Construction Noise Monitoring (Sheet 4 of 4).dgn



Legend

- Project Boundary
- Utilities Construction
- 500m Assessment Area
- Channelized River
- Pond
- Watercourse
- Conservation Area (CA)
- Wet Woodland
- Seasonal Watercourse
- Water Quality Monitoring Stations in EM&A Manual

Rev	Description	By	Date
E	FIFTH ISSUE	GL	02/16
D	FOURTH ISSUE	GL	12/15
C	THIRD ISSUE	GL	10/15
B	SECOND ISSUE	GL	02/15

Consultant

Contract No. and Title:

Agreement No. CE 1/2013(CE)

Site Formation and Associated Infrastructural Works for Development of Columbarium, Crematorium and Related Facilities at Sandy Ridge Cemetery - Design and Construction

Drawing title

Printed by : 2/29/2016
Filename : G:\env\project\231448\13 Drawing Deliverables\Reports\018 EM&A Manual\20160226 Revised Final_v1\Figure 7.1.1 - Water Quality Monitoring Locations.dgn

Appendix D

Valid Calibration Certificate of Monitoring Equipment

TSP SAMPLER CALIBRATION CALCULATION SPREADSHEET

Location : Sha Ling Village House No.6 — Date of Calibration: 18-Apr-18
Location ID : ASR-1 — Next Calibration Date: 18-Jun-18
Name and Model: TISCH HVS Model TE-5170 — Technician: Ip Ka Hing

CONDITIONS

Sea Level Pressure (hPa)	1015.8	Corrected Pressure (mm Hg)	761.85
Temperature (ºC)	22.5	Temperature (K)	296

CALIBRATION ORIFICE

Make->	TISCH	Qstd Slope ->	2.02017
Model->	5025A	Qstd Intercept ->	-0.03691
Serial # ->	1612		

CALIBRATION

Plate No.	H20 (L) (in)	H2O (R) (in)	H20 (in)	Qstd (m3/min)	I (chart)	IC corrected	LINEAR REGRESSION
18	5.50	5.50	11.0	1.669	50	50.48	Slope = 37.0909
13	4.25	4.25	8.5	1.469	45	45.44	Intercept = -10.4144
10	3.35	3.35	6.7	1.307	38	38.37	Corr. coeff. = 0.9971
7	2.10	2.10	4.2	1.038	27	27.26	
5	1.30	1.30	2.6	0.821	20	20.19	

Calculations :

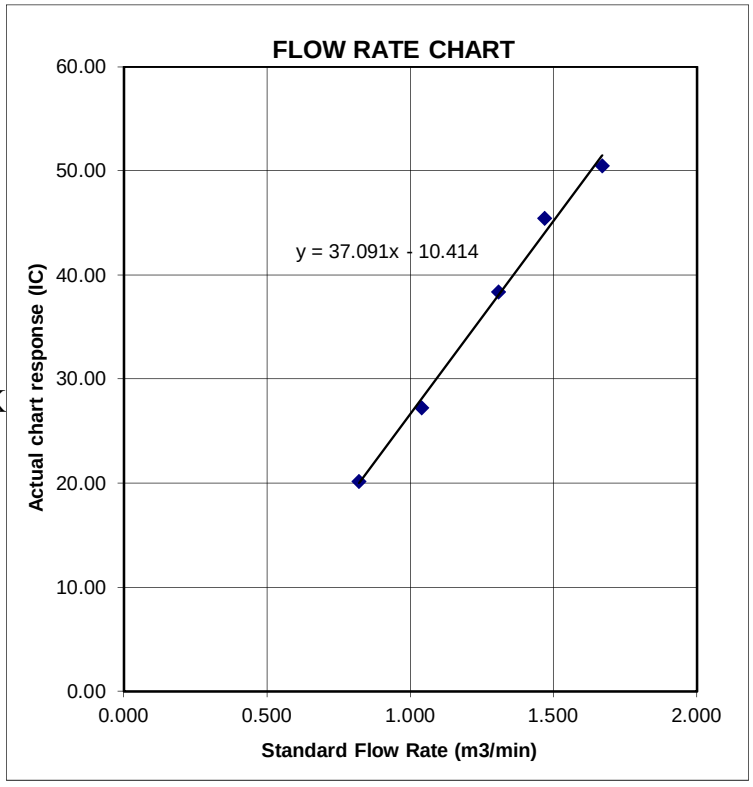
Qstd = 1/m[Sqrt(H20(Pa/Pstd)(Tstd/Ta))-b]
IC = I[Sqrt(Pa/Pstd)(Tstd/Ta)]

Qstd = standard flow rate
IC = corrected chart respones
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)[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 : San Uk Ling Village House No.1 Date of Calibration: 18-Apr-18
Location ID : ASR-2 Next Calibration Date: 18-Jun-18
Name and Model: TISCH HVS Model TE-5170 Technician: Ip Ka Hing

CONDITIONS

Sea Level Pressure (hPa)	1015.8	Corrected Pressure (mm Hg)	761.85
Temperature (ºC)	22.5	Temperature (K)	296

CALIBRATION ORIFICE

Make->	TISCH	Qstd Slope ->	2.02017
Model->	5025A	Qstd Intercept ->	-0.03691
Serial # ->	1612		

CALIBRATION

Plate No.	H20 (L) (in)	H2O (R) (in)	H20 (in)	Qstd (m3/min)	I (chart)	IC corrected	LINEAR REGRESSION
18	5.65	5.65	11.3	1.691	55	55.53	Slope = 31.8486
13	4.45	4.45	8.9	1.503	48	48.46	Intercept = 1.0759
10	3.40	3.40	6.8	1.316	42	42.41	Corr. coeff. = 0.9989
7	2.20	2.20	4.4	1.062	35	35.34	
5	1.30	1.30	2.6	0.821	27	27.26	

Calculations :

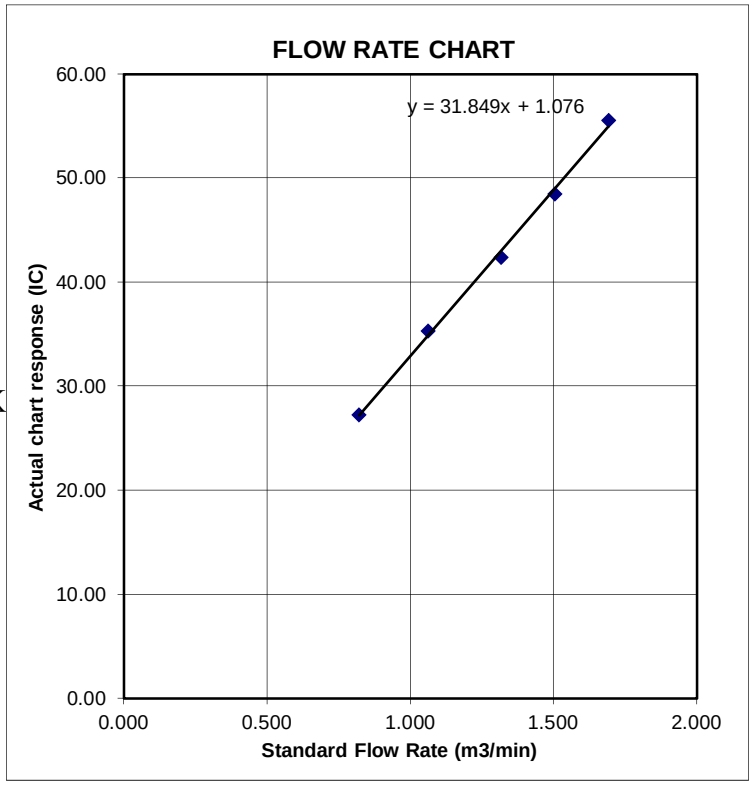
Qstd = 1/m[Sqrt(H20(Pa/Pstd)(Tstd/Ta))-b]
IC = I[Sqrt(Pa/Pstd)(Tstd/Ta)]

Qstd = standard flow rate
IC = corrected chart respones
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)[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 : Muk Wu Nga Yiu House No.28 — Date of Calibration: 24-Apr-18
Location ID : ASR-3 — Next Calibration Date: 24-Jun-18
Name and Model: TISCH HVS Model TE-5170 — Technician: Ip Ka Hing

CONDITIONS

Sea Level Pressure (hPa)	1009.9	Corrected Pressure (mm Hg)	757.425
Temperature (ºC)	25.2	Temperature (K)	298

CALIBRATION ORIFICE

Make->	TISCH	Qstd Slope ->	2.02017
Model->	5025A	Qstd Intercept ->	-0.03691
Serial # ->	1612		

CALIBRATION

Plate No.	H20 (L) (in)	H2O (R) (in)	H20 (in)	Qstd (m3/min)	I (chart)	IC corrected	LINEAR REGRESSION
18	5.80	5.80	11.6	1.701	54	53.87	Slope = 32.6000
13	4.60	4.60	9.2	1.517	47	46.89	Intercept = -2.0338
10	3.75	3.75	7.5	1.371	42	41.90	Corr. coeff. = 0.9965
7	2.50	2.50	5.0	1.123	36	35.91	
5	1.50	1.50	3.0	0.874	26	25.94	

Calculations :

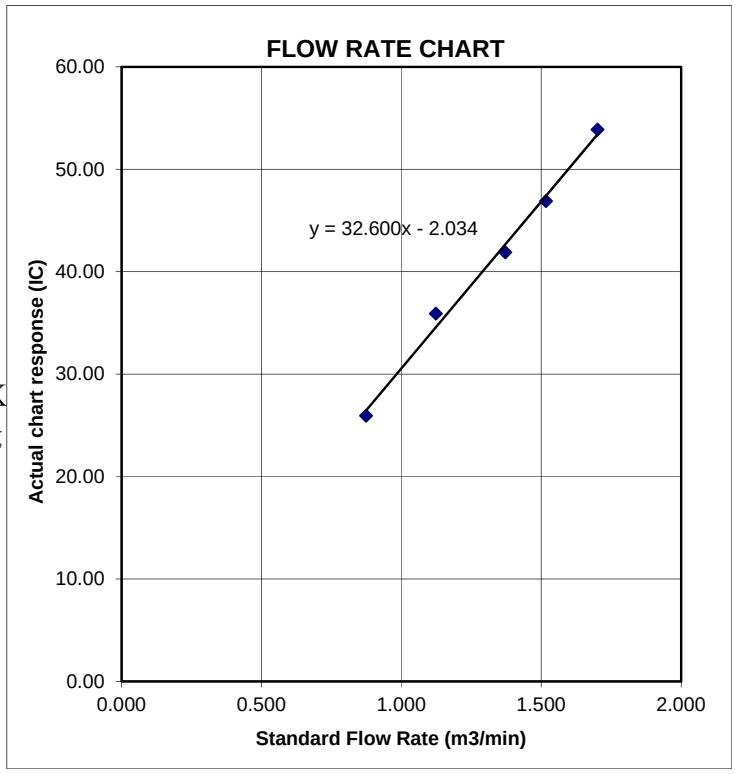
Qstd = 1/m[Sqrt(H20(Pa/Pstd)(Tstd/Ta))-b]
IC = I[Sqrt(Pa/Pstd)(Tstd/Ta)]

Qstd = standard flow rate
IC = corrected chart respones
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)[Sqrt(298/Tav)(Pav/760)]-b)

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



TISCH Environmental

RECALIBRATION DUE DATE:
February 13, 2019

Certificate of Calibration

Calibration Certification Information				
Cal. Date:	February 13, 2018	**Rootsmeter S/N:** 438320	**Ta:** 293	°K
Operator:	Jim Tisch		**Pa:** 763.3	mm Hg
Calibration Model #:	TE-5025A	**Calibrator S/N:** **1612**		

Run	Vol. Init (m3)	Vol. Final (m3)	ΔVol. (m3)	ΔTime (min)	ΔP (mm Hg)	ΔH (in H2O)
1	1	2	1	1.3970	3.2	2.00
2	3	4	1	1.0000	6.3	4.00
3	5	6	1	0.8900	7.9	5.00
4	7	8	1	0.8440	8.7	5.50
5	9	10	1	0.7010	12.6	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)	$\sqrt{\Delta H\left(Ta/Pa\right)}$ (y-axis)
1.0172	0.7281	1.4293	0.9958	0.7128	0.8762
1.0130	1.0130	2.0213	0.9917	0.9917	1.2392
1.0109	1.1358	2.2599	0.9896	1.1120	1.3854
1.0098	1.1964	2.3702	0.9886	1.1713	1.4530
1.0046	1.4331	2.8586	0.9835	1.4030	1.7524
QSTD	**m=**	**2.02017**	**QA**	**m=**	**1.26500**
	b=	**-0.03691**		**b=**	**-0.02263**
	r=	**0.99988**		**r=**	**0.99988**

Calculations

Vstd=	ΔVol((Pa-ΔP)/Pstd)(Tstd/Ta)	**Va=**	ΔVol((Pa-ΔP)/Pa)
Qstd=	Vstd/ΔTime	**Qa=**	Va/ΔTime

For subsequent flow rate calculations:

Qstd= $1/m\left(\left(\sqrt{\Delta H\left(\frac{Pa}{Pstd}\right)\left(\frac{Tstd}{Ta}\right)}\right)-b\right)$

Qa= $1/m\left(\left(\sqrt{\Delta H\left(Ta/Pa\right)}\right)-b\right)$

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

Tisch Environmental, Inc.
145 South Miami Avenue
Village of Cleves, OH 45002

www.tisch-env.cor
TOLL FREE: (877)263-761(
FAX: (513)467-900

ALS Technichem (HK) Pty Ltd

ALS Laboratory Group

ANALYTICAL CHEMISTRY & TESTING SERVICES

SUB-CONTRACTING REPORT

CONTACT	: MR BEN TAM	WORK ORDER	: **HK1825889**
CLIENT	: ACTION UNITED ENVIRONMENT SERVICES AND CONSULTING		
ADDRESS	: RM A 20/F., GOLD KING IND BLDG, NO. 35-41 TAI LIN PAI ROAD, KWAI CHUNG, N.T. HONG KONG	SUB-BATCH	: 1
		DATE RECEIVED	: 12-APR-2018
		DATE OF ISSUE	: 19-APR-2018
PROJECT	: ----	NO. OF SAMPLES	: 1
		CLIENT ORDER	: ----

General Comments

- Sample(s) were received in ambient condition.
- Sample(s) analysed and reported on an as received basis.
- Calibration was subcontracted to and analysed by Action United Enviro Services.

Signatories

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

Signatories	*Position*
Richard Fung	General Manager

This is the Final Report and supersedes any preliminary report with this batch number.

Results apply to sample(s) as submitted. All pages of this report have been checked and approved for release.

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

WORK ORDER	: HK1825889
SUB-BATCH	: 1
CLIENT	: ACTION UNITED ENVIRONMENT SERVICES AND CONSULTING
PROJECT	: ----

ALS Lab ID	Client's Sample ID	Sample Type	Sample Date	External Lab Report No.
HK1825889-001	S/N: 3Y6502	Equipments	12-Apr-2018	S/N: 3Y6502

Equipment Verification Report (TSP)

Equipment Calibrated:

Type:	Laser Dust monitor
Manufacturer:	Sibata LD-3B
Serial No.	3Y6502
Equipment Ref:	EQ113
Job Order	HK1825889

Standard Equipment:

Standard Equipment:	Higher Volume Sampler
Location & Location ID:	AUES office (calibration room)
Equipment Ref:	HVS 018
Last Calibration Date:	27 February 2018

Equipment Verification Results:

Calibration Date: 12 & 13 March 2018

Hour	Time	Mean Temp °C	Mean Pressure (hPa)	Concentration in mg/m^3 (Standard Equipment)	Total Count (Calibrated Equipment)	Count/Minute (Total Count/60min)
2hr07min	9:50 ~ 11:57	19.6	1019.0	0.073	4322	34.1
2hr14min	12:05 ~ 14:19	19.6	1019.0	0.075	4416	32.9
2hr17min	9:50 ~ 12:07	20.9	1016.7	0.075	4811	35.0

Sensitivity Adjustment Scale Setting (Before Calibration) 573 (CPM)

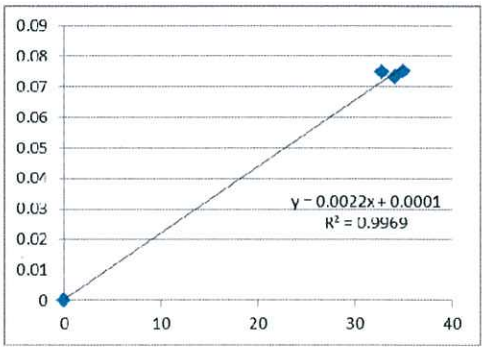
Sensitivity Adjustment Scale Setting (After Calibration) 573 (CPM)

Linear Regression of Y or X

Slope (K-factor): 0.0022

Correlation Coefficient (R) 0.9984

Date of Issue 15 March 2018



Remarks:

1. **Strong** Correlation (R>0.8)
2. Factor 0.0022 should be apply for TSP monitoring

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

Operator : Martin Li Signature : Date : 15 March 2018

QC Reviewer : Ben Tam Signature : Date : 15 March 2018

TSP SAMPLER CALIBRATION CALCULATION SPREADSHEET

Location :	Gold King Industrial Building, Kwai Chung	Date of Calibration:	27-Feb-18
Location ID :	Calibration Room	Next Calibration Date:	27-May-18

CONDITIONS

Sea Level Pressure (hPa)	1017.3	Corrected Pressure (mm Hg)	762.975
Temperature (°C)	19.1	Temperature (K)	292

CALIBRATION ORIFICE

Make->	TISCH	Qstd Slope ->	2.11965
Model->	5025A	Qstd Intercept ->	-0.02696
Calibration Date->	28-Feb-17	Expiry Date->	28-Feb-18

CALIBRATION

Plate No.	H20 (L) (in)	H2O (R) (in)	H20 (in)	Qstd (m3/min)	I (chart)	IC corrected	LINEAR REGRESSION
18	6.2	6.2	12.4	1.694	52	52.63	Slope = 39.8525
13	5.1	5.1	10.2	1.538	46	46.55	Intercept = -14.3322
10	3.9	3.9	7.8	1.346	40	40.48	Corr. coeff. = 0.9974
8	2.6	2.6	5.2	1.101	30	30.36	
5	1.7	1.7	3.4	0.893	20	20.24	

Calculations :

Qstd = 1/m[Sqrt(H20(Pa/Pstd)(Tstd/Ta))-b]

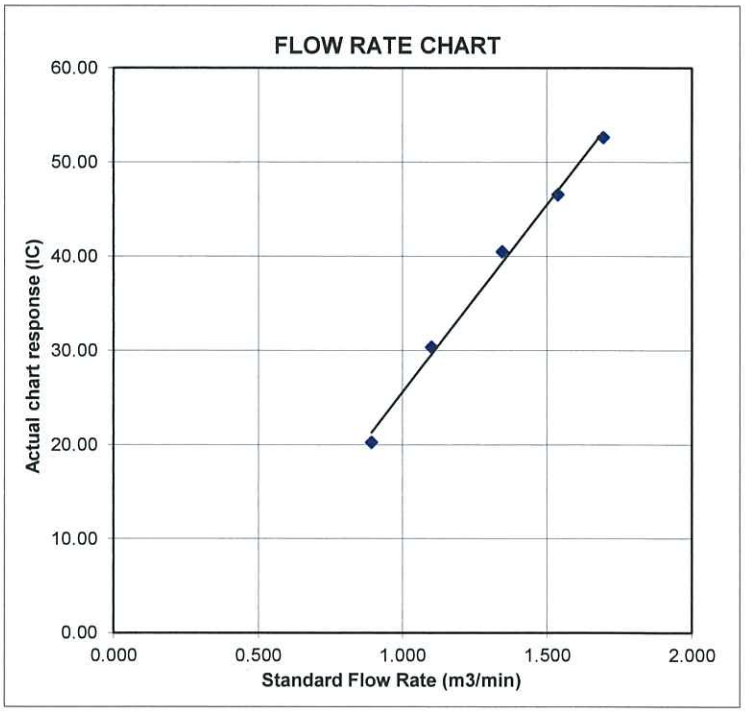
IC = I[Sqrt(Pa/Pstd)(Tstd/Ta)]

Qstd = standard flow rate
IC = corrected chart respones
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)[Sqrt(298/Tav)(Pav/760)]-b)

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



ALS Technichem (HK) Pty Ltd

ALS Laboratory Group

ANALYTICAL CHEMISTRY & TESTING SERVICES

SUB-CONTRACTING REPORT

CONTACT	: MR BEN TAM	WORK ORDER	: **HK1825888**
CLIENT	: ACTION UNITED ENVIRONMENT SERVICES AND CONSULTING		
ADDRESS	: RM A 20/F., GOLD KING IND BLDG, NO. 35-41 TAI LIN PAI ROAD, KWAI CHUNG, N.T. HONG KONG	SUB-BATCH	: 1
		DATE RECEIVED	: 12-APR-2018
		DATE OF ISSUE	: 19-APR-2018
PROJECT	: ----	NO. OF SAMPLES	: 1
		CLIENT ORDER	: ----

General Comments

- Sample(s) were received in ambient condition.
- Sample(s) analysed and reported on an as received basis.
- Calibration was subcontracted to and analysed by Action United Enviro Services.

Signatories

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

Signatories	*Position*
Richard Fung	General Manager

This is the Final Report and supersedes any preliminary report with this batch number.

Results apply to sample(s) as submitted. All pages of this report have been checked and approved for release.

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

WORK ORDER	: HK1825888
SUB-BATCH	: 1
CLIENT	: ACTION UNITED ENVIRONMENT SERVICES AND CONSULTING
PROJECT	: ----

ALS Lab ID	Client's Sample ID	Sample Type	Sample Date	External Lab Report No.
HK1825888-001	S/N: 3Y6501	Equipments	12-Apr-2018	S/N: 3Y6501

Equipment Verification Report (TSP)

Equipment Calibrated:

Type:	Laser Dust monitor
Manufacturer:	Sibata LD-3B
Serial No.	3Y6501
Equipment Ref:	EQ111
Job Order	HK1825888

Standard Equipment:

Standard Equipment:	Higher Volume Sampler
Location & Location ID:	AUES office (calibration room)
Equipment Ref:	HVS 018
Last Calibration Date:	27 February 2018

Equipment Verification Results:

Calibration Date: 12 & 13 March 2018

Hour	Time	Mean Temp °C	Mean Pressure (hPa)	Concentration in mg/m^3 (Standard Equipment)	Total Count (Calibrated Equipment)	Count/Minute (Total Count/60min)
2hr07min	9:50 ~ 11:57	19.6	1019.0	0.073	4211	33.3
2hr14min	12:05 ~ 14:19	19.6	1019.0	0.075	4313	32.1
2hr17min	9:50 ~ 12:07	20.9	1016.7	0.075	4771	34.7

Sensitivity Adjustment Scale Setting (Before Calibration) 657 (CPM)

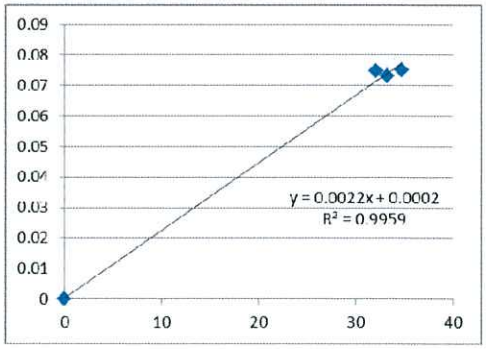
Sensitivity Adjustment Scale Setting (After Calibration) 656 (CPM)

Linear Regression of Y or X

Slope (K-factor): 0.0022

Correlation Coefficient (R) 0.9979

Date of Issue 15 March 2018



Remarks:

1. **Strong** Correlation (R>0.8)
2. Factor 0.0022 should be apply for TSP monitoring

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

Operator : Martin Li Signature : Date : 15 March 2018

QC Reviewer : Ben Tam Signature : Date : 15 March 2018

TSP SAMPLER CALIBRATION CALCULATION SPREADSHEET

Location :	Gold King Industrial Building, Kwai Chung	Date of Calibration:	27-Feb-18
Location ID :	Calibration Room	Next Calibration Date:	27-May-18

CONDITIONS

Sea Level Pressure (hPa)	1017.3	Corrected Pressure (mm Hg)	762.975
Temperature (°C)	19.1	Temperature (K)	292

CALIBRATION ORIFICE

Make->	TISCH	Qstd Slope ->	2.11965
Model->	5025A	Qstd Intercept ->	-0.02696
Calibration Date->	28-Feb-17	Expiry Date->	28-Feb-18

CALIBRATION

Plate No.	H20 (L) (in)	H2O (R) (in)	H20 (in)	Qstd (m3/min)	I (chart)	IC corrected	LINEAR REGRESSION
18	6.2	6.2	12.4	1.694	52	52.63	Slope = 39.8525
13	5.1	5.1	10.2	1.538	46	46.55	Intercept = -14.3322
10	3.9	3.9	7.8	1.346	40	40.48	Corr. coeff. = 0.9974
8	2.6	2.6	5.2	1.101	30	30.36	
5	1.7	1.7	3.4	0.893	20	20.24	

Calculations :

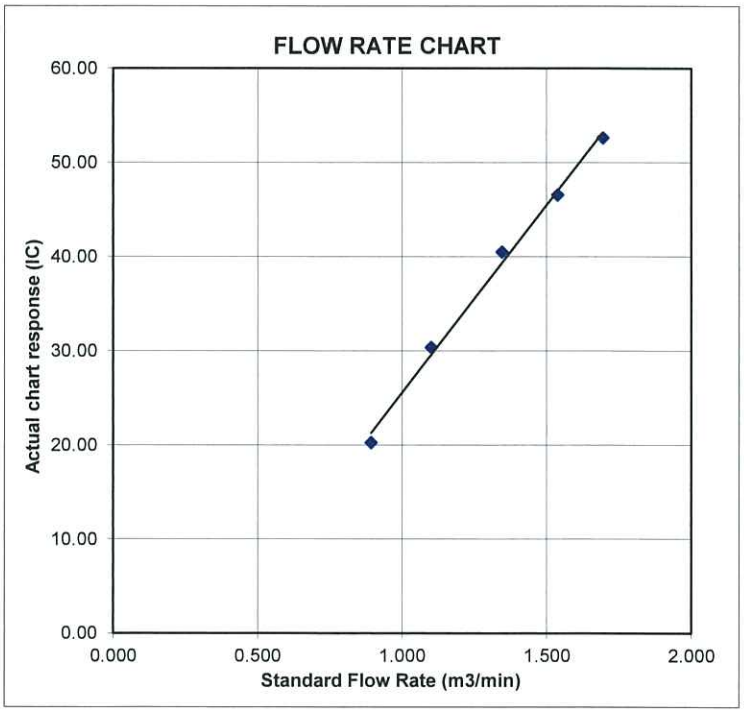
Qstd = 1/m[Sqrt(H20(Pa/Pstd)(Tstd/Ta))-b]
IC = I[Sqrt(Pa/Pstd)(Tstd/Ta)]

Qstd = standard flow rate
IC = corrected chart respones
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)[Sqrt(298/Tav)(Pav/760)]-b)

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



ALS Technichem (HK) Pty Ltd

ALS Laboratory Group

ANALYTICAL CHEMISTRY & TESTING SERVICES

SUB-CONTRACTING REPORT

CONTACT	: MR BEN TAM	WORK ORDER	: **HK1815072**
CLIENT	: ACTION UNITED ENVIRONMENT SERVICES AND CONSULTING		
ADDRESS	: RM A 20/F., GOLD KING IND BLDG, NO. 35-41 TAI LIN PAI ROAD, KWAI CHUNG, N.T. HONG KONG	SUB-BATCH	: 1
		DATE RECEIVED	: 5-JAN-2018
		DATE OF ISSUE	: 5-FEB-2018
PROJECT	: ----	NO. OF SAMPLES	: 1
		CLIENT ORDER	: ----

General Comments

- Sample(s) were received in ambient condition.
- Sample(s) analysed and reported on an as received basis.

Signatories

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

Signatories	*Position*
Richard Fung	General Manager

This is the Final Report and supersedes any preliminary report with this batch number.

Results apply to sample(s) as submitted. All pages of this report have been checked and approved for release.

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

WORK ORDER	: HK1815072
SUB-BATCH	: 1
CLIENT	: ACTION UNITED ENVIRONMENT SERVICES AND CONSULTING
PROJECT	: ----

ALS Lab ID	Client's Sample ID	Sample Type	Sample Date	External Lab Report No.
HK1815072-001	S/N: 366410	AIR	05-Jan-2018	S/N: 366410

Equipment Verification Report (TSP)

Equipment Calibrated:

Type:	Laser Dust monitor
Manufacturer:	Sibata LD-3B
Serial No.	366410
Equipment Ref:	EQ110
Job Order	HK1815072

Standard Equipment:

Standard Equipment:	Higher Volume Sampler
Location & Location ID:	AUES office (calibration room)
Equipment Ref:	HVS 018
Last Calibration Date:	1 December 2017

Equipment Verification Results:

Testing Date: 5 January 2018

Hour	Time	Mean Temp °C	Mean Pressure (hPa)	Concentration in mg/m³ (Standard Equipment)	Total Count (Calibrated Equipment)	Count/Minute (Total Count/60min)
2hr07min	10:27 ~ 12:34	19.3	1015.3	0.011	498	3.9
2hr01min	12:38 ~ 14:39	19.3	1015.3	0.012	571	4.7
2hr08min	14:42 ~ 16:50	19.3	1015.3	0.036	2095	16.4

Sensitivity Adjustment Scale Setting (Before Calibration) 670 (CPM)

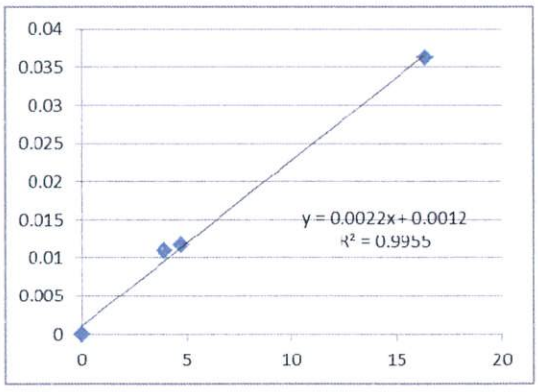
Sensitivity Adjustment Scale Setting (After Calibration) 669 (CPM)

Linear Regression of Y or X

Slope (K-factor): 0.0022

Correlation Coefficient 0.9977

Date of Issue 9 January 2018



Remarks:

1. **Strong** Correlation (R>0.8)
2. Factor 0.0022 should be apply for TSP monitoring

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

Operator : Martin Li Signature : Date : 9 January 2018

QC Reviewer : Ben Tam Signature : Date : 9 January 2018

TSP SAMPLER CALIBRATION CALCULATION SPREADSHEET

Location :	Gold King Industrial Building, Kwai Chung	Date of Calibration:	1-Dec-17
Location ID :	Calibration Room	Next Calibration Date:	1-Mar-18

CONDITIONS

Sea Level Pressure (hPa)	1018.8	Corrected Pressure (mm Hg)	764.1
Temperature (°C)	21.2	Temperature (K)	294

CALIBRATION ORIFICE

Make->	TISCH	Qstd Slope ->	2.11965
Model->	5025A	Qstd Intercept ->	-0.02696
Calibration Date->	28-Feb-17	Expiry Date->	28-Feb-18

CALIBRATION

Plate No.	H20 (L) (in)	H2O (R) (in)	H20 (in)	Qstd (m3/min)	I (chart)	IC corrected	LINEAR REGRESSION
18	6.3	6.3	12.6	1.703	54	54.49	Slope = 31.2239
13	5	5	10.0	1.518	48	48.44	Intercept = 0.7901
10	3.9	3.9	7.8	1.342	42	42.38	Corr. coeff. = 0.9971
8	2.4	2.4	4.8	1.056	32	32.29	
5	1.0	1.0	2.0	0.686	23	23.21	

Calculations :

Qstd = 1/m[Sqrt(H20(Pa/Pstd)(Tstd/Ta))-b]

IC = I[Sqrt(Pa/Pstd)(Tstd/Ta)]

Qstd = standard flow rate

IC = corrected chart respones

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)[Sqrt(298/Tav)(Pav/760)]-b)

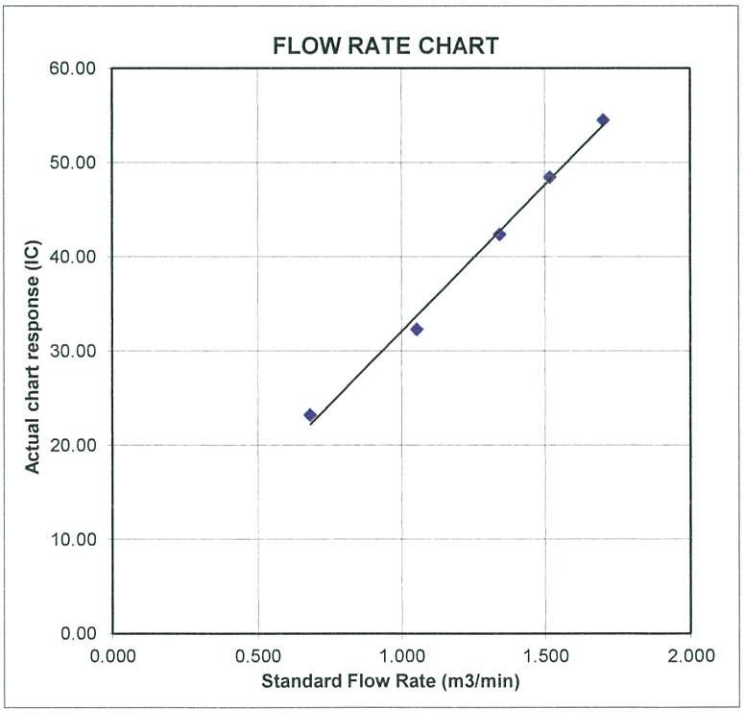
m = sampler slope

b = sampler intercept

I = chart response

Tav = daily average temperature

Pav = daily average pressure



ALS Technichem (HK) Pty Ltd

ALS Laboratory Group

ANALYTICAL CHEMISTRY & TESTING SERVICES

SUB-CONTRACTING REPORT

CONTACT	: MR BEN TAM	WORK ORDER	: **HK1825886**
CLIENT	: ACTION UNITED ENVIRONMENT SERVICES AND CONSULTING		
ADDRESS	: RM A 20/F., GOLD KING IND BLDG, NO. 35-41 TAI LIN PAI ROAD, KWAI CHUNG, N.T. HONG KONG	SUB-BATCH	: 1
		DATE RECEIVED	: 12-APR-2018
		DATE OF ISSUE	: 19-APR-2018
PROJECT	: ITEM B5 (CALIBRATION SERVICE) OF WATER ANALYSIS IN YEAR 2018	NO. OF SAMPLES	: 1
		CLIENT ORDER	:

General Comments

- Sample(s) were received in ambient condition.
- Sample(s) analysed and reported on an as received basis.
- Calibration was subcontracted to and analysed by Action United Enviro Services.

Signatories

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Signatories	*Position*
p.p Richard Fung	General Manager

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WORK ORDER	: HK1825886
SUB-BATCH	: 1
CLIENT	: ACTION UNITED ENVIRONMENT SERVICES AND CONSULTING
PROJECT	: ITEM B5 (CALIBRATION SERVICE) OF WATER ANALYSIS IN YEAR 2018

ALS Lab ID	Client's Sample ID	Sample Type	Sample Date	External Lab Report No.
HK1825886-001	S/N. 366407	Equipments	17-Apr-2018	S/N. 366407

Equipment Verification Report (TSP)

Equipment Calibrated:

Type:	Laser Dust monitor
Manufacturer:	Sibata LD-3B
Serial No.	366407
Equipment Ref:	EQ107
Job Order	HK1825886

Standard Equipment:

Standard Equipment:	Higher Volume Sampler
Location & Location ID:	AUES office (calibration room)
Equipment Ref:	HVS 018
Last Calibration Date:	27 February 2018

Equipment Verification Results:

Testing Date: 12 & 13 March 2018

Hour	Time	Mean Temp °C	Mean Pressure (hPa)	Concentration in mg/m^3 (Standard Equipment)	Total Count (Calibrated Equipment)	Count/Minute (Total Count/60min)
2hr07min	9:50 ~ 11:57	19.6	1019.0	0.073	4126	32.6
2hr14min	12:05 ~ 14:19	19.6	1019.0	0.075	4414	32.8
2hr17min	9:50 ~ 12:07	20.9	1016.7	0.075	4723	34.4

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

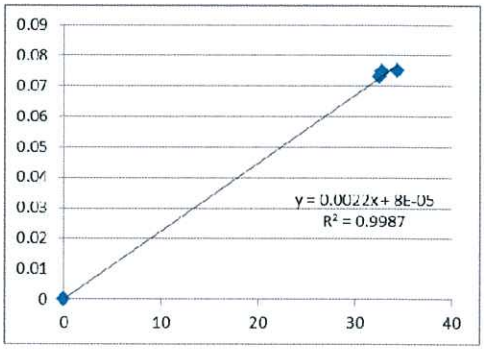
Sensitivity Adjustment Scale Setting (After Calibration) 566 (CPM)

Linear Regression of Y or X

Slope (K-factor): 0.0022

Correlation Coefficient (R) 0.9993

Date of Issue 15 March 2018



Remarks:

1. **Strong** Correlation (R>0.8)
2. Factor 0.0022 should be apply for TSP monitoring

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

Operator : Martin Li Signature : Date : 15 March 2018

QC Reviewer : Ben Tam Signature : Date : 15 March 2018

TSP SAMPLER CALIBRATION CALCULATION SPREADSHEET

Location :	Gold King Industrial Building, Kwai Chung	Date of Calibration:	27-Feb-18
Location ID :	Calibration Room	Next Calibration Date:	27-May-18

CONDITIONS

Sea Level Pressure (hPa)	1017.3	Corrected Pressure (mm Hg)	762.975
Temperature (°C)	19.1	Temperature (K)	292

CALIBRATION ORIFICE

Make->	TISCH	Qstd Slope ->	2.11965
Model->	5025A	Qstd Intercept ->	-0.02696
Calibration Date->	28-Feb-17	Expiry Date->	28-Feb-18

CALIBRATION

Plate No.	H20 (L) (in)	H2O (R) (in)	H20 (in)	Qstd (m3/min)	I (chart)	IC corrected	LINEAR REGRESSION
18	6.2	6.2	12.4	1.694	52	52.63	Slope = 39.8525
13	5.1	5.1	10.2	1.538	46	46.55	Intercept = -14.3322
10	3.9	3.9	7.8	1.346	40	40.48	Corr. coeff. = 0.9974
8	2.6	2.6	5.2	1.101	30	30.36	
5	1.7	1.7	3.4	0.893	20	20.24	

Calculations :

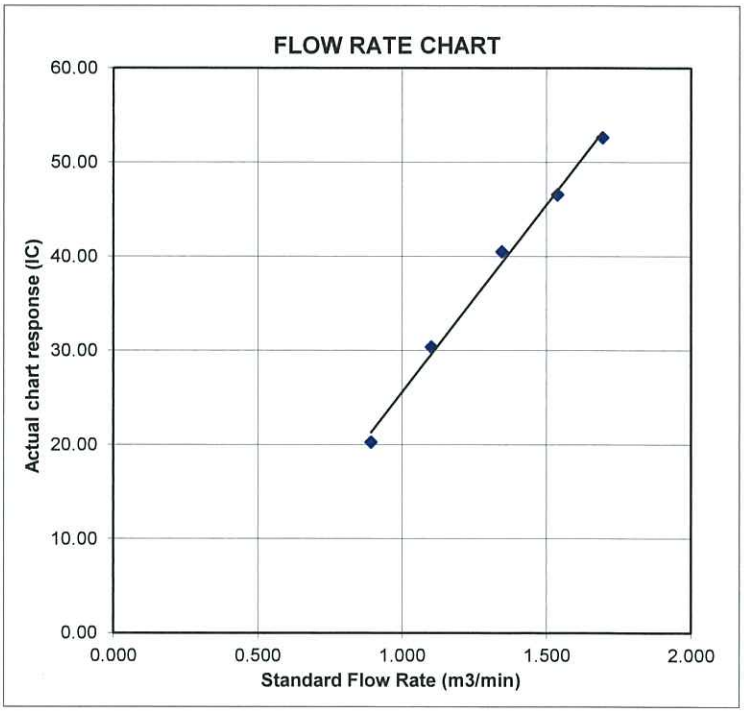
Qstd = 1/m[Sqrt(H20(Pa/Pstd)(Tstd/Ta))-b]
IC = I[Sqrt(Pa/Pstd)(Tstd/Ta)]

Qstd = standard flow rate
IC = corrected chart respones
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)[Sqrt(298/Tav)(Pav/760)]-b)

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



ALS Technichem (HK) Pty Ltd

ALS Laboratory Group
ANALYTICAL CHEMISTRY & TESTING SERVICES

SUB-CONTRACTING REPORT

CONTACT	: MR BEN TAM	WORK ORDER	: **HK1825893**
CLIENT	: ACTION UNITED ENVIRONMENT SERVICES AND CONSULTING		
ADDRESS	: RM A 20/F., GOLD KING IND BLDG, NO. 35-41 TAI LIN PAI ROAD, KWAI CHUNG, N.T. HONG KONG	SUB-BATCH	: 1
		DATE RECEIVED	: 12-APR-2018
		DATE OF ISSUE	: 19-APR-2018
PROJECT	: ----	NO. OF SAMPLES	: 1
		CLIENT ORDER	: ----

General Comments

- Sample(s) were received in ambient condition.
- Sample(s) analysed and reported on an as received basis.
- Calibration was subcontracted to and analysed by Action United Enviro Services.

Signatories

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

Signatories	*Position*
P.p Richard Fung	General Manager

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WORK ORDER	: HK1825893
SUB-BATCH	: 1
CLIENT	: ACTION UNITED ENVIRONMENT SERVICES AND CONSULTING
PROJECT	: ----

ALS Lab ID	Client's Sample ID	Sample Type	Sample Date	External Lab Report No.
HK1825893-001	S/N: 456662	Equipments	17-Apr-2018	S/N: 456662

Equipment Verification Report (TSP)

Equipment Calibrated:

Type:	Laser Dust monitor
Manufacturer:	Sibata LD-3B
Serial No.	456662
Equipment Ref:	EQ118
Job Order	HK1825893

Standard Equipment:

Standard Equipment:	Higher Volume Sampler
Location & Location ID:	AUES office (calibration room)
Equipment Ref:	HVS 018
Last Calibration Date:	27 February 2018

Equipment Verification Results:

Calibration Date: 12 & 13 March 2018

Hour	Time	Mean Temp °C	Mean Pressure (hPa)	Concentration in mg/m^3 (Standard Equipment)	Total Count (Calibrated Equipment)	Count/Minute (Total Count/60min)
2hr07min	9:50 ~ 11:57	19.6	1019.0	0.073	4108	32.4
2hr14min	12:05 ~ 14:19	19.6	1019.0	0.075	4532	33.7
2hr17min	9:50 ~ 12:07	20.9	1016.7	0.075	5016	36.5

Sensitivity Adjustment Scale Setting (Before Calibration) 591 (CPM)

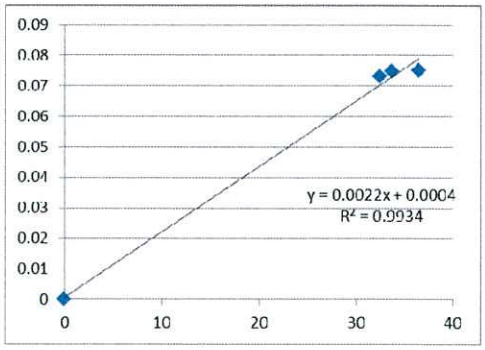
Sensitivity Adjustment Scale Setting (After Calibration) 591 (CPM)

Linear Regression of Y or X

Slope (K-factor): 0.0022

Correlation Coefficient (R) 0.9967

Date of Issue 15 March 2018



Remarks:

1. **Strong** Correlation (R>0.8)
2. Factor 0.0022 should be apply for TSP monitoring

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

Operator : Martin Li Signature : Date : 15 March 2018

QC Reviewer : Ben Tam Signature : Date : 15 March 2018

TSP SAMPLER CALIBRATION CALCULATION SPREADSHEET

Location :	Gold King Industrial Building, Kwai Chung	Date of Calibration:	27-Feb-18
Location ID :	Calibration Room	Next Calibration Date:	27-May-18

CONDITIONS

Sea Level Pressure (hPa)	1017.3	Corrected Pressure (mm Hg)	762.975
Temperature (°C)	19.1	Temperature (K)	292

CALIBRATION ORIFICE

Make->	TISCH	Qstd Slope ->	2.11965
Model->	5025A	Qstd Intercept ->	-0.02696
Calibration Date->	28-Feb-17	Expiry Date->	28-Feb-18

CALIBRATION

Plate No.	H20 (L) (in)	H2O (R) (in)	H20 (in)	Qstd (m3/min)	I (chart)	IC corrected	LINEAR REGRESSION
18	6.2	6.2	12.4	1.694	52	52.63	Slope = 39.8525
13	5.1	5.1	10.2	1.538	46	46.55	Intercept = -14.3322
10	3.9	3.9	7.8	1.346	40	40.48	Corr. coeff. = 0.9974
8	2.6	2.6	5.2	1.101	30	30.36	
5	1.7	1.7	3.4	0.893	20	20.24	

Calculations :

Qstd = 1/m[Sqrt(H20(Pa/Pstd)(Tstd/Ta))-b]

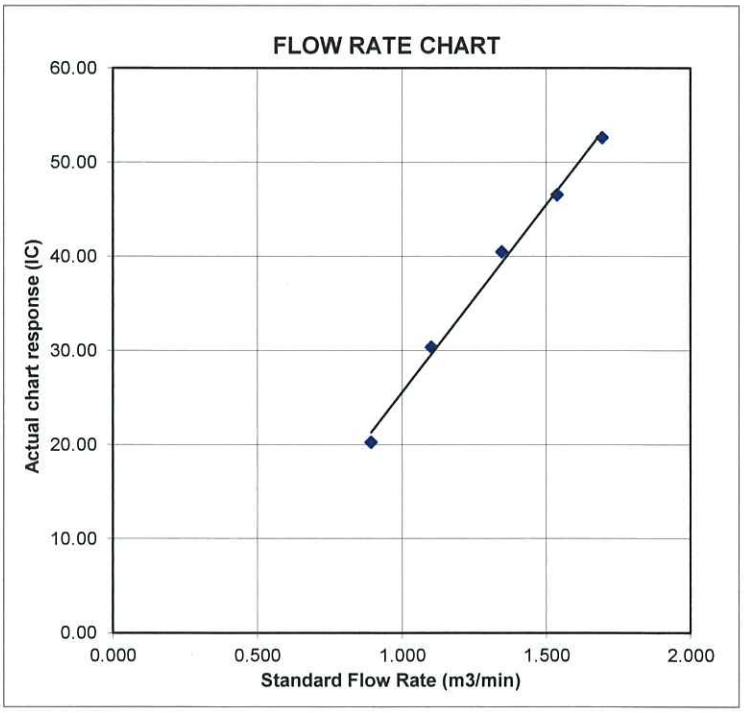
IC = I[Sqrt(Pa/Pstd)(Tstd/Ta)]

Qstd = standard flow rate
IC = corrected chart respones
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)[Sqrt(298/Tav)(Pav/760)]-b)

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



ALS Technichem (HK) Pty Ltd

ALS Laboratory Group
ANALYTICAL CHEMISTRY & TESTING SERVICES

SUB-CONTRACTING REPORT

CONTACT	: MR BEN TAM	WORK ORDER	: **HK1825891**
CLIENT	: ACTION UNITED ENVIRONMENT SERVICES AND CONSULTING		
ADDRESS	: RM A 20/F., GOLD KING IND BLDG, NO. 35-41 TAI LIN PAI ROAD, KWAI CHUNG, N.T. HONG KONG	SUB-BATCH	: 1
		DATE RECEIVED	: 12-APR-2018
		DATE OF ISSUE	: 19-APR-2018
PROJECT	: ----	NO. OF SAMPLES	: 1
		CLIENT ORDER	: ----

General Comments

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- Sample(s) analysed and reported on an as received basis.
- Calibration was subcontracted to and analysed by Action United Enviro Services.

Signatories

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Richard Fung	General Manager

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WORK ORDER	: HK1825891
SUB-BATCH	: 1
CLIENT	: ACTION UNITED ENVIRONMENT SERVICES AND CONSULTING
PROJECT	: ----

ALS Lab ID	Client's Sample ID	Sample Type	Sample Date	External Lab Report No.
HK1825891-001	S/N: 456659	Equipments	12-Apr-2018	S/N: 456659

Equipment Verification Report (TSP)

Equipment Calibrated:

Type:	Laser Dust monitor
Manufacturer:	Sibata LD-3B
Serial No.	456659
Equipment Ref:	EQ116
Job Order	HK1825891

Standard Equipment:

Standard Equipment:	Higher Volume Sampler
Location & Location ID:	AUES office (calibration room)
Equipment Ref:	HVS 018
Last Calibration Date:	27 February 2018

Equipment Verification Results:

Calibration Date: 12 & 13 March 2018

Hour	Time	Mean Temp °C	Mean Pressure (hPa)	Concentration in mg/m^3 (Standard Equipment)	Total Count (Calibrated Equipment)	Count/Minute (Total Count/60min)
2hr07min	9:50 ~ 11:57	19.6	1019.0	0.073	4313	34.1
2hr14min	12:05 ~ 14:19	19.6	1019.0	0.075	4413	32.8
2hr17min	9:50 ~ 12:07	20.9	1016.7	0.075	4906	35.7

Sensitivity Adjustment Scale Setting (Before Calibration) 726 (CPM)

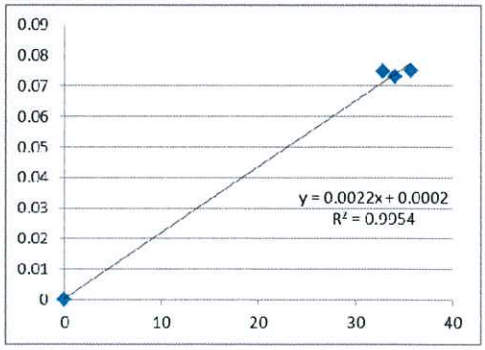
Sensitivity Adjustment Scale Setting (After Calibration) 724 (CPM)

Linear Regression of Y or X

Slope (K-factor): 0.0022

Correlation Coefficient (R) 0.9977

Date of Issue 15 March 2018



Remarks:

1. **Strong** Correlation (R>0.8)
2. Factor 0.0022 should be apply for TSP monitoring

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

Operator : Martin Li Signature : Date : 15 March 2018

QC Reviewer : Ben Tam Signature : Date : 15 March 2018

TSP SAMPLER CALIBRATION CALCULATION SPREADSHEET

Location :	Gold King Industrial Building, Kwai Chung	Date of Calibration:	27-Feb-18
Location ID :	Calibration Room	Next Calibration Date:	27-May-18

CONDITIONS

Sea Level Pressure (hPa)	1017.3	Corrected Pressure (mm Hg)	762.975
Temperature (°C)	19.1	Temperature (K)	292

CALIBRATION ORIFICE

Make->	TISCH	Qstd Slope ->	2.11965
Model->	5025A	Qstd Intercept ->	-0.02696
Calibration Date->	28-Feb-17	Expiry Date->	28-Feb-18

CALIBRATION

Plate No.	H20 (L) (in)	H2O (R) (in)	H20 (in)	Qstd (m3/min)	I (chart)	IC corrected	LINEAR REGRESSION
18	6.2	6.2	12.4	1.694	52	52.63	Slope = 39.8525
13	5.1	5.1	10.2	1.538	46	46.55	Intercept = -14.3322
10	3.9	3.9	7.8	1.346	40	40.48	Corr. coeff. = 0.9974
8	2.6	2.6	5.2	1.101	30	30.36	
5	1.7	1.7	3.4	0.893	20	20.24	

Calculations :

Qstd = 1/m[Sqrt(H20(Pa/Pstd)(Tstd/Ta))-b]

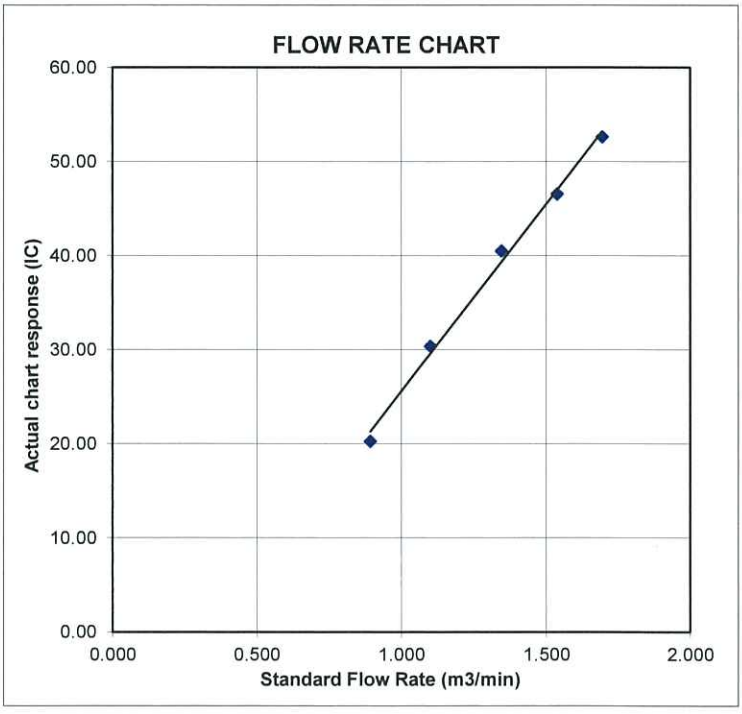
IC = I[Sqrt(Pa/Pstd)(Tstd/Ta)]

Qstd = standard flow rate
IC = corrected chart respones
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)[Sqrt(298/Tav)(Pav/760)]-b)

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



ALS Technichem (HK) Pty Ltd

ALS Laboratory Group
ANALYTICAL CHEMISTRY & TESTING SERVICES

SUB-CONTRACTING REPORT

CONTACT	: MR BEN TAM	WORK ORDER	: **HK1825890**
CLIENT	: ACTION UNITED ENVIRONMENT SERVICES AND CONSULTING		
ADDRESS	: RM A 20/F., GOLD KING IND BLDG, NO. 35-41 TAI LIN PAI ROAD, KWAI CHUNG, N.T. HONG KONG	SUB-BATCH	: 1
		DATE RECEIVED	: 12-APR-2018
		DATE OF ISSUE	: 19-APR-2018
PROJECT	: ----	NO. OF SAMPLES	: 1
		CLIENT ORDER	: ----

General Comments

- Sample(s) were received in ambient condition.
- Sample(s) analysed and reported on an as received basis.
- Calibration was subcontracted to and analysed by Action United Enviro Services.

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WORK ORDER	: HK1825890
SUB-BATCH	: 1
CLIENT	: ACTION UNITED ENVIRONMENT SERVICES AND CONSULTING
PROJECT	: ----

ALS Lab ID	Client's Sample ID	Sample Type	Sample Date	External Lab Report No.
HK1825890-001	S/N: 456658	Equipments	12-Apr-2018	S/N: 456658

Equipment Verification Report (TSP)

Equipment Calibrated:

Type:	Laser Dust monitor
Manufacturer:	Sibata LD-3B
Serial No.	456658
Equipment Ref:	EQ115
Job Order	HK1825890

Standard Equipment:

Standard Equipment:	Higher Volume Sampler
Location & Location ID:	AUES office (calibration room)
Equipment Ref:	HVS 018
Last Calibration Date:	27 February 2018

Equipment Verification Results:

Calibration Date: 12 & 13 March 2018

Hour	Time	Mean Temp °C	Mean Pressure (hPa)	Concentration in mg/m^3 (Standard Equipment)	Total Count (Calibrated Equipment)	Count/Minute (Total Count/60min)
2hr07min	9:50 ~ 11:57	19.6	1019.0	0.073	4333	34.2
2hr14min	12:05 ~ 14:19	19.6	1019.0	0.075	4469	33.3
2hr17min	9:50 ~ 12:07	20.9	1016.7	0.075	4912	35.7

Sensitivity Adjustment Scale Setting (Before Calibration) 705 (CPM)

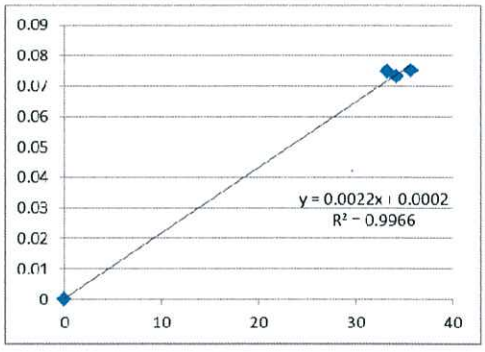
Sensitivity Adjustment Scale Setting (After Calibration) 705 (CPM)

Linear Regression of Y or X

Slope (K-factor): 0.0022

Correlation Coefficient (R) 0.9983

Date of Issue 15 March 2018



Remarks:

1. **Strong** Correlation (R>0.8)
2. Factor 0.0022 should be apply for TSP monitoring

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

Operator : Martin Li Signature : Date : 15 March 2018

QC Reviewer : Ben Tam Signature : Date : 15 March 2018

TSP SAMPLER CALIBRATION CALCULATION SPREADSHEET

Location :	Gold King Industrial Building, Kwai Chung	Date of Calibration:	27-Feb-18
Location ID :	Calibration Room	Next Calibration Date:	27-May-18

CONDITIONS

Sea Level Pressure (hPa)	1017.3	Corrected Pressure (mm Hg)	762.975
Temperature (°C)	19.1	Temperature (K)	292

CALIBRATION ORIFICE

Make->	TISCH	Qstd Slope ->	2.11965
Model->	5025A	Qstd Intercept ->	-0.02696
Calibration Date->	28-Feb-17	Expiry Date->	28-Feb-18

CALIBRATION

Plate No.	H20 (L) (in)	H2O (R) (in)	H20 (in)	Qstd (m3/min)	I (chart)	IC corrected	LINEAR REGRESSION
18	6.2	6.2	12.4	1.694	52	52.63	Slope = 39.8525
13	5.1	5.1	10.2	1.538	46	46.55	Intercept = -14.3322
10	3.9	3.9	7.8	1.346	40	40.48	Corr. coeff. = 0.9974
8	2.6	2.6	5.2	1.101	30	30.36	
5	1.7	1.7	3.4	0.893	20	20.24	

Calculations :

Qstd = 1/m[Sqrt(H20(Pa/Pstd)(Tstd/Ta))-b]

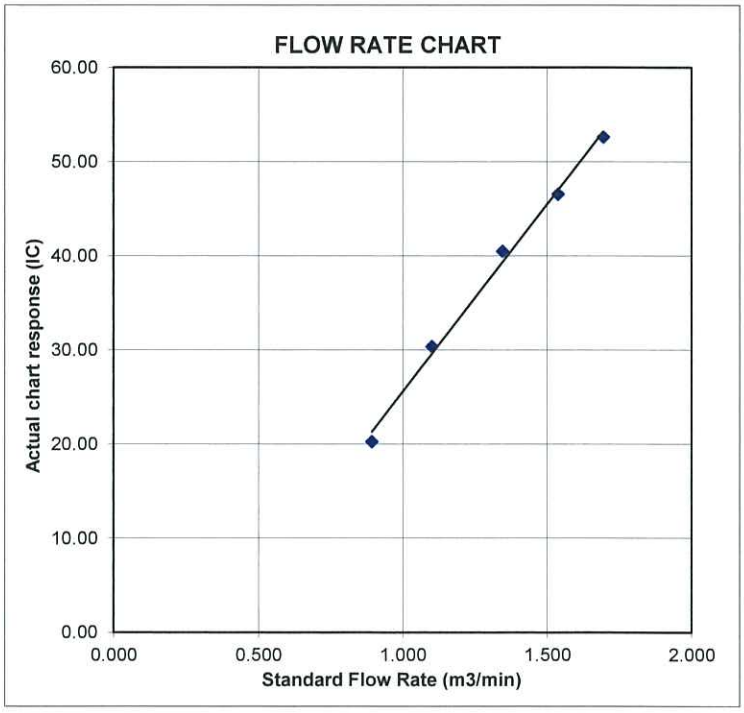
IC = I[Sqrt(Pa/Pstd)(Tstd/Ta)]

Qstd = standard flow rate
IC = corrected chart respones
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)[Sqrt(298/Tav)(Pav/760)]-b)

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



ALS Technichem (HK) Pty Ltd

ALS Laboratory Group

ANALYTICAL CHEMISTRY & TESTING SERVICES

SUB-CONTRACTING REPORT

CONTACT	: MR BEN TAM	WORK ORDER	: **HK1815074**
CLIENT	: ACTION UNITED ENVIRONMENT SERVICES AND CONSULTING		
ADDRESS	: RM A 20/F., GOLD KING IND BLDG, NO. 35-41 TAI LIN PAI ROAD, KWAI CHUNG, N.T. HONG KONG	SUB-BATCH	: 1
		DATE RECEIVED	: 5-JAN-2018
		DATE OF ISSUE	: 5-FEB-2018
PROJECT	: ----	NO. OF SAMPLES	: 1
		CLIENT ORDER	: ----

General Comments

- Sample(s) were received in ambient condition.
- Sample(s) analysed and reported on an as received basis.

Signatories

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

Signatories	*Position*
Richard Fung	General Manager

This is the Final Report and supersedes any preliminary report with this batch number.

Results apply to sample(s) as submitted. All pages of this report have been checked and approved for release.

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WORK ORDER	: HK1815074
SUB-BATCH	: 1
CLIENT	: ACTION UNITED ENVIRONMENT SERVICES AND CONSULTING
PROJECT	: ----

ALS Lab ID	Client's Sample ID	Sample Type	Sample Date	External Lab Report No.
HK1815074-001	S/N: 3Y6505	AIR	05-Jan-2018	S/N: 3Y6505

Equipment Verification Report (TSP)

Equipment Calibrated:

Type:	Laser Dust monitor
Manufacturer:	Sibata LD-3B
Serial No.	3Y6505
Equipment Ref:	EQ114
Job Order	HK1815074

Standard Equipment:

Standard Equipment:	Higher Volume Sampler
Location & Location ID:	AUES office (calibration room)
Equipment Ref:	HVS 018
Last Calibration Date:	1 December 2017

Equipment Verification Results:

Testing Date: 5 January 2018

Hour	Time	Mean Temp °C	Mean Pressure (hPa)	Concentration in mg/m³ (Standard Equipment)	Total Count (Calibrated Equipment)	Count/Minute (Total Count/60min)
2hr07min	10:27 ~ 12:34	19.3	1015.3	0.011	677	5.3
2hr01min	12:38 ~ 14:39	19.3	1015.3	0.012	601	5.0
2hr08min	14:42 ~ 16:50	19.3	1015.3	0.036	2064	16.2

Sensitivity Adjustment Scale Setting (Before Calibration) 591 (CPM)

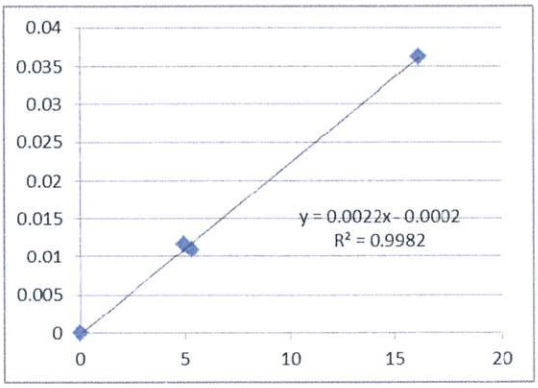
Sensitivity Adjustment Scale Setting (After Calibration) 590 (CPM)

Linear Regression of Y or X

Slope (K-factor): 0.0022

Correlation Coefficient 0.9991

Date of Issue 9 January 2018



Remarks:

1. **Strong** Correlation (R>0.8)
2. Factor 0.0022 should be apply for TSP monitoring

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

Operator : Martin Li Signature : Date : 9 January 2018

QC Reviewer : Ben Tam Signature : Date : 9 January 2018

TSP SAMPLER CALIBRATION CALCULATION SPREADSHEET

Location :	Gold King Industrial Building, Kwai Chung	Date of Calibration:	1-Dec-17
Location ID :	Calibration Room	Next Calibration Date:	1-Mar-18

CONDITIONS

Sea Level Pressure (hPa)	1018.8	Corrected Pressure (mm Hg)	764.1
Temperature (°C)	21.2	Temperature (K)	294

CALIBRATION ORIFICE

Make->	TISCH	Qstd Slope ->	2.11965
Model->	5025A	Qstd Intercept ->	-0.02696
Calibration Date->	28-Feb-17	Expiry Date->	28-Feb-18

CALIBRATION

Plate No.	H20 (L) (in)	H2O (R) (in)	H20 (in)	Qstd (m3/min)	I (chart)	IC corrected	LINEAR REGRESSION
18	6.3	6.3	12.6	1.703	54	54.49	Slope = 31.2239
13	5	5	10.0	1.518	48	48.44	Intercept = 0.7901
10	3.9	3.9	7.8	1.342	42	42.38	Corr. coeff. = 0.9971
8	2.4	2.4	4.8	1.056	32	32.29	
5	1.0	1.0	2.0	0.686	23	23.21	

Calculations :

Qstd = 1/m[Sqrt(H20(Pa/Pstd)(Tstd/Ta))-b]

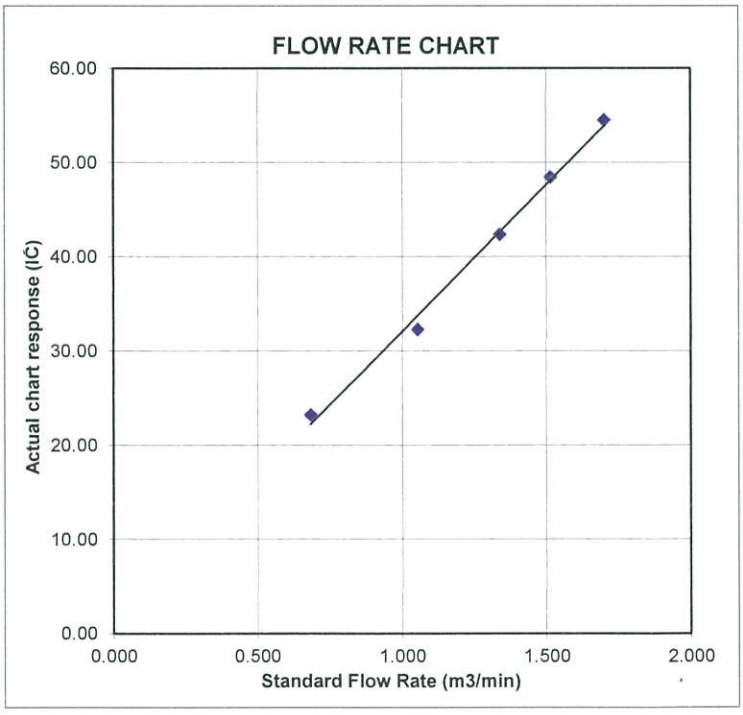
IC = I[Sqrt(Pa/Pstd)(Tstd/Ta)]

Qstd = standard flow rate
IC = corrected chart respones
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)[Sqrt(298/Tav)(Pav/760)]-b)

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



輝創工程有限公司
Sun Creation Engineering Limited
Calibration and Testing Laboratory

Certificate of Calibration
校正證書

Certificate No. : C172795
證書編號

ITEM TESTED / 送檢項目 (Job No. / 序引編號 : IC17-0924) Date of Receipt / 收件日期 : 16 May 2017

Description / 儀器名稱 : Sound Level Meter (EQ068)
Manufacturer / 製造商 : Rion
Model No. / 型號 : NL-31
Serial No. / 編號 : 00410247
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 Relative Humidity / 相對濕度 : (55 ± 20)%
Line Voltage / 電壓 : ---

TEST SPECIFICATIONS / 測試規範

Calibration check

DATE OF TEST / 測試日期 : 23 May 2017

TEST RESULTS / 測試結果

The results apply to the particular unit-under-test only.
The results do not exceed manufacturer's specification.
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
- Agilent Technologies / Keysight Technologies
- Rohde & Schwarz Laboratory, Germany
- Fluke Everett Service Center, USA

Tested By 測試 : H T Wong
Technical Officer

Certified By 核證 : K C Lee
Engineer

Date of Issue 簽發日期 : 24 May 2017

Sun Creation Engineering Limited – Calibration & Testing Laboratory
c/o 4/F, Tsing Shan Wan Exchange Building, 1 Hing On Lane, Tuen Mun, New Territories, Hong Kong
輝創工程有限公司 – 校正及檢測實驗所
c/o 香港新界屯門興安里一號青山灣機樓四樓
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Certificate of Calibration
校正證書

Certificate No. : C172795
證書編號

1. 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.

2. Self-calibration was performed before the test.

3. The results presented are the mean of 3 measurements at each calibration point.

4. Test equipment :

Equipment ID	Description	Certificate No.
CL280	40 MHz Arbitrary Waveform Generator	C170048
CL281	Multifunction Acoustic Calibrator	PA160023

5. Test procedure : MA101N.

6. Results :

6.1 Sound Pressure Level

6.1.1 Reference Sound Pressure Level

UUT Setting				Applied Value		UUT Reading (dB)	IEC 61672 Class 1 Spec. (dB)
Range (dB)	Mode	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)		
30 - 120	L_A	A	Fast	94.00	1	93.6	± 1.1

6.1.2 Linearity

UUT Setting				Applied Value		UUT Reading (dB)
Range (dB)	Mode	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)	
30 - 120	L_A	A	Fast	94.00	1	93.6 (Ref.)
				104.00		103.7
				114.00		113.7

IEC 61672 Class 1 Spec. : ± 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 Spec. (dB)
Range (dB)	Mode	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)		
30 - 120	L_A	A	Fast	94.00	1	93.6	Ref.
			Slow			93.6	± 0.3

Sun Creation Engineering Limited – Calibration & Testing Laboratory
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c/o 香港新界屯門興安里一號青山灣機樓四樓
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Certificate of Calibration
校正證書

Certificate No. : C172795
證書編號

6.3 Frequency Weighting

6.3.1 A-Weighting

UUT Setting				Applied Value		UUT Reading (dB)	IEC 61672 Class 1 Spec. (dB)
Range (dB)	Mode	Frequency Weighting	Time Weighting	Level (dB)	Freq.		
30 - 120	L_A	A	Fast	94.00	63 Hz	67.2	-26.2 ± 1.5
					125 Hz	77.3	-16.1 ± 1.5
					250 Hz	84.8	-8.6 ± 1.4
					500 Hz	90.3	-3.2 ± 1.4
					1 kHz	93.6	Ref.
					2 kHz	94.8	+1.2 ± 1.6
					4 kHz	94.7	+1.0 ± 1.6
					8 kHz	92.6	-1.1 (+2.1 ; -3.1)
					12.5 kHz	89.6	-4.3 (+3.0 ; -6.0)

6.3.2 C-Weighting

UUT Setting				Applied Value		UUT Reading (dB)	IEC 61672 Class 1 Spec. (dB)
Range (dB)	Mode	Frequency Weighting	Time Weighting	Level (dB)	Freq.		
30 - 120	L_C	C	Fast	94.00	63 Hz	92.8	-0.8 ± 1.5
					125 Hz	93.4	-0.2 ± 1.5
					250 Hz	93.5	0.0 ± 1.4
					500 Hz	93.6	0.0 ± 1.4
					1 kHz	93.6	Ref.
					2 kHz	93.5	-0.2 ± 1.6
					4 kHz	92.9	-0.8 ± 1.6
					8 kHz	90.7	-3.0 (+2.1 ; -3.1)
					12.5 kHz	87.8	-6.2 (+3.0 ; -6.0)

Sun Creation Engineering Limited – Calibration & Testing Laboratory
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Certificate of Calibration
校正證書

Certificate No. : C172795
證書編號

Remarks : - UUT Microphone Model No. : UC-53A & S/N : 319841

- Mfr's Spec. : 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
	12.5 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.

Sun Creation Engineering Limited – Calibration & Testing Laboratory
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輝創工程有限公司
Sun Creation Engineering Limited
Calibration and Testing Laboratory

Certificate of Calibration
校正證書

Certificate No. : C174097
證書編號

ITEM TESTED / 送檢項目 (Job No. / 序引編號 : IC17-0924) Date of Receipt / 收件日期 : 14 July 2017

Description / 儀器名稱 : Sound Level Meter
Manufacturer / 製造商 : Rion
Model No. / 型號 : NL-52
Serial No. / 編號 : 00464681
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 Relative Humidity / 相對濕度 : (55 ± 20)%
Line Voltage / 電壓 : ---

TEST SPECIFICATIONS / 測試規範

Calibration check

DATE OF TEST / 測試日期 : 22 July 2017

TEST RESULTS / 測試結果

The results apply to the particular unit-under-test only.
The results do not exceed manufacturer's specification.
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
- Agilent Technologies / Keysight Technologies
- Rohde & Schwarz Laboratory, Germany
- Fluke Everett Service Center, USA

Tested By 測試 : H T Wong
Technical Officer

Certified By 核證 : K C Lee
Engineer

Date of Issue 簽發日期 : 25 July 2017

Sun Creation Engineering Limited – Calibration & Testing Laboratory
c/o 4/F, Tsing Shan Wan Exchange Building, 1 Hing On Lane, Tuen Mun, New Territories, Hong Kong
輝創工程有限公司 – 校正及檢測實驗所
c/o 香港新界屯門興安里一號青山灣機樓四樓
Tel/電話: 2927 2606 Fax/傳真: 2744 8986 E-mail/電郵: callab@suncreation.com Website/網址: www.suncreation.com

Certificate of Calibration
校正證書

Certificate No. : C174097
證書編號

1. 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.

2. Self-calibration was performed before the test.

3. The results presented are the mean of 3 measurements at each calibration point.

4. Test equipment :

Equipment ID	Description	Certificate No.
CL280	40 MHz Arbitrary Waveform Generator	C170048
CL281	Multifunction Acoustic Calibrator	PA160023

5. Test procedure : MA101N.

6. Results :

6.1 Sound Pressure Level

6.1.1 Reference Sound Pressure Level

UUT Setting				Applied Value		UUT Reading (dB)	IEC 61672 Class 1 Spec. (dB)
Range (dB)	Function	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)		
30 - 130	L_A	A	Fast	94.00	1	93.7	± 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_A	A	Fast	94.00	1	93.7 (Ref.)
				104.00		103.7
				114.00		113.7

IEC 61672 Class 1 Spec. : ± 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 Spec. (dB)
Range (dB)	Function	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)		
30 - 130	L_A	A	Fast	94.00	1	93.7	Ref.
			Slow			93.7	± 0.3

Sun Creation Engineering Limited – Calibration & Testing Laboratory
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Certificate of Calibration
校正證書

Certificate No. : C174097
證書編號

6.3 Frequency Weighting

6.3.1 A-Weighting

UUT Setting				Applied Value		UUT Reading (dB)	IEC 61672 Class 1 Spec. (dB)
Range (dB)	Function	Frequency Weighting	Time Weighting	Level (dB)	Freq.		
30 - 130	L_A	A	Fast	94.00	63 Hz	67.4	-26.2 ± 1.5
					125 Hz	77.5	-16.1 ± 1.5
					250 Hz	85.0	-8.6 ± 1.4
					500 Hz	90.4	-3.2 ± 1.4
					1 kHz	93.7	Ref.
					2 kHz	94.9	+1.2 ± 1.6
					4 kHz	94.7	+1.0 ± 1.6
					8 kHz	92.6	-1.1 (+2.1 ; -3.1)
					12.5 kHz	89.2	-4.3 (+3.0 ; -6.0)

6.3.2 C-Weighting

UUT Setting				Applied Value		UUT Reading (dB)	IEC 61672 Class 1 Spec. (dB)
Range (dB)	Function	Frequency Weighting	Time Weighting	Level (dB)	Freq.		
30 - 130	L_C	C	Fast	94.00	63 Hz	92.8	-0.8 ± 1.5
					125 Hz	93.5	-0.2 ± 1.5
					250 Hz	93.7	0.0 ± 1.4
					500 Hz	93.7	0.0 ± 1.4
					1 kHz	93.7	Ref.
					2 kHz	93.5	-0.2 ± 1.6
					4 kHz	92.9	-0.8 ± 1.6
					8 kHz	90.7	-3.0 (+2.1 ; -3.1)
					12.5 kHz	87.3	-6.2 (+3.0 ; -6.0)

Certificate of Calibration
校正證書

Certificate No. : C174097
證書編號

Remarks : - UUT Microphone Model No. : UC-59 & S/N : 07619

- Mfr's Spec. : 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
	12.5 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.

Sun Creation Engineering Limited – Calibration & Testing Laboratory
c/o 4/F, Tsing Shan Wan Exchange Building, 1 Hing On Lane, Tuen Mun, New Territories, Hong Kong
輝創工程有限公司 – 校正及檢測實驗所
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輝創工程有限公司
Sun Creation Engineering Limited
Calibration and Testing Laboratory

Certificate of Calibration
校正證書

Certificate No. : C173481
證書編號

ITEM TESTED / 送檢項目 (Job No. / 序引編號 : IC17-0924) Date of Receipt / 收件日期 : 20 June 2017

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 ± 2)°C Relative Humidity / 相對濕度 : (55 ± 20)%
Line Voltage / 電壓 : ---

TEST SPECIFICATIONS / 測試規範

Calibration check

DATE OF TEST / 測試日期 : 28 June 2017

TEST RESULTS / 測試結果

The results apply to the particular unit-under-test only.
The results do not exceed manufacturer's specification.
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
- Agilent Technologies / Keysight Technologies
- Rohde & Schwarz Laboratory, Germany
- Fluke Everett Service Center, USA

Tested By 測試 : H T Wong, Technical Officer

Certified By 核證 : K C Lee, Engineer

Date of Issue 簽發日期 : 29 June 2017

Sun Creation Engineering Limited – Calibration & Testing Laboratory
c/o 4/F, Tsing Shan Wan Exchange Building, 1 Hing On Lane, Tuen Mun, New Territories, Hong Kong
輝創工程有限公司 – 校正及檢測實驗所
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Certificate of Calibration
校正證書

Certificate No. : C173481
證書編號

1. 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.

2. Self-calibration was performed before the test.

3. The results presented are the mean of 3 measurements at each calibration point.

4. Test equipment :

Equipment ID	Description	Certificate No.
CL280	40 MHz Arbitrary Waveform Generator	C170048
CL281	Multifunction Acoustic Calibrator	PA160023

5. Test procedure : MA101N.

6. Results :

6.1 Sound Pressure Level

6.1.1 Reference Sound Pressure Level

UUT Setting				Applied Value		UUT Reading (dB)	IEC 61672 Class 1 Spec. (dB)
Range (dB)	Function	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)		
30 - 130	L_A	A	Fast	94.00	1	94.2	± 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_A	A	Fast	94.00	1	94.2 (Ref.)
				104.00		104.3
				114.00		114.2

IEC 61672 Class 1 Spec. : ± 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 Spec. (dB)
Range (dB)	Function	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)		
30 - 130	L_A	A	Fast	94.00	1	94.2	Ref.
			Slow			94.2	± 0.3

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Certificate of Calibration
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Certificate No. : C173481
證書編號

6.3 Frequency Weighting

6.3.1 A-Weighting

UUT Setting				Applied Value		UUT Reading (dB)	IEC 61672 Class 1 Spec. (dB)
Range (dB)	Function	Frequency Weighting	Time Weighting	Level (dB)	Freq.		
30 - 130	L_A	A	Fast	94.00	63 Hz	68.0	-26.2 ± 1.5
					125 Hz	78.0	-16.1 ± 1.5
					250 Hz	85.5	-8.6 ± 1.4
					500 Hz	90.9	-3.2 ± 1.4
					1 kHz	94.2	Ref.
					2 kHz	95.4	+1.2 ± 1.6
					4 kHz	95.2	+1.0 ± 1.6
					8 kHz	93.2	-1.1 (+2.1 ; -3.1)
					12.5 kHz	89.8	-4.3 (+3.0 ; -6.0)

6.3.2 C-Weighting

UUT Setting				Applied Value		UUT Reading (dB)	IEC 61672 Class 1 Spec. (dB)
Range (dB)	Function	Frequency Weighting	Time Weighting	Level (dB)	Freq.		
30 - 130	L_C	C	Fast	94.00	63 Hz	93.3	-0.8 ± 1.5
					125 Hz	94.0	-0.2 ± 1.5
					250 Hz	94.2	0.0 ± 1.4
					500 Hz	94.2	0.0 ± 1.4
					1 kHz	94.2	Ref.
					2 kHz	94.0	-0.2 ± 1.6
					4 kHz	93.4	-0.8 ± 1.6
					8 kHz	91.3	-3.0 (+2.1 ; -3.1)
					12.5 kHz	87.8	-6.2 (+3.0 ; -6.0)

Remarks : - UUT Microphone Model No. : UC-59 & S/N : 10042

- Mfr's Spec. : 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
	12.5 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.

Sun Creation Engineering Limited – Calibration & Testing Laboratory
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輝創工程有限公司 – 校正及檢測實驗所
c/o 香港新界屯門興安里一號青山灣機樓四樓
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輝創工程有限公司
Sun Creation Engineering Limited
Calibration and Testing Laboratory

Certificate of Calibration
校正證書

Certificate No. : C172793
證書編號

ITEM TESTED / 送檢項目 (Job No. / 序引編號 : IC17-0924) Date of Receipt / 收件日期 : 16 May 2017

Description / 儀器名稱 : Sound Level Meter (EQ011)
Manufacturer / 製造商 : Rion
Model No. / 型號 : NL-52
Serial No. / 編號 : 01121362
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 Relative Humidity / 相對濕度 : (55 ± 20)%
Line Voltage / 電壓 : ---

TEST SPECIFICATIONS / 測試規範

Calibration check

DATE OF TEST / 測試日期 : 23 May 2017

TEST RESULTS / 測試結果

The results apply to the particular unit-under-test only.
The results do not exceed manufacturer's specification.
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
- Agilent Technologies / Keysight Technologies
- Rohde & Schwarz Laboratory, Germany
- Fluke Everett Service Center, USA

Tested By 測試 : H T Wong
Technical Officer

Certified By 核證 : K C Lee
Engineer

Date of Issue 簽發日期 : 24 May 2017

Sun Creation Engineering Limited – Calibration & Testing Laboratory
c/o 4/F, Tsing Shan Wan Exchange Building, 1 Hing On Lane, Tuen Mun, New Territories, Hong Kong
輝創工程有限公司 – 校正及檢測實驗所
c/o 香港新界屯門興安里一號青山灣機樓四樓
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Certificate of Calibration
校正證書

Certificate No. : C172793
證書編號

1. 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.

2. Self-calibration was performed before the test.

3. The results presented are the mean of 3 measurements at each calibration point.

4. Test equipment :

Equipment ID	Description	Certificate No.
CL280	40 MHz Arbitrary Waveform Generator	C170048
CL281	Multifunction Acoustic Calibrator	PA160023

5. Test procedure : MA101N.

6. Results :

6.1 Sound Pressure Level

6.1.1 Reference Sound Pressure Level

UUT Setting				Applied Value		UUT Reading (dB)	IEC 61672 Class 1 Spec. (dB)
Range (dB)	Function	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)		
30 - 130	L_A	A	Fast	94.00	1	93.2	± 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_A	A	Fast	94.00	1	93.2 (Ref.)
				104.00		103.2
				114.00		113.2

IEC 61672 Class 1 Spec. : ± 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 Spec. (dB)
Range (dB)	Function	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)		
30 - 130	L_A	A	Fast	94.00	1	93.2	Ref.
			Slow			93.2	± 0.3

Certificate of Calibration
校正證書

Certificate No. : C172793
證書編號

6.3 Frequency Weighting

6.3.1 A-Weighting

UUT Setting				Applied Value		UUT Reading (dB)	IEC 61672 Class 1 Spec. (dB)
Range (dB)	Function	Frequency Weighting	Time Weighting	Level (dB)	Freq.		
30 - 130	L_A	A	Fast	94.00	63 Hz	66.9	-26.2 ± 1.5
					125 Hz	76.9	-16.1 ± 1.5
					250 Hz	84.5	-8.6 ± 1.4
					500 Hz	89.9	-3.2 ± 1.4
					1 kHz	93.2	Ref.
					2 kHz	94.4	+1.2 ± 1.6
					4 kHz	94.2	+1.0 ± 1.6
					8 kHz	92.1	-1.1 (+2.1 ; -3.1)
					12.5 kHz	88.7	-4.3 (+3.0 ; -6.0)

6.3.2 C-Weighting

UUT Setting				Applied Value		UUT Reading (dB)	IEC 61672 Class 1 Spec. (dB)
Range (dB)	Function	Frequency Weighting	Time Weighting	Level (dB)	Freq.		
30 - 130	L_C	C	Fast	94.00	63 Hz	92.3	-0.8 ± 1.5
					125 Hz	93.0	-0.2 ± 1.5
					250 Hz	93.2	0.0 ± 1.4
					500 Hz	93.2	0.0 ± 1.4
					1 kHz	93.2	Ref.
					2 kHz	93.0	-0.2 ± 1.6
					4 kHz	92.4	-0.8 ± 1.6
					8 kHz	90.2	-3.0 (+2.1 ; -3.1)
					12.5 kHz	86.8	-6.2 (+3.0 ; -6.0)

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Certificate of Calibration
校正證書

Certificate No. : C172793
證書編號

Remarks : - UUT Microphone Model No. : UC-59 & S/N : 07549

- Mfr's Spec. : 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
	12.5 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.

Sun Creation Engineering Limited – Calibration & Testing Laboratory
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輝創工程有限公司
Sun Creation Engineering Limited
Calibration and Testing Laboratory

Certificate of Calibration
校正證書

Certificate No. : C173482
證書編號

ITEM TESTED / 送檢項目 (Job No. / 序引編號 : IC17-0924) Date of Receipt / 收件日期 : 20 June 2017

Description / 儀器名稱	:	Integrating Sound Level Meter (EQ009)
Manufacturer / 製造商	:	Brüel & Kjær
Model No. / 型號	:	2238
Serial No. / 編號	:	2285722
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 Relative Humidity / 相對濕度 : (55 ± 20)%
Line Voltage / 電壓 : ---

TEST SPECIFICATIONS / 測試規範

Calibration check

DATE OF TEST / 測試日期 : 28 June 2017

TEST RESULTS / 測試結果

The results apply to the particular unit-under-test only.
The results do not exceed manufacturer's specification.
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
- Agilent Technologies / Keysight Technologies
- Rohde & Schwarz Laboratory, Germany
- Fluke Everett Service Center, USA

Tested By 測試 : H T Wong, Technical Officer

Certified By 核證 : K C Lee, Engineer

Date of Issue 簽發日期 : 29 June 2017

Sun Creation Engineering Limited – Calibration & Testing Laboratory
c/o 4/F, Tsing Shan Wan Exchange Building, 1 Hing On Lane, Tuen Mun, New Territories, Hong Kong
輝創工程有限公司 – 校正及檢測實驗所
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Certificate of Calibration
校正證書

Certificate No. : C173482
證書編號

1. 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.

2. Self-calibration using laboratory acoustic calibrator was performed before the test from 6.1.1.2 to 6.4.

3. The results presented are the mean of 3 measurements at each calibration point.

4. Test equipment :

Equipment ID	Description	Certificate No.
CL280	40 MHz Arbitrary Waveform Generator	C170048
CL281	Multifunction Acoustic Calibrator	PA160023

5. Test procedure : MA101N.

6. Results :

6.1 Sound Pressure Level

6.1.1 Reference Sound Pressure Level

6.1.1.1 Before Self-calibration

UUT Setting				Applied Value		UUT Reading (dB)
Range (dB)	Parameter	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)	
50 - 130	L_{AFP}	A	F	94.00	1	94.2

6.1.1.2 After Self-calibration

UUT Setting				Applied Value		UUT Reading (dB)	IEC 60651 Type 1 Spec. (dB)
Range (dB)	Parameter	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)		
50 - 130	L_{AFP}	A	F	94.00	1	94.0	± 0.7

6.1.2 Linearity

UUT Setting				Applied Value		UUT Reading (dB)
Range (dB)	Parameter	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)	
50 - 130	L_{AFP}	A	F	94.00	1	94.0 (Ref.)
				104.00		104.0
				114.00		114.0

IEC 60651 Type 1 Spec. : ± 0.4 dB per 10 dB step and ± 0.7 dB for overall different.

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Certificate No. : C173482
證書編號

6.2 Time Weighting

6.2.1 Continuous Signal

UUT Setting				Applied Value		UUT Reading (dB)	IEC 60651 Type 1 Spec. (dB)
Range (dB)	Parameter	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)		
50 - 130	L_{AFP}	A	F	94.00	1	94.0	Ref.
	L_{ASP}		S			94.0	± 0.1
	L_{AIP}		I			94.1	± 0.1

6.2.2 Tone Burst Signal (2 kHz)

UUT Setting				Applied Value		UUT Reading (dB)	IEC 60651 Type 1 Spec. (dB)
Range (dB)	Parameter	Frequency Weighting	Time Weighting	Level (dB)	Burst Duration		
30 - 110	L_{AFP}	A	F	106.0	Continuous	106.0	Ref.
	L_{AFMax}				200 ms	105.0	-1.0 ± 1.0
	L_{ASP}		S		Continuous	106.0	Ref.
	L_{ASMax}				500 ms	102.0	-4.1 ± 1.0

6.3 Frequency Weighting

6.3.1 A-Weighting

UUT Setting				Applied Value		UUT Reading (dB)	IEC 60651 Type 1 Spec. (dB)
Range (dB)	Parameter	Frequency Weighting	Time Weighting	Level (dB)	Freq.		
50 - 130	L_{AFP}	A	F	94.00	31.5 Hz	54.5	-39.4 ± 1.5
					63 Hz	67.8	-26.2 ± 1.5
					125 Hz	77.8	-16.1 ± 1.0
					250 Hz	85.3	-8.6 ± 1.0
					500 Hz	90.7	-3.2 ± 1.0
					1 kHz	94.0	Ref.
					2 kHz	95.2	+1.2 ± 1.0
					4 kHz	95.0	+1.0 ± 1.0
					8 kHz	92.8	-1.1 (+1.5 ; -3.0)
					12.5 kHz	89.7	-4.3 (+3.0 ; -6.0)

Certificate of Calibration
校正證書

Certificate No. : C173482
證書編號

6.3.2 C-Weighting

UUT Setting				Applied Value		UUT Reading (dB)	IEC 60651 Type 1 Spec. (dB)
Range (dB)	Parameter	Frequency Weighting	Time Weighting	Level (dB)	Freq.		
50 - 130	L_{CFP}	C	F	94.00	31.5 Hz	90.9	-3.0 ± 1.5
					63 Hz	93.1	-0.8 ± 1.5
					125 Hz	93.8	-0.2 ± 1.0
					250 Hz	93.9	0.0 ± 1.0
					500 Hz	94.0	0.0 ± 1.0
					1 kHz	94.0	Ref.
					2 kHz	93.8	-0.2 ± 1.0
					4 kHz	93.1	-0.8 ± 1.0
					8 kHz	90.9	-3.0 (+1.5 ; -3.0)
					12.5 kHz	87.7	-6.2 (+3.0 ; -6.0)

6.4 Time Averaging

UUT Setting				Applied Value					UUT Reading (dB)	IEC 60804 Type 1 Spec. (dB)
Range (dB)	Parameter	Frequency Weighting	Integrating Time	Frequency (kHz)	Burst Duration (ms)	Burst Duty Factor	Burst Level (dB)	Equivalent Level (dB)		
30 - 110	L_{Aeq}	A	10 sec.	4	1	1/10	110.0	100	99.9	± 0.5
						$1/10^2$		90	89.7	± 0.5
			60 sec.			$1/10^3$		80	79.2	± 1.0
			5 min.			$1/10^4$		70	69.2	± 1.0

Remarks : - UUT Microphone Model No. : 4188 & S/N : 2812707

- Mfr's Spec. : IEC 60651 Type 1 & IEC 60804 Type 1

- Uncertainties of Applied Value :

94 dB	: 31.5 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
	12.5 kHz	: ± 0.70 dB
104 dB	: 1 kHz	: ± 0.10 dB (Ref. 94 dB)
114 dB	: 1 kHz	: ± 0.10 dB (Ref. 94 dB)
Burst equivalent level		: ± 0.2 dB (Ref. 110 dB continuous sound level)

- 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.

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Sun Creation Engineering Limited
Calibration and Testing Laboratory

Certificate of Calibration
校正證書

Certificate No. : C172792
證書編號

ITEM TESTED / 送檢項目 (Job No. / 序引編號 : IC17-0924) Date of Receipt / 收件日期 : 16 May 2017

Description / 儀器名稱 : Acoustical Calibrator (EQ081)
Manufacturer / 製造商 : Brüel & Kjær
Model No. / 型號 : 4231
Serial No. / 編號 : 2326408
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
Relative Humidity / 相對濕度 : (55 ± 20)%
Line Voltage / 電壓 : ---

TEST SPECIFICATIONS / 測試規範

Calibration check

DATE OF TEST / 測試日期 : 23 May 2017

TEST RESULTS / 測試結果

The results apply to the particular unit-under-test only.
The results do not exceed manufacturer's specification.
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
- Agilent Technologies / Keysight Technologies
- Rohde & Schwarz Laboratory, Germany
- Fluke Everett Service Center, USA

Tested By 測試 : H T Wong, Technical Officer

Certified By 核證 : K C Lee, Engineer

Date of Issue 簽發日期 : 24 May 2017

Sun Creation Engineering Limited – Calibration & Testing Laboratory
c/o 4/F, Tsing Shan Wan Exchange Building, 1 Hing On Lane, Tuen Mun, New Territories, Hong Kong
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Tel/電話: 2927 2606 Fax/傳真: 2744 8986 E-mail/電郵: callab@suncreation.com Website/網址: www.suncreation.com

Certificate of Calibration
校正證書

Certificate No. : C172792
證書編號

1. The unit-under-test (UUT) was allowed to stabilize in the laboratory for over 12 hours before the commencement of the test.

2. The results presented are the mean of 3 measurements at each calibration point.

3. Test equipment :

Equipment ID	Description	Certificate No.
CL130	Universal Counter	C163709
CL281	Multifunction Acoustic Calibrator	PA160023
TST150A	Measuring Amplifier	C161175

4. Test procedure : MA100N.

5. Results :

5.1 Sound Level Accuracy

UUT Nominal Value	Measured Value (dB)	Mfr's Spec. (dB)	Uncertainty of Measured Value (dB)
94 dB, 1 kHz	94.0	± 0.2	± 0.2
114 dB, 1 kHz	114.0		

5.2 Frequency Accuracy

UUT Nominal Value (kHz)	Measured Value (kHz)	Mfr's Spec.	Uncertainty of Measured Value (Hz)
1	1.000 0	1 kHz ± 0.1 %	± 0.1

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.

Sun Creation Engineering Limited – Calibration & Testing Laboratory
c/o 4/F, Tsing Shan Wan Exchange Building, 1 Hing On Lane, Tuen Mun, New Territories, Hong Kong
輝創工程有限公司 – 校正及檢測實驗所
c/o 香港新界屯門興安里一號青山灣機樓四樓
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輝創工程有限公司
Sun Creation Engineering Limited
Calibration and Testing Laboratory

Certificate of Calibration
校正證書

Certificate No. : C174095
證書編號

ITEM TESTED / 送檢項目 (Job No. / 序引編號 : IC17-0924) Date of Receipt / 收件日期 : 14 July 2017

Description / 儀器名稱 : Sound Calibrator
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 Relative Humidity / 相對濕度 : (55 ± 20)%
Line Voltage / 電壓 : ---

TEST SPECIFICATIONS / 測試規範

Calibration check

DATE OF TEST / 測試日期 : 22 July 2017

TEST RESULTS / 測試結果

The results apply to the particular unit-under-test only.
The results do not exceed manufacturer's specification.
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
- Agilent Technologies / Keysight Technologies
- Rohde & Schwarz Laboratory, Germany
- Fluke Everett Service Center, USA

Tested By 測試 : H T Wong
Technical Officer

Certified By 核證 : K C Lee
Engineer

Date of Issue 簽發日期 : 25 July 2017

Sun Creation Engineering Limited - Calibration & Testing Laboratory
c/o 4/F, Tsing Shan Wan Exchange Building, 1 Hing On Lane, Tuen Mun, New Territories, Hong Kong
輝創工程有限公司 - 校正及檢測實驗所
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Certificate of Calibration
校正證書

Certificate No. : C174095
證書編號

1. The unit-under-test (UUT) was allowed to stabilize in the laboratory for over 12 hours before the commencement of the test.

2. The results presented are the mean of 3 measurements at each calibration point.

3. Test equipment :

Equipment ID	Description	Certificate No.
CL130	Universal Counter	C173864
CL281	Multifunction Acoustic Calibrator	PA160023
TST150A	Measuring Amplifier	C161175

4. Test procedure : MA100N.

5. Results :

5.1 Sound Level Accuracy

UUT Nominal Value	Measured Value (dB)	Mfr's Spec. (dB)	Uncertainty of Measured Value (dB)
94 dB, 1 kHz	94.1	± 0.3	± 0.2

5.2 Frequency Accuracy

UUT Nominal Value (kHz)	Measured Value (kHz)	Mfr's Spec.	Uncertainty of Measured Value (Hz)
1	1.001	1 kHz ± 1 %	± 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.

Sun Creation Engineering Limited – Calibration & Testing Laboratory
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c/o 香港新界屯門興安里一號青山灣機樓四樓
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輝創工程有限公司
Sun Creation Engineering Limited
Calibration and Testing Laboratory

Certificate of Calibration
校正證書

Certificate No. : C173479
證書編號

ITEM TESTED / 送檢項目 (Job No. / 序引編號 : IC17-0924) Date of Receipt / 收件日期 : 20 June 2017

Description / 儀器名稱	:	Sound Calibrator (EQ086)
Manufacturer / 製造商	:	Rion
Model No. / 型號	:	NC-74
Serial No. / 編號	:	34657230
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 Relative Humidity / 相對濕度 : (55 ± 20)%
Line Voltage / 電壓 : ---

TEST SPECIFICATIONS / 測試規範

Calibration check

DATE OF TEST / 測試日期 : 28 June 2017

TEST RESULTS / 測試結果

The results apply to the particular unit-under-test only.
The results do not exceed manufacturer's specification.
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
- Agilent Technologies / Keysight Technologies
- Rohde & Schwarz Laboratory, Germany
- Fluke Everett Service Center, USA

Tested By 測試 : H T Wong, Technical Officer

Certified By 核證 : K C Lee, Engineer

Date of Issue 簽發日期 : 30 June 2017

Sun Creation Engineering Limited – Calibration & Testing Laboratory
c/o 4/F, Tsing Shan Wan Exchange Building, 1 Hing On Lane, Tuen Mun, New Territories, Hong Kong
輝創工程有限公司 – 校正及檢測實驗所
c/o 香港新界屯門興安里一號青山灣機樓四樓
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輝創工程有限公司
Sun Creation Engineering Limited
Calibration and Testing Laboratory

Certificate of Calibration
校正證書

Certificate No. : C173479
證書編號

1. The unit-under-test (UUT) was allowed to stabilize in the laboratory for over 12 hours before the commencement of the test.

2. The results presented are the mean of 3 measurements at each calibration point.

3. Test equipment :

Equipment ID	Description	Certificate No.
CL130	Universal Counter	C163709
CL281	Multifunction Acoustic Calibrator	PA160023
TST150A	Measuring Amplifier	C161175

4. Test procedure : MA100N.

5. Results :

5.1 Sound Level Accuracy

UUT Nominal Value	Measured Value (dB)	Mfr's Spec. (dB)	Uncertainty of Measured Value (dB)
94 dB, 1 kHz	94.1	± 0.3	± 0.2

5.2 Frequency Accuracy

UUT Nominal Value (kHz)	Measured Value (kHz)	Mfr's Spec.	Uncertainty of Measured Value (Hz)
1	1.002	1 kHz ± 1 %	± 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.

Sun Creation Engineering Limited – Calibration & Testing Laboratory
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輝創工程有限公司
Sun Creation Engineering Limited
Calibration and Testing Laboratory

Certificate of Calibration
校正證書

Certificate No. : C174094
證書編號

ITEM TESTED / 送檢項目 (Job No. / 序引編號 : IC17-0924) Date of Receipt / 收件日期 : 14 July 2017

Description / 儀器名稱 : Sound Level Calibrator (EQ085)
Manufacturer / 製造商 : Rion
Model No. / 型號 : NC-73
Serial No. / 編號 : 10655561
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 Relative Humidity / 相對濕度 : (55 ± 20)%
Line Voltage / 電壓 : ---

TEST SPECIFICATIONS / 測試規範

Calibration check

DATE OF TEST / 測試日期 : 22 July 2017

TEST RESULTS / 測試結果

The results apply to the particular unit-under-test only.
The results do not exceed manufacturer's specification & user's specified acceptance criteria.
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
- Agilent Technologies / Keysight Technologies
- Rohde & Schwarz Laboratory, Germany
- Fluke Everett Service Center, USA

Tested By 測試 : H T Wong
Technical Officer

Certified By 核證 : K C Lee
Engineer

Date of Issue 簽發日期 : 25 July 2017

Sun Creation Engineering Limited – Calibration & Testing Laboratory
c/o 4/F, Tsing Shan Wan Exchange Building, 1 Hing On Lane, Tuen Mun, New Territories, Hong Kong
輝創工程有限公司 – 校正及檢測實驗所
c/o 香港新界屯門興安里一號青山灣機樓四樓
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輝創工程有限公司
Sun Creation Engineering Limited
Calibration and Testing Laboratory

Certificate of Calibration
校正證書

Certificate No. : C174094
證書編號

1. The unit-under-test (UUT) was allowed to stabilize in the laboratory for over 12 hours before the commencement of the test.

2. The results presented are the mean of 3 measurements at each calibration point.

3. Test equipment :

Equipment ID	Description	Certificate No.
CL130	Universal Counter	C173864
CL281	Multifunction Acoustic Calibrator	PA160023
TST150A	Measuring Amplifier	C161175

4. Test procedure : MA100N.

5. Results :

5.1 Sound Level Accuracy

UUT Nominal Value	Measured Value (dB)	Mfr's Spec. (dB)	Uncertainty of Measured Value (dB)
94 dB, 1 kHz	93.9	± 0.5	± 0.2

5.2 Frequency Accuracy

UUT Nominal Value (kHz)	Measured Value (kHz)	User's Spec.	Uncertainty of Measured Value (Hz)
1	0.954	1 kHz ± 6 %	± 1

Remarks : - The user's specified acceptance criteria (user's spec.) is a customer pre-defined operating tolerance of the UUT, suitable for one's own intended use.

- 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.

Sun Creation Engineering Limited – Calibration & Testing Laboratory
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c/o 香港新界屯門興安里一號青山灣機樓四樓
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輝創工程有限公司
Sun Creation Engineering Limited
Calibration and Testing Laboratory

Certificate of Calibration
校正證書

Certificate No. : C173480
證書編號

ITEM TESTED / 送檢項目 (Job No. / 序引編號 : IC17-0924) Date of Receipt / 收件日期 : 20 June 2017

Description / 儀器名稱	:	Sound Calibrator (EQ083)
Manufacturer / 製造商	:	Rion
Model No. / 型號	:	NC-74
Serial No. / 編號	:	34246492
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 Relative Humidity / 相對濕度 : (55 ± 20)%
Line Voltage / 電壓 : ---

TEST SPECIFICATIONS / 測試規範

Calibration check

DATE OF TEST / 測試日期 : 28 June 2017

TEST RESULTS / 測試結果

The results apply to the particular unit-under-test only.
The results do not exceed manufacturer's specification.
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
- Agilent Technologies / Keysight Technologies
- Rohde & Schwarz Laboratory, Germany
- Fluke Everett Service Center, USA

Tested By 測試 : H T Wong, Technical Officer

Certified By 核證 : K C Lee, Engineer

Date of Issue 簽發日期 : 30 June 2017

Sun Creation Engineering Limited – Calibration & Testing Laboratory
c/o 4/F, Tsing Shan Wan Exchange Building, 1 Hing On Lane, Tuen Mun, New Territories, Hong Kong
輝創工程有限公司 – 校正及檢測實驗所
c/o 香港新界屯門興安里一號青山灣機樓四樓
Tel/電話: 2927 2606 Fax/傳真: 2744 8986 E-mail/電郵: callab@suncreation.com Website/網址: www.suncreation.com

Certificate of Calibration
校正證書

Certificate No. : C173480
證書編號

1. The unit-under-test (UUT) was allowed to stabilize in the laboratory for over 12 hours before the commencement of the test.

2. The results presented are the mean of 3 measurements at each calibration point.

3. Test equipment :

Equipment ID	Description	Certificate No.
CL130	Universal Counter	C163709
CL281	Multifunction Acoustic Calibrator	PA160023
TST150A	Measuring Amplifier	C161175

4. Test procedure : MA100N.

5. Results :

5.1 Sound Level Accuracy

UUT Nominal Value	Measured Value (dB)	Mfr's Spec. (dB)	Uncertainty of Measured Value (dB)
94 dB, 1 kHz	94.0	± 0.3	± 0.2

5.2 Frequency Accuracy

UUT Nominal Value (kHz)	Measured Value (kHz)	Mfr's Spec.	Uncertainty of Measured Value (Hz)
1	1.002	1 kHz ± 1 %	± 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.

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T: +852 2610 1044 | F: +852 2610 2021

REPORT OF EQUIPMENT PERFORMANCE CHECK/CALIBRATION

CONTACT:	MR BEN TAM	WORK ORDER:	HK1824786
CLIENT:	ACTION UNITED ENVIRONMENT SERVICES AND CONSULTING	SUB-BATCH:	0
ADDRESS:	RM A 20/F., GOLD KING IND BLDG, NO. 35-41 TAI LIN PAI ROAD, KWAI CHUNG, N.T., HONG KONG.	LABORATORY:	HONG KONG
		DATE RECEIVED:	11-Apr-2018
		DATE OF ISSUE:	19-Apr-2018

COMMENTS

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

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

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

Scope of Test:	Conductivity, Dissolved Oxygen, pH Value, Turbitidy, Salinity and Temperature
Equipment Type:	Multifunctional Meter
Brand Name:	YSI
Model No.:	Professional DSS
Serial No.:	15H102620/ 15H103928
Equipment No.:	EQW018
Date of Calibration:	17 April, 2018

NOTES

This is the Final Report and supersedes any preliminary report with this batch number.

Results apply to sample(s) as submitted. All pages of this report have been checked and approved for release.

Mr Chan Siu Ming, Vico
Manager - Inorganic

REPORT OF EQUIPMENT PERFORMANCE CHECK/CALIBRATION

WORK ORDER: HK1824786

SUB-BATCH: 0
DATE OF ISSUE: 19-Apr-2018
CLIENT: ACTION UNITED ENVIRONMENT SERVICES AND CONSULTING

Equipment Type: Multifunctional Meter
Brand Name: YSI
Model No.: Professional DSS
Serial No.: 15H102620/ 15H103928
Equipment No.: EQW018
Date of Calibration: 17 April, 2018 Date of Next Calibration: 17 July, 2018

PARAMETERS:

Conductivity

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

Expected Reading (uS/cm)	Displayed Reading (uS/cm)	Tolerance (%)
6667	6636	-0.5
12890	12795	-0.7
58670	58781	+0.2
	Tolerance Limit (%)	±10.0

Dissolved Oxygen

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

Expected Reading (mg/L)	Displayed Reading (mg/L)	Tolerance (mg/L)
2.90	3.05	+0.15
5.24	5.40	+0.16
8.16	8.34	+0.18
	Tolerance Limit (mg/L)	±0.20

pH Value

Method Ref: APHA (21st edition), 4500H:B

Expected Reading (pH Unit)	Displayed Reading (pH Unit)	Tolerance (pH unit)
4.0	3.92	-0.08
7.0	7.04	+0.04
10.0	9.91	-0.09
	Tolerance Limit (pH unit)	±0.20

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

Mr Chan Siu Ming, Vico
Manager - Inorganic

REPORT OF EQUIPMENT PERFORMANCE CHECK/CALIBRATION

WORK ORDER: HK1824786

SUB-BATCH: 0
DATE OF ISSUE: 19-Apr-2018
CLIENT: ACTION UNITED ENVIRONMENT SERVICES AND CONSULTING

Equipment Type: Multifunctional Meter
Brand Name: YSI
Model No.: Professional DSS
Serial No.: 15H102620/ 15H103928
Equipment No.: EQW018
Date of Calibration: 17 April, 2018 Date of Next Calibration: 17 July, 2018

PARAMETERS:

Turbidity

Method Ref: ALPHA (21st edition), 2130B

Expected Reading (NTU)	Displayed Reading (NTU)	Tolerance (%)
0	0.1	--
4	4.4	+10.0
40	41.7	+4.3
80	83.3	+4.1
400	412.4	+3.1
800	809.6	+1.2
	Tolerance Limit (%)	±10.0

Salinity

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

Expected Reading (ppt)	Displayed Reading (ppt)	Tolerance (%)
0.0	0.02	--
10.0	10.01	+0.1
20.0	19.68	-1.6
30.0	32.43	+8.1
	Tolerance Limit (%)	±10.0

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

Mr Chan Siu Ming, Vico
Manager - Inorganic

REPORT OF EQUIPMENT PERFORMANCE CHECK/CALIBRATION

WORK ORDER: HK1824786

SUB-BATCH: 0
DATE OF ISSUE: 19-Apr-2018
CLIENT: ACTION UNITED ENVIRONMENT SERVICES AND CONSULTING

Equipment Type: Multifunctional Meter
Brand Name: YSI
Model No.: Professional DSS
Serial No.: 15H102620/ 15H103928
Equipment No.: EQW018
Date of Calibration: 17 April, 2018 Date of Next Calibration: 17 July, 2018

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 (^{o}C)	Displayed Reading (^{o}C)	Tolerance (^{o}C)
10.0	10.8	+0.8
21.5	20.4	-1.1
38.5	37.1	-1.4
	Tolerance Limit (^{o}C)	±2.0

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

Mr Chan Siu Ming, Vico
Manager - Inorganic

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REPORT OF EQUIPMENT PERFORMANCE CHECK/CALIBRATION

CONTACT:	MR BEN TAM	WORK ORDER:	HK1830343
CLIENT:	ACTION UNITED ENVIRONMENT SERVICES AND CONSULTING		
ADDRESS:	RM A 20/F., GOLD KING IND BLDG, NO. 35-41 TAI LIN PAI ROAD, KWAI CHUNG, N.T., HONG KONG.	SUB-BATCH:	0
		LABORATORY:	HONG KONG
		DATE RECEIVED:	16-May-2018
		DATE OF ISSUE:	17-May-2018

COMMENTS

The performance of the equipment stated in this report is checked with independent reference material and results compared against a calibrated secondary source.
The "Tolerance Limit" quoted is the acceptance criteria applicable for similar equipment used by the ALS Hong Kong laboratory or quoted from relevant international standards.
The "Next Calibration Date" is recommended according to best practice principle as practised by the ALS Hong Kong laboratory or quoted from relevant international standards.

Scope of Test:	Conductivity, Dissolved Oxygen, pH Value, Turbitidy, Salinity and Temperature
Equipment Type:	Multifunctional Meter
Brand Name:	YSI
Model No.:	Professional DSS
Serial No.:	17B102764/17B100758
Equipment No.:	EQW019
Date of Calibration:	17 May, 2018

NOTES

This is the Final Report and supersedes any preliminary report with this batch number.

Results apply to sample(s) as submitted. All pages of this report have been checked and approved for release.

Ms. Lin Wai Yu
Assistant Manager - Inorganic

REPORT OF EQUIPMENT PERFORMANCE CHECK/CALIBRATION

WORK ORDER: HK1830343

SUB-BATCH: 0
DATE OF ISSUE: 17-May-2018
CLIENT: ACTION UNITED ENVIRONMENT SERVICES AND CONSULTING

Equipment Type: Multifunctional Meter
Brand Name: YSI
Model No.: Professional DSS
Serial No.: 17B102764/17B100758
Equipment No.: EQW019
Date of Calibration: 17 May, 2018 Date of Next Calibration: 17 August, 2018

PARAMETERS:

Conductivity

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

Expected Reading (µS/cm)	Displayed Reading (µS/cm)	Tolerance (%)
146.9	144.6	-1.6
6667	6381	-4.3
12890	12838	-0.4
58670	55528	-5.4
	Tolerance Limit (%)	±10.0

Dissolved Oxygen

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

Expected Reading (mg/L)	Displayed Reading (mg/L)	Tolerance (mg/L)
3.79	3.85	+0.06
5.45	5.62	+0.17
8.19	8.31	+0.12
	Tolerance Limit (mg/L)	±0.20

pH Value

Method Ref: APHA (21st edition), 4500H:B

Expected Reading (pH unit)	Displayed Reading (pH unit)	Tolerance (pH unit)
4.0	3.96	-0.04
7.0	7.11	+0.11
10.0	10.05	+0.05
	Tolerance Limit (pH unit)	±0.20

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

Ms. Lin Wai Yu
Assistant Manager - Inorganic

REPORT OF EQUIPMENT PERFORMANCE CHECK/CALIBRATION

WORK ORDER: HK1830343

SUB-BATCH: 0
DATE OF ISSUE: 17-May-2018
CLIENT: ACTION UNITED ENVIRONMENT SERVICES AND CONSULTING

Equipment Type: Multifunctional Meter
Brand Name: YSI
Model No.: Professional DSS
Serial No.: 17B102764/17B100758
Equipment No.: EQW019
Date of Calibration: 17 May, 2018 Date of Next Calibration: 17 August, 2018

PARAMETERS:

Turbidity

Method Ref: APHA (21st edition), 2130B

Expected Reading (NTU)	Displayed Reading (NTU)	Tolerance (%)
0	0.50	--
4	4.36	+9.0
40	38.94	-2.7
80	78.27	-2.2
400	368.96	-7.8
800	742.44	-7.2
	Tolerance Limit (%)	±10.0

Salinity

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

Expected Reading (ppt)	Displayed Reading (ppt)	Tolerance (%)
0	0.00	--
10	10.17	+1.7
20	19.86	-0.7
30	30.38	+1.3
	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
Assistant Manager - Inorganic

REPORT OF EQUIPMENT PERFORMANCE CHECK/CALIBRATION

WORK ORDER: HK1830343

SUB-BATCH: 0
DATE OF ISSUE: 17-May-2018
CLIENT: ACTION UNITED ENVIRONMENT SERVICES AND CONSULTING

Equipment Type: Multifunctional Meter
Brand Name: YSI
Model No.: Professional DSS
Serial No.: 17B102764/17B100758
Equipment No.: EQW019
Date of Calibration: 17 May, 2018 Date of Next Calibration: 17 August, 2018

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 (^{o}C)	Displayed Reading (^{o}C)	Tolerance (^{o}C)
9.0	10.3	+1.3
22.0	21.8	-0.2
40.5	38.9	-1.6
	Tolerance Limit (^{o}C)	±2.0

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

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REPORT OF EQUIPMENT PERFORMANCE CHECK/CALIBRATION

CONTACT:	MR BEN TAM	WORK ORDER:	HK1825595
CLIENT:	ACTION UNITED ENVIRONMENT SERVICES AND CONSULTING		
ADDRESS:	RM A 20/F., GOLD KING IND BLDG, NO. 35-41 TAI LIN PAI ROAD, KWAI CHUNG, N.T., HONG KONG.	SUB-BATCH:	0
		LABORATORY:	HONG KONG
		DATE RECEIVED:	16-Apr-2018
		DATE OF ISSUE:	23-Apr-2018

COMMENTS

The performance of the equipment stated in this report is checked with independent reference material and results compared against a calibrated secondary source.
The "Tolerance Limit" quoted is the acceptance criteria applicable for similar equipment used by the ALS Hong Kong laboratory or quoted from relevant international standards.
The "Next Calibration Date" is recommended according to best practice principle as practised by the ALS Hong Kong laboratory or quoted from relevant international standards.

Scope of Test:	Conductivity, Dissolved Oxygen, pH Value, Salinity and Temperature
Equipment Type:	Multifunctional Meter
Brand Name:	YSI
Model No.:	Professional Plus
Serial No.:	10G101946
Equipment No.:	--
Date of Calibration:	19 April, 2018

NOTES

This is the Final Report and supersedes any preliminary report with this batch number.

Results apply to sample(s) as submitted. All pages of this report have been checked and approved for release.

Ms. Lin Wai Yu
Assistant Manager - Inorganic

REPORT OF EQUIPMENT PERFORMANCE CHECK/CALIBRATION

WORK ORDER: HK1825595

SUB-BATCH: 0
DATE OF ISSUE: 23-Apr-2018
CLIENT: ACTION UNITED ENVIRONMENT SERVICES AND CONSULTING

Equipment Type: Multifunctional Meter
Brand Name: YSI
Model No.: Professional Plus
Serial No.: 10G101946
Equipment No.: --
Date of Calibration: 19 April, 2018 Date of Next Calibration: 19 July, 2018

PARAMETERS:

Conductivity

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

Expected Reading (uS/cm)	Displayed Reading (uS/cm)	Tolerance (%)
146.9	141.2	-3.9
6667	6353	-4.7
12890	11792	-8.5
58670	52917	-9.8
	Tolerance Limit (%)	±10.0

Dissolved Oxygen

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

Expected Reading (mg/L)	Displayed Reading (mg/L)	Tolerance (mg/L)
4.33	4.20	-0.13
6.11	6.05	-0.06
8.25	8.18	-0.07
	Tolerance Limit (mg/L)	±0.20

pH Value

Method Ref: APHA (21st edition), 4500H:B

Expected Reading (pH Unit)	Displayed Reading (pH Unit)	Tolerance (pH unit)
4.0	3.89	-0.11
7.0	7.06	+0.06
10.0	9.94	-0.06
	Tolerance Limit (pH unit)	±0.20

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

Ms. Lin Wai Yu
Assistant Manager - Inorganic

REPORT OF EQUIPMENT PERFORMANCE CHECK/CALIBRATION

WORK ORDER: HK1825595

SUB-BATCH: 0
DATE OF ISSUE: 23-Apr-2018
CLIENT: ACTION UNITED ENVIRONMENT SERVICES AND CONSULTING

Equipment Type: Multifunctional Meter
Brand Name: YSI
Model No.: Professional Plus
Serial No.: 10G101946
Equipment No.: --
Date of Calibration: 19 April, 2018 Date of Next Calibration: 19 July, 2018

PARAMETERS:

Salinity

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

Expected Reading (ppt)	Displayed Reading (ppt)	Tolerance (%)
0.0	0.00	--
10.0	9.08	-9.2
20.0	18.22	-8.9
30.0	28.74	-4.2
	Tolerance Limit (%)	±10.0

Temperature

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

Expected Reading (^{o}C)	Displayed Reading (^{o}C)	Tolerance (^{o}C)
11.0	11.6	+0.6
22.0	22.8	+0.8
38.5	37.7	-0.8
	Tolerance Limit (^{o}C)	±2.0

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

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REPORT OF EQUIPMENT PERFORMANCE CHECK/CALIBRATION

CONTACT:	MR BEN TAM	WORK ORDER:	HK1818146
CLIENT:	ACTION UNITED ENVIRONMENT SERVICES AND CONSULTING	SUB-BATCH:	0
ADDRESS:	RM A 20/F., GOLD KING IND BLDG, NO. 35-41 TAI LIN PAI ROAD, KWAI CHUNG, N.T., HONG KONG	LABORATORY:	HONG KONG
		DATE RECEIVED:	23-Feb-2018
		DATE OF ISSUE:	02-Mar-2018

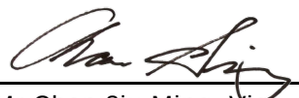
COMMENTS

The performance of the equipment stated in this report is checked with independent reference material and results compared against a calibrated secondary source.
The “Tolerance Limit” quoted is the acceptance criteria applicable for similar equipment used by the ALS Hong Kong laboratory or quoted from relevant international standards.
The “Next Calibration Date” is recommended according to best practice principals as practised by the ALS Hong Kong laboratory or quoted from relevant international standards.

Scope of Test:	Turbidity
Equipment Type:	Turbidimeter
Brand Name:	HACH
Model No.:	2100Q
Serial No.:	12060C018266
Equipment No.:	- -
Date of Calibration:	27 February, 2018

NOTES

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



Mr Chan Siu Ming, Vico
Manager - Inorganics

REPORT OF EQUIPMENT PERFORMANCE CHECK/CALIBRATION

Work Order: HK1818146
Sub-batch: 0
Date of Issue: 02-Mar-2018
Client: ACTION UNITED ENVIRONMENT SERVICES AND CONSULTING

Equipment Type: Turbidimeter
Brand Name: HACH
Model No.: 2100Q
Serial No.: 12060C018266
Equipment No.: --
Date of Calibration: 27 February, 2018 Date of next Calibration: 27 May, 2018

Parameters:

Turbidity

Method Ref: APHA 21st Ed. 2130B

Expected Reading (NTU)	Displayed Reading (NTU)	Tolerance (%)
0	0.32	--
4	4.28	+7.0
40	38	-5.0
80	84	+5.0
400	377	-5.8
800	751	-6.1
	Tolerance Limit (%)	±10.0

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

Mr Chan Siu Ming, Vico
Manager - Inorganics

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REPORT OF EQUIPMENT PERFORMANCE CHECK/CALIBRATION

CONTACT:	MR BEN TAM	WORK ORDER:	HK1831623
CLIENT:	ACTION UNITED ENVIRONMENT SERVICES AND CONSULTING		
ADDRESS:	RM A 20/F., GOLD KING IND BLDG, NO. 35-41 TAI LIN PAI ROAD, KWAI CHUNG, N.T., HONG KONG.	SUB-BATCH:	0
		LABORATORY:	HONG KONG
		DATE RECEIVED:	25-May-2018
		DATE OF ISSUE:	01-Jun-2018

COMMENTS

The performance of the equipment stated in this report is checked with independent reference material and results compared against a calibrated secondary source.
The "Tolerance Limit" quoted is the acceptance criteria applicable for similar equipment used by the ALS Hong Kong laboratory or quoted from relevant international standards.
The "Next Calibration Date" is recommended according to best practice principle as practised by the ALS Hong Kong laboratory or quoted from relevant international standards.

Scope of Test:	Turbitidy
Equipment Type:	Turbidimeter
Brand Name:	Hach
Model No.:	2100Q
Serial No.:	12060C18266
Equipment No.:	--
Date of Calibration:	30 May, 2018

NOTES

This is the Final Report and supersedes any preliminary report with this batch number.

Results apply to sample(s) as submitted. All pages of this report have been checked and approved for release.

Ms. Lin Wai Yu
Assistant Manager - Inorganic

REPORT OF EQUIPMENT PERFORMANCE CHECK/CALIBRATION

WORK ORDER: HK1831623

SUB-BATCH: 0
DATE OF ISSUE: 01-Jun-2018
CLIENT: ACTION UNITED ENVIRONMENT SERVICES AND CONSULTING

Equipment Type: Turbidimeter
Brand Name: Hach
Model No.: 2100Q
Serial No.: 12060C18266
Equipment No.: --
Date of Calibration: 30 May, 2018 Date of Next Calibration: 30 August, 2018

PARAMETERS:
Turbidity

Method Ref: APHA (21st edition), 2130B

Expected Reading (NTU)	Displayed Reading (NTU)	Tolerance (%)
0	0.14	--
4	4.37	+9.3
40	43.0	+7.5
80	86.8	+8.5
400	434	+8.5
800	863	+7.9
	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
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REPORT OF EQUIPMENT PERFORMANCE CHECK/CALIBRATION

CONTACT:	MR IVAN LEUNG	**WORK ORDER:**	HK1827786
CLIENT:	ALS TECHNICHEM (HK) PTY LTD	**SUB-BATCH:**	0
ADDRESS:	11/F, CHUNG SHUN KNITTING CENTRE, 1-3 WING YIP STREET, KWAI CHUNG, N.T., HONG KONG	**LABORATORY:**	HONG KONG
		DATE RECEIVED:	06-Apr-2018
		DATE OF ISSUE:	02-May-2018

COMMENTS

The calibration of flow rate performed by AUES staff on 6 April 2018.

Scope of Test:	Flow rate
Equipment Type:	Flow Meter
Brand Name:	Global Water
Model No.:	FP211
Serial No.:	1449006330
Equipment No.:	--
Calibration Factor:	314
Date of Calibration:	06 April, 2018

NOTES

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

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

REPORT OF EQUIPMENT PERFORMANCE CHECK/CALIBRATION

Work Order: HK1827786
Sub-batch: 0
Date of Issue: 02-May-2018
Client: ALS TECHNICHEM (HK) PTY LTD

Equipment Type: Flow Meter
Brand Name: Global Water
Model No.: FP211
Serial No.: 1449006330
Equipment No.: --
Calibration Factor: 314

Date of Calibration: 06 April, 2018

Parameters: The calibration of flow meter is verified with another standard flow meter (SonTek IQ Standard Serial Number : IQ1217004) on site by AUES Staff.

Flow rate

Test	Standard Equipment Reading (m/s)	Verification Equipment Reading (m/s)
1st	0.12	0.1
2nd	0.21	0.2
3rd	0.18	0.2
4th	0.49	0.5
5th	1.03	1.0
6th	0.97	1.0

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

Appendix E

HOKLAS-accreditation Certificate of the Testing Laboratory

Hong Kong Accreditation Service
香港認可處

Certificate of Accreditation
認可證書

This is to certify that
特此證明

ALS TECHNICHEM (HK) PTY LIMITED

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

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

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

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

Environmental Testing
環境測試

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

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

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

Registration Number : HOKLAS 066
註冊號碼：

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

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

L 000552

Appendix F

Baseline Monitoring Schedules

Baseline Air and Noise Monitoring Schedule

Date		Noise Monitoring (0700 – 1900) (1900 – 0700)	Air Quality Monitoring	
			1-Hour TSP	24-Hour TSP
Wed	25-Apr-18	✓	✓	✓ Note 1
Thu	26-Apr-18	✓	✓	✓
Fri	27-Apr-18	✓	✓	✓
Sat	28-Apr-18	✓	✓	✓
Sun	29-Apr-18	✓	✓	✓
Mon	30-Apr-18	✓	✓	✓
Tue	1-May-18	✓	✓	✓
Wed	2-May-18	✓	✓	✓
Thu	3-May-18	✓	✓	✓ Note 2
Fri	4-May-18	✓	✓	✓
Sat	5-May-18	✓	✓	✓
Sun	6-May-18	✓	✓	✓
Mon	7-May-18	✓	✓	✓
Tue	8-May-18	✓	✓	✓
Wed	9-May-18			ASR-2, ASR-3

Remark:

(Note 1) Power failure was occurred on 25-Apr-2018 at ASR-2; hence the baseline 24-hour TSP monitoring at ASR-2 will be extended to 9-May-2018.

(Note 2) Power failure was occurred on 3-May-2018 at ASR-3; hence the baseline 24-hour TSP monitoring at ASR-3 will be extended to 9-May-2018.

✓	Monitoring Day
	Sunday or Public Holiday

Air Quality and Noise Monitoring Location

Environmental Aspect	Monitoring Location	Location
Air Quality	ASR-1	Sha Ling Village House No.6
	ASR-2	San Uk Ling Village House No.1
	ASR-3	Muk Wu Nga Yiu House No.28
Construction Noise	CN-1	Village house to the west of Sha Ling Road
	CN-2	Sha Ling Village House No. 25
	CN-3	San Uk Ling Village House No. 18
	CN-4	Muk Wu Village House No. 267

Baseline Water Quality Monitoring Schedule (M1, M3 and M4)

Date		Water Quality
Fri	27-Apr-18	✓
Sat	28-Apr-18	
Sun	29-Apr-18	
Mon	30-Apr-18	✓
Tue	1-May-18	
Wed	2-May-18	✓
Thu	3-May-18	
Fri	4-May-18	✓
Sat	5-May-18	
Sun	6-May-18	
Mon	7-May-18	✓
Tue	8-May-18	
Wed	9-May-18	✓ Note 1
Thu	10-May-18	✓ (M3)
Fri	11-May-18	✓ (M1 & M4)
Sat	12-May-18	✓ (M3)
Sun	13-May-18	
Mon	14-May-18	✓
Tue	15-May-18	
Wed	16-May-18	✓
Thu	17-May-18	
Fri	18-May-18	✓
Sat	19-May-18	
Sun	20-May-18	
Mon	21-May-18	✓
Tue	22-May-18	
Wed	23-May-18	✓
Thu	24-May-18	

(Note 1) Water quality monitoring at Location M3 was unable to carry out on 9th May 2018 due to unsafe access under the condition of heavy rain and inclement weather. Hence, the baseline water quality monitoring for M3 will be rescheduled to 10th & 12th May 2018

✓	Monitoring Day
	Sunday or Public Holiday

Water Quality Monitoring Location

Monitoring Location ID	Co-ordinates		Description
	North	East	
M1	843431	831308	Midstream of Nam Hang Stream
M3	843509	830040	Wetland in the Conservation Area (CA) near Yuen Leng Chai
M4	843997	831783	Watercourse across Lin Ma Hang Road, running from east of San Uk Ling to Man Kam To Boundary Control Point

Baseline Water Quality Monitoring Schedule (M2)

Date		Water Quality
Thu	12-Jul-18	✓
Fri	13-Jul-18	
Sat	14-Jul-18	✓
Sun	15-Jul-18	
Mon	16-Jul-18	✓
Tue	17-Jul-18	
Wed	18-Jul-18	✓
Thu	19-Jul-18	
Fri	20-Jul-18	✓
Sat	21-Jul-18	
Sun	22-Jul-18	
Mon	23-Jul-18	
Tue	24-Jul-18	✓
Wed	25-Jul-18	
Thu	26-Jul-18	✓
Fri	27-Jul-18	
Sat	28-Jul-18	✓
Sun	29-Jul-18	
Mon	30-Jul-18	✓
Tue	31-Jul-18	
Wed	1-Aug-18	✓
Thu	2-Aug-18	
Fri	3-Aug-18	✓
Sat	4-Aug-18	
Sun	5-Aug-18	
Mon	6-Aug-18	✓

✓	Monitoring Day
	Sunday or Public Holiday

Water Quality Monitoring Location

Monitoring Location ID	Co-ordinates		Description
	North	East	
M2	844169	830863	Downstream of Nam Hang Stream

Appendix G

Meteorological Data during Baseline Monitoring (Ta Kwu Ling Station)

Date		Weather	Total Rainfall (mm)	Ta Kwu Ling Station			
				Mean Air Temp. (°C)	Wind Speed (km/h)	Mean Relative Humidity (%)	Wind Direction
25-Apr-18	Wed	Cloudy. Isolated showers in the afternoon.	Trace	22.5	3.5	79.7	E/NE
26-Apr-18	Thu	Fine and hot. Light to moderate southerly winds.	0.3	23.2	5.6	83.7	E/NE
27-Apr-18	Fri	Fine and hot. Light to moderate southerly winds.	Trace	24.7	4.5	82.2	E/NE
28-Apr-18	Sat	Fine and hot. Light to moderate southerly winds.	0.1	25.2	5.6	80.3	E/NE
29-Apr-18	Sun	Fine and hot. Light to moderate southerly winds.	Trace	26.6	6.8	81.2	E/NE
30-Apr-18	Mon	Fine and hot. Light to moderate southerly winds.	Trace	26.5	6.9	82.5	E/NE
1-May-18	Tue	Cloudy with occasional showers.	Trace	28	6.5	75.7	E/NE
2-May-18	Wed	Moderate to fresh easterly winds, strong offshore.	0	28.1	5.6	70.5	W/SW
3-May-18	Thu	Moderate east to southeasterly winds.	1.9	27.4	7.2	71.5	E/NE
4-May-18	Fri	Mainly cloudy. Sunny intervals tomorrow.	0.8	23.7	9.2	82.5	E
5-May-18	Sat	Fine. Hot in the afternoon.	Trace	26.2	8.9	78.2	E
6-May-18	Sun	Fine. Hot in the afternoon.	1.0	28.1	10.5	70	S
7-May-18	Mon	Fine. Hot in the afternoon.	6.7	27.4	9.6	77.5	S
8-May-18	Tue	Mainly fine and hot. Moderate southerly winds.	28.4	25.6	3.5	84.7	E/SE
9-May-18	Wed	Moderate to fresh easterly winds, strong offshore.	5.4	24.2	12	88.5	E
10-May-18	Thu	Moderate east to southeasterly winds.	8.0	23.5	14.3	82.5	E
11-May-18	Fri	Mainly cloudy. Sunny intervals tomorrow.	1.0	25	13.9	77.5	E
12-May-18	Sat	Fine. Hot in the afternoon.	0	27.2	No data	82	No data
13-May-18	Sun	Fine. Hot in the afternoon.	0	27.8	5.5	70	W/SW
14-May-18	Mon	Fine. Hot in the afternoon.	0	Maintenance	5.6	Maintenance	W/SW
15-May-18	Tue	Mainly fine and hot. Moderate southerly winds.	0	Maintenance	7.7	Maintenance	S/SW
16-May-18	Wed	Mainly fine and hot. Moderate southerly winds.	0	28.9	6.1	66.2	S/SW
17-May-18	Thu	Mainly fine and hot. Moderate southerly winds.	0	28.7	6.5	75.5	S/SW
18-May-18	Fri	Fine and very hot. Light to moderate southwesterly winds.	28.4	29.6	5.5	71.5	S/SW
19-May-18	Sat	Fine and very hot. Light to moderate southwesterly winds.	0	30	No data	74	No data
20-May-18	Sun	Fine and very hot. Light to moderate southwesterly winds.	0	29.8	6	64.7	S/SW
21-May-18	Mon	Fine and very hot. Light to moderate southwesterly winds.	0	29.3	6	73	S/SW
22-May-18	Tue	Mainly fine and very hot.	0	29.2	4.5	67.2	S/SE
23-May-18	Wed	Mainly fine and very hot.	0	30	5.5	69	W/NW

Appendix H

Monitoring Results Data

- Air Quality (24-hour TSP);
- Noise; and
- Water Quality

Air Quality (24-hour TSP)

24-Hr TSP Monitoring Data for ASR-1

DATE	SAMPLE NUMBER	ELAPSED TIME			CHART READING			AVG TEMP	AVG AIR PRESS	STANDARD FLOW RATE	AIR VOLUME	FILTER WEIGHT (g)		DUST WEIGHT COLLECTED	24-Hr TSP ($\mu g/m^3$)
		INITIAL	FINAL	(min)	MIN	MAX	AVG	(℃)	(hPa)	(m^3/min)	(std m^3)	INITIAL	FINAL	(g)	
25-Apr-18	22511	8356.83	8381.23	1464.00	34	38	36.0	23.7	1012.1	1.25	1834	2.6936	2.9433	0.2497	136
26-Apr-18	22525	8381.23	8406.00	1486.20	32	32	32.0	23.8	1012.6	1.14	1702	2.6513	2.8226	0.1713	101
27-Apr-18	22527	8406.00	8429.58	1414.80	34	34	34.0	23.9	1012.4	1.20	1696	2.6780	2.7980	0.1200	71
28-Apr-18	22528	8429.58	8453.41	1429.80	38	40	39.0	24.5	1015	1.33	1907	2.6708	2.9207	0.2499	131
29-Apr-18	22580	8453.41	8477.10	1421.40	36	37	36.5	24.4	1011.7	1.27	1798	2.6872	2.8110	0.1238	69
30-Apr-18	22539	8477.10	8501.32	1453.14	38	38	38.0	26.1	1012.9	1.30	1894	2.6719	2.8855	0.2136	113
1-May-18	22581	8501.32	8524.57	1395.06	36	36	36.0	24.8	1011	1.25	1745	2.6760	2.7592	0.0832	48
2-May-18	22579	8524.57	8548.41	1430.40	36	36	36.0	27.9	1012.4	1.25	1783	2.6583	2.7626	0.1043	59
3-May-18	22568	8548.41	8572.21	1428.00	36	40	38.0	24.8	1010.7	1.30	1863	2.7006	2.7709	0.0703	38
4-May-18	22583	8572.21	8596.00	1427.40	32	32	32.0	23.8	1016.1	1.15	1636	2.6970	2.9063	0.2093	128
5-May-18	22599	8596.00	8620.32	1459.20	32	32	32.0	25.3	1015.5	1.14	1669	2.6700	2.7754	0.1054	63
6-May-18	22582	8620.32	8644.37	1443.00	32	34	33.0	25	1010.5	1.17	1687	2.6820	2.7136	0.0316	19
7-May-18	22607	8644.37	8668.44	1444.20	34	34	34.0	28	1007.2	1.19	1719	2.6909	2.7990	0.1081	63
8-May-18	22603	8668.44	8692.63	1451.40	34	34	34.0	25.2	1008.3	1.19	1734	2.6536	2.7614	0.1078	62

24-Hr TSP Monitoring Data for ASR-2

DATE	SAMPLE NUMBER	ELAPSED TIME			CHART READING			AVG TEMP	AVG AIR PRESS	STANDARD FLOW RATE	AIR VOLUME	FILTER WEIGHT (g)		DUST WEIGHT COLLECTED	24-Hr TSP ($\mu g/m^3$)
		INITIAL	FINAL	(min)	MIN	MAX	AVG	(℃)	(hPa)	(m^3/min)	(std m^3)	INITIAL	FINAL	(g)	
25-Apr-18*															
26-Apr-18	22512	14472.14	14495.88	1424.40	48	48	48.0	23.8	1012.6	1.48	2102	2.6742	2.8305	0.1563	74
27-Apr-18	22523	14495.88	14519.88	1440.00	48	48	48.0	23.8	1012.6	1.48	2125	2.6833	2.8597	0.1764	83
28-Apr-18	22529	14519.88	14543.85	1438.20	46	47	46.5	23.9	1012.4	1.43	2054	2.6703	2.8033	0.1330	65
29-Apr-18	22538	14543.85	14567.85	1440.00	45	45	45.0	24.1	1012.1	1.38	1988	2.7041	2.8238	0.1197	60
30-Apr-18	22565	14567.85	14591.63	1426.80	42	44	43.0	24.4	1011.7	1.32	1879	2.6932	2.7776	0.0844	45
1-May-18	22540	14591.63	14615.29	1419.60	44	44	44.0	24.7	1011.2	1.35	1912	2.6671	2.7462	0.0791	41
2-May-18	22551	14615.29	14639.29	1440.00	36	36	36.0	27.3	1012.5	1.09	1572	2.6763	2.7838	0.1075	68
3-May-18	22569	14639.29	14663.29	1440.00	32	38	35.0	24.8	1010.9	1.06	1532	2.6760	2.7384	0.0624	41
4-May-18	22571	14663.29	14687.29	1440.00	38	38	38.0	27.1	1014.1	1.16	1664	2.6589	2.7575	0.0986	59
5-May-18	22600	14687.29	14711.33	1442.40	30	34	32.0	24.7	1010.7	0.97	1399	2.6556	2.7188	0.0632	45
6-May-18	22542	14711.33	14735.33	1440.00	36	36	36.0	25.3	1015.5	1.10	1580	2.6715	2.7277	0.0562	36
7-May-18	22601	14735.33	14759.33	1440.00	36	36	36.0	27.6	1011.3	1.09	1570	2.6491	2.7193	0.0702	45
8-May-18	22604	14759.33	14783.33	1440.00	38	38	38.0	28	1007.2	1.15	1656	2.6672	2.7347	0.0675	41
9-May-18	22557	14783.33	14807.36	1441.80	38	38	38.0	25.4	1010.2	1.16	1668	2.6892	2.7669	0.0777	47

Remark: (*) Power Supply Failure

24-Hr TSP Monitoring Data for ASR-3

DATE	SAMPLE NUMBER	ELAPSED TIME			CHART READING			AVG TEMP	AVG AIR PRESS	STANDARD FLOW RATE	AIR VOLUME	FILTER WEIGHT (g)		DUST WEIGHT COLLECTED	24-Hr TSP (μg/m^3)
		INITIAL	FINAL	(min)	MIN	MAX	AVG	(℃)	(hPa)	(m^3/min)	(std m^3)	INITIAL	FINAL	(g)	
25-Apr-18	22513	19344.37	19368.37	1440.00	36	38	37.0	23.7	1012.1	1.20	1727	2.7022	2.8326	0.1304	76
26-Apr-18	22524	19368.37	19392.23	1431.60	36	36	36.0	23.8	1012.6	1.17	1673	2.6701	2.7765	0.1064	64
27-Apr-18	22526	19392.23	19415.23	1380.00	34	34	34.0	23.9	1012.4	1.11	1527	2.6855	2.7919	0.1064	70
28-Apr-18	22530	19415.23	19439.23	1440.00	31	32	31.5	24.1	1012.1	1.03	1483	2.7018	2.7704	0.0686	46
29-Apr-18	22537	19439.23	19463.53	1458.00	38	38	38.0	24.4	1011.7	1.23	1791	2.6755	2.7722	0.0967	54
30-Apr-18	22566	19463.53	19487.09	1413.60	35	36	35.5	24.7	1011.2	1.15	1627	2.6838	2.7490	0.0652	40
1-May-18	22541	19487.09	19511.09	1440.00	38	38	38.0	24.8	1011	1.23	1767	2.6727	2.7385	0.0658	37
2-May-18	22567	19511.09	19535.09	1440.00	35	35	35.0	27.9	1012.4	1.13	1628	2.6828	2.7525	0.0697	43
3-May-18*															
4-May-18	22570	19535.09	19559.09	1440.00	30	30	30.0	27.1	1014.1	0.98	1411	2.6844	2.7615	0.0771	55
5-May-18	22572	19559.09	19583.09	1440.00	23	33	28.0	24.7	1010.7	0.92	1326	2.6603	2.7141	0.0538	41
6-May-18	22605	19583.09	19607.09	1440.00	32	32	32.0	25.3	1015.5	1.04	1504	2.6888	2.7182	0.0294	20
7-May-18	22602	19607.09	19631.09	1440.00	25	25	25.0	27.6	1011.3	0.83	1188	2.6518	2.6904	0.0386	32
8-May-18	22623	19631.09	19655.09	1440.00	22	22	22.0	28	1007.2	0.73	1054	2.6624	2.6969	0.0345	33
9-May-18	22624	19655.09	19679.47	1462.80	25	25	25.0	25.4	1010.2	0.83	1211	2.6710	2.7063	0.0353	29

Remark: (*) Power Supply Failure

Noise

Noise Measurement Results (dB(A)) of CN-1 During Day Time (07:00 – 19:00)

Date	Start Time	1st Leq_{5min}	L10	L90	2nd Leq_{5min}	L10	L90	3rd Leq_{5min}	L10	L90	4th Leq_{5min}	L10	L90	5th Leq_{5min}	L10	L90	6th Leq_{5min}	L10	L90	Leq_{30min}	Façade Collection
25-Apr-18	9:30	59.5	61.0	55.4	57.7	58.8	55.3	57.6	59.4	54.6	56.3	58.1	54.3	66.2	72.1	54.5	69.9	75.4	53.7	**64.4**	**67.4**
26-Apr-18	9:46	68.7	59.5	53.4	56.2	58.0	53.1	56.2	58.1	53.4	60.8	60.6	55.0	63.3	60.7	54.3	55.9	57.6	53.5	**63.0**	**66.0**
27-Apr-18	11:38	58.7	60.0	49.5	59.9	61.0	54.0	59.4	60.5	54.5	64.7	62.5	55.0	67.9	66.5	53.5	64.6	65.0	53.0	**63.9**	**66.9**
28-Apr-18	9:23	73.6	70.4	58.1	69.4	65.9	57.7	64.0	60.5	57.4	62.4	61.9	57.7	60.2	60.8	57.8	65.4	61.1	57.5	**68.3**	**71.3**
29-Apr-18*	10:11	51.7	53.6	46.5	48.1	50.0	46.1	48.5	50.9	46.1	53.9	57.1	44.4	50.5	54.4	41.8	53.9	54.9	42.6	**51.7**	**54.7**
30-Apr-18	9:47	71.6	72.2	57.9	64.1	64.0	58.8	79.0	69.3	60.5	67.0	68.0	61.4	61.5	63.5	58.9	64.5	62.4	58.4	**72.5**	**75.5**
1-May-18*	10:10	49.3	52.9	45.3	49.4	51.9	45.8	48.8	50.4	45.9	48.3	50.1	45.3	52.5	55.0	45.6	50.4	51.3	45.9	**50.0**	**53.0**
2-May-18	9:33	72.5	73.5	64.5	71.2	73.5	65.0	69.5	72.0	64.5	66.4	68.5	60.0	57.7	59.5	52.0	68.0	72.5	53.0	**69.3**	**72.3**
3-May-18	9:26	65.5	68.5	62.0	68.5	71.0	60.0	65.2	68.5	59.5	61.1	62.0	59.0	69.3	70.1	58.7	68.1	70.2	58.7	**67.0**	**70.0**
4-May-18	9:35	67.9	71.2	61.8	75.1	77.7	71.4	76.4	78.1	70.6	73.1	75.0	70.7	72.0	73.4	65.7	67.0	69.4	59.9	**73.1**	**76.1**
5-May-18	9:11	64.7	66.0	55.5	65.9	67.0	60.0	65.4	66.5	60.5	70.7	68.5	61.0	73.9	72.5	59.5	70.6	71.0	59.0	**69.9**	**72.9**
6-May-18*	9:54	53.9	55.8	46.4	47.5	49.3	45.4	48.8	51.1	45.8	47.9	50.0	45.7	48.4	50.0	46.0	48.4	51.1	46.0	**49.8**	**52.8**
7-May-18	9:36	79.2	82.5	72.7	77.5	81.2	72.2	74.4	74.8	71.9	73.1	76.5	67.9	75.6	78.3	69.9	73.9	76.6	68.5	**76.2**	**79.2**
8-May-18	9:22	64.2	67.1	48.2	65.1	68.2	49.3	67.2	69.4	50.1	62.5	64.1	49.2	64.0	67.1	45.4	67.8	69.2	49.1	**65.5**	**68.5**

Remarks: (*) Public Holiday or Sunday

Noise Measurement Results (dB(A)) of CN-1 During Restricted Hours (19:00 – 07:00 next day)

Date	Start Time	1st Leq_{5min}	L10	L90	2nd Leq_{5min}	L10	L90	3nd Leq_{5min}	L10	L90	Leq_{15min}	Façade Collection
25-Apr-18	19:01	52.8	54.5	51.4	52.7	55.1	47.9	51.6	54.3	47.6	**52.4**	**55.4**
26-Apr-18	19:07	61.4	65.7	47.0	64.4	67.2	44.9	60.7	65.9	46.1	**62.5**	**65.5**
27-Apr-18	19:25	54.7	58.3	49.9	52.2	53.0	51.5	55.1	53.2	48.5	**54.2**	**57.2**
28-Apr-18	19:12	71.3	67.1	55.2	65.0	61.9	55.9	67.6	64.3	53.6	**68.7**	**71.7**
29-Apr-18*	19:03	60.8	61.4	46.8	57.8	60.9	49.4	62.8	66.4	49.2	**60.9**	**63.9**
30-Apr-18	20:16	54.0	54.8	53.4	60.5	56.2	53.6	54.1	54.9	53.4	**57.4**	**60.4**
1-May-18*	19:03	71.2	66.3	54.3	60.4	55.5	53.8	54.5	55.9	53.9	**66.9**	**69.9**
2-May-18	19:39	59.2	60.3	57.1	60.4	60.5	57.1	55.6	59.5	56.7	**58.8**	**61.8**
3-May-18	19:09	60.4	60.7	47.2	49.5	51.4	46.9	57.7	61.6	47.5	**57.7**	**60.7**
4-May-18	19:03	67.2	69.2	52.1	64.2	68.1	53.2	59.6	63.4	52.8	**64.7**	**67.7**
5-May-18	19:12	49.5	52.0	46.4	50.9	53.9	48.3	63.5	65.2	48.4	**59.1**	**62.1**
6-May-18*	19:17	60.9	56.3	54.3	59.9	55.2	53.4	55.5	53.3	53.4	**59.3**	**62.3**
7-May-18	19:08	69.5	60.2	57.4	55.2	60.6	57.8	59.7	61.5	58.9	**65.3**	**68.3**
8-May-18	19:03	69.8	55.0	53.1	54.6	55.6	53.7	70.6	56.5	53.5	**68.5**	**71.5**

Remarks: (*) Public Holiday or Sunday
Note: Sound level meter set at CN-1 is made free-field measurement, façade correction (+3dB(A)) has added according to acoustical principles and EPD guidelines

Noise Measurement Results (dB(A)) of CN-2 During Day Time (07:00 – 19:00)

Date	Start Time	1st Leq_{5min}	L10	L90	2nd Leq_{5min}	L10	L90	3rd Leq_{5min}	L10	L90	4th Leq_{5min}	L10	L90	5th Leq_{5min}	L10	L90	6th Leq_{5min}	L10	L90	Leq_{30min}	Façade Collection
25-Apr-18	10:11	62.6	65.9	53.8	61.6	65.3	50.8	63.2	66.2	48.0	62.5	66.4	48.5	61.0	64.9	46.1	61.4	64.7	47.7	**62.1**	**65.1**
26-Apr-18	10:22	60.1	63.5	49.6	62.0	66.1	48.9	61.3	64.5	51.0	61.4	65.1	50.1	60.6	64.3	49.2	62.0	65.6	54.3	**61.3**	**64.3**
27-Apr-18	10:51	64.9	68.0	55.0	64.6	68.0	53.5	64.4	68.0	52.5	63.9	67.0	54.5	64.5	67.5	54.5	64.5	68.5	51.5	**64.5**	**67.5**
28-Apr-18	9:59	64.8	68.2	53.4	63.5	63.0	51.8	64.1	68.2	52.0	63.0	67.0	50.2	64.4	68.3	53.2	64.6	68.1	54.0	**64.1**	**67.1**
29-Apr-18*	10:51	60.5	64.3	45.7	58.9	63.4	43.0	61.9	65.5	49.0	59.2	64.4	42.2	60.3	65.1	43.8	59.6	63.6	43.8	**60.2**	**63.2**
30-Apr-18	10:23	65.0	68.4	52.6	64.0	67.9	51.3	65.0	68.8	50.4	63.6	67.1	51.3	63.4	67.5	47.9	65.0	68.6	54.6	**64.4**	**67.4**
1-May-18*	10:48	63.7	64.3	45.0	57.8	62.3	44.2	58.5	63.0	42.5	58.6	63.4	45.0	56.3	61.4	41.6	60.1	64.5	47.5	**59.9**	**62.9**
2-May-18	10:12	64.1	68.0	54.0	64.5	67.5	53.0	66.6	68.5	53.0	63.5	67.0	54.0	64.0	68.0	52.0	65.0	68.0	51.0	**64.7**	**67.7**
3-May-18	10:08	63.1	65.8	46.1	60.1	63.4	45.8	61.2	64.3	44.8	62.1	64.6	46.1	63.4	65.1	45.8	62.1	64.2	46.4	**62.1**	**65.1**
4-May-18	10:09	70.0	72.3	53.7	61.3	64.6	53.5	61.6	64.9	53.6	61.1	64.6	47.7	62.2	66.0	52.3	62.7	66.5	52.5	**64.7**	**67.7**
5-May-18	10:01	62.1	65.5	52.1	66.5	69.1	53.0	63.7	66.7	50.1	64.9	68.0	54.5	65.5	69.1	51.4	67.0	69.0	53.1	**65.2**	**68.2**
6-May-18*	10:20	64.1	66.9	53.9	65.8	67.8	52.4	66.6	70.1	52.1	64.2	69.5	53.8	63.1	68.8	53.1	65.5	71.1	54.8	**65.0**	**68.0**
7-May-18	10:13	63.7	66.8	52.6	64.3	67.9	55.4	64.3	68.5	52.1	64.2	68.5	53.0	63.6	68.6	53.9	63.9	67.0	52.9	**64.0**	**67.0**
8-May-18	10:00	64.1	68.2	51.1	61.1	64.4	54.4	62.8	64.1	50.1	60.1	63.1	47.1	62.4	67.1	48.6	60.2	63.4	46.2	**62.0**	**65.0**

Remarks: (*) Public Holiday or Sunday

Noise Measurement Results (dB(A)) of CN-2 During Restricted Hours (19:00 – 07:00 next day)

Date	Start Time	1st Leq_{5min}	L10	L90	2nd Leq_{5min}	L10	L90	3rd Leq_{5min}	L10	L90	Leq_{15min}	Façade Collection
25-Apr-18	19:22	60.4	65.1	46.0	61.4	65.0	52.3	61.2	65.4	44.1	**61.0**	**64.0**
26-Apr-18	19:30	62.3	66.2	50.8	62.3	66.4	51.1	53.4	66.5	52.3	**60.8**	**63.8**
27-Apr-18	19:47	59.2	63.5	45.7	60.3	64.1	43.7	61.5	65.8	46.2	**60.4**	**63.4**
28-Apr-18	19:35	57.4	61.3	46.0	58.0	62.1	45.4	58.3	61.5	47.9	**57.9**	**60.9**
29-Apr-18*	19:33	59.2	63.8	47.0	61.4	65.8	48.2	59.9	64.2	48.3	**60.3**	**63.3**
30-Apr-18	19:55	64.0	67.4	51.6	59.1	63.3	48.6	61.1	65.5	49.5	**61.9**	**64.9**
1-May-18*	19:24	60.3	64.2	45.4	60.5	65.1	46.4	59.0	64.1	45.7	**60.0**	**63.0**
2-May-18	20:01	61.8	65.6	48.4	60.5	66.4	49.6	60.6	66.6	49.8	**61.0**	**64.0**
3-May-18	19:32	61.9	66.1	47.9	61.4	65.0	51.2	64.7	67.8	52.6	**62.9**	**65.9**
4-May-18	19:28	61.9	66.4	49.4	64.8	68.9	50.1	60.7	64.6	49.1	**62.8**	**65.8**
5-May-18	19:35	57.8	61.8	47.9	60.9	65.2	47.1	59.2	63.4	47.9	**59.5**	**62.5**
6-May-18*	19:39	60.8	65.9	48.3	60.6	65.6	48.8	61.8	66.4	49.7	**61.1**	**64.1**
7-May-18	19:30	61.6	66.2	50.3	61.9	57.2	51.2	61.5	67.2	51.1	**61.7**	**64.7**
8-May-18	19:25	63.9	67.1	50.4	62.5	65.7	49.8	61.2	63.1	48.5	**62.7**	**65.7**

Remarks: (*) Public Holiday or Sunday
Note: Sound level meter set at CN-2 is made free-field measurement, façade correction (+3dB(A)) has added according to acoustical principles and EPD guidelines

Noise Measurement Results (dB(A)) of CN-3 During Day Time (07:00 – 19:00)																				
Date	**Start Time**	**1st Leq_{5min}**	**L10**	**L90**	**2nd Leq_{5min}**	**L10**	**L90**	**3rd Leq_{5min}**	**L10**	**L90**	**4th Leq_{5min}**	**L10**	**L90**	**5th Leq_{5min}**	**L10**	**L90**	**6th Leq_{5min}**	**L10**	**L90**	**Leq_{30min}**	**Façade Collection**
25-Apr-18	9:29	59.9	60.5	53.3	59.9	62.9	53.7	59.1	62.5	53.5	60.4	63.0	54.1	59.5	61.2	52.0	59.3	62.7	53.6	**59.7**	**62.7**
26-Apr-18	9:54	58.7	61.8	52.3	57.9	61.4	52.5	57.5	60.7	52.8	59.8	62.8	52.8	58.5	61.7	53.3	58.4	62.3	52.9	**58.5**	**61.5**
27-Apr-18	9:52	57.0	60.0	49.0	55.5	58.5	47.0	55.1	58.5	48.0	57.8	60.5	50.5	58.1	61.5	51.0	58.9	62.0	51.0	**57.3**	**60.3**
28-Apr-18	10:39	57.7	60.4	53.1	58.8	60.6	52.0	56.5	58.5	52.8	57.3	58.7	51.1	57.1	59.6	51.6	57.9	61.8	51.4	**57.6**	**60.6**
29-Apr-18*	9:43	56.1	56.8	51.6	54.3	56.9	51.7	54.6	56.4	51.1	54.3	56.4	51.4	55.5	58.3	51.9	55.3	57.7	51.3	**55.1**	**58.1**
30-Apr-18	11:05	59.8	62.5	53.2	60.6	63.7	53.6	59.4	61.8	52.6	59.5	62.8	52.8	58.6	60.7	53.0	60.8	63.2	53.3	**59.8**	**62.8**
1-May-18*	9:52	55.5	58.2	51.9	54.7	56.8	51.8	56.1	58.6	52.4	55.9	57.9	52.8	54.3	56.4	51.9	55.2	57.0	52.4	**55.3**	**58.3**
2-May-18	9:37	56.6	59.4	52.2	57.3	58.5	51.9	55.4	58.4	52.0	57.8	60.2	52.2	60.1	61.8	54.2	59.2	61.8	55.3	**58.0**	**61.0**
3-May-18	10:46	57.1	59.2	51.7	58.2	60.1	52.4	59.4	62.4	53.1	56.1	58.7	50.4	57.2	59.1	52.1	58.4	60.1	53.4	**57.9**	**60.9**
4-May-18	9:36	58.7	60.0	53.5	57.7	59.5	52.0	58.7	59.0	52.5	57.8	60.5	52.0	57.4	58.0	51.5	56.3	57.5	50.0	**57.8**	**60.8**
5-May-18	10:59	57.5	60.5	50.7	56.0	59.0	49.7	61.4	64.1	54.2	56.3	57.5	51.9	56.4	59.4	52.1	58.8	61.2	52.2	**58.2**	**60.8**
6-May-18*	9:50	56.0	58.6	51.4	55.2	57.9	51.2	55.1	58.2	51.5	56.5	59.8	51.2	55.7	58.9	51.7	56.7	59.4	52.0	**55.9**	**58.8**
7-May-18	9:41	55.6	58.1	47.1	57.3	59.7	48.2	53.9	56.7	47.5	55.0	57.9	49.2	53.7	57.0	46.7	52.9	55.9	47.2	**55.0**	**58.0**
8-May-18	10:37	57.1	59.2	49.3	59.2	61.3	47.5	60.4	62.5	46.1	58.1	59.2	48.1	56.2	59.3	46.1	57.1	60.4	46.2	**58.3**	**61.3**

Remarks: (*) Public Holiday or Sunday

Noise Measurement Results (dB(A)) of CN-3 During Restricted Hours (19:00 – 07:00 next day)												
Date	**Start Time**	**1st Leq_{5min}**	**L10**	**L90**	**2nd Leq_{5min}**	**L10**	**L90**	**3rd Leq_{5min}**	**L10**	**L90**	**Leq_{15min}**	**Façade Collection**
25-Apr-18	19:49	52.6	54.7	49.1	51.5	54.0	48.9	54.8	56.9	50.0	**53.2**	**56.2**
26-Apr-18	19:59	53.8	57.0	49.8	51.7	53.8	49.2	53.9	57.6	49.4	**53.2**	**56.2**
27-Apr-18	20:38	52.4	54.2	48.3	60.9	62.7	44.5	64.5	67.3	47.3	**61.5**	**64.5**
28-Apr-18	20:01	48.2	52.2	43.4	51.2	54.8	44.5	48.4	51.7	43.2	**49.5**	**52.5**
29-Apr-18*	19:05	74.2	59.1	52.0	56.9	59.4	52.2	57.7	59.9	52.1	**69.6**	**72.6**
30-Apr-18	19:29	55.8	57.9	51.5	56.5	59.1	51.1	54.5	56.6	51.3	**55.7**	**58.7**
1-May-18*	19:51	54.6	57.0	51.0	55.4	58.3	51.4	57.2	59.2	52.0	**55.9**	**58.9**
2-May-18	20:28	56.6	58.4	51.4	57.8	59.2	52.8	57.4	59.2	52.4	**57.3**	**60.3**
3-May-18	19:57	51.2	53.2	49.4	53.0	55.5	49.5	59.4	60.3	50.2	**56.0**	**59.0**
4-May-18	19:59	56.1	58.2	52.1	55.8	59.1	51.4	55.2	58.6	52.5	**55.7**	**58.7**
5-May-18	20:04	48.5	51.4	45.0	47.2	49.7	44.6	51.5	51.1	44.7	**49.5**	**52.5**
6-May-18*	20:05	56.9	58.5	52.4	56.1	58.0	52.0	57.6	59.0	52.0	**56.9**	**59.9**
7-May-18	19:56	56.8	59.4	51.3	54.6	57.8	52.6	56.8	58.8	51.6	**56.2**	**59.2**
8-May-18	19:52	57.8	59.8	52.1	57.6	59.7	52.9	55.9	58.6	52.4	**57.2**	**60.2**

Remarks: (*) Public Holiday or Sunday

Note: Sound level meter set at CN-3 is made free-field measurement, façade correction (+3dB(A)) has added according to acoustical principles and EPD guidelines

Noise Measurement Results (dB(A)) of CN-4 During Day Time (07:00 – 19:00)

Date	Start Time	1st Leq_{5min}	L10	L90	2nd Leq_{5min}	L10	L90	3rd Leq_{5min}	L10	L90	4th Leq_{5min}	L10	L90	5th Leq_{5min}	L10	L90	6th Leq_{5min}	L10	L90	Leq_{30min}
25-Apr-18	10:05	66.6	66.2	45.0	60.2	63.6	43.4	60.7	63.8	44.7	57.4	61.4	43.7	61.7	65.2	43.2	60.0	64.5	43.8	**62.1**
26-Apr-18	10:27	62.7	64.3	47.3	60.8	63.8	46.6	60.5	62.9	46.6	61.4	65.1	42.4	61.7	65.8	43.2	60.2	63.7	42.2	**61.3**
27-Apr-18	9:53	65.1	65.2	46.4	56.3	60.2	38.9	56.7	60.8	39.7	55.5	60.5	38.7	59.4	63.6	41.4	58.5	63.4	40.2	**60.0**
28-Apr-18	11:15	57.6	60.2	44.6	58.6	62.4	44.2	60.4	65.0	44.6	56.1	59.8	43.1	57.8	59.8	43.8	58.2	61.2	44.2	**58.3**
29-Apr-18*	10:20	53.2	52.5	41.8	53.3	53.7	41.2	53.7	57.2	41.1	52.6	55.7	40.9	53.8	56.3	41.1	52.2	55.3	40.1	**53.2**
30-Apr-18	11:41	57.6	61.1	44.3	60.2	63.8	44.6	60.7	63.9	44.8	61.2	64.8	44.8	57.5	61.9	43.7	58.6	62.9	43.8	**59.5**
1-May-18*	10:28	56.1	59.7	43.3	54.8	56.3	42.4	56.0	60.4	42.6	57.1	60.0	43.6	56.8	59.4	42.2	55.4	58.0	42.2	**56.1**
2-May-18	9:36	63.3	65.5	45.3	61.3	64.1	45.3	60.0	64.0	44.9	61.9	65.7	45.4	64.5	65.7	48.6	63.2	65.7	51.1	**62.6**
3-May-18	11:20	61.1	64.2	48.1	58.1	60.4	47.4	58.6	61.2	48.5	56.4	59.2	54.1	58.1	61.4	50.1	59.3	62.4	46.2	**58.8**
4-May-18	10:38	62.4	64.5	45.0	60.8	61.0	46.5	60.7	62.5	47.5	57.4	59.0	48.0	58.3	60.5	49.5	59.7	60.0	49.5	**60.2**
5-May-18	13:01	62.5	66.8	42.1	63.5	67.7	42.1	58.6	62.3	44.9	57.9	61.0	44.1	61.5	63.3	46.5	61.0	64.7	44.7	**61.3**
6-May-18*	10:26	56.3	60.1	43.8	55.9	58.3	43.3	54.0	58.3	42.2	51.0	54.5	40.2	54.8	58.7	42.0	55.9	60.4	43.4	**55.0**
7-May-18	10:14	54.3	54.2	42.4	64.8	69.1	45.3	65.3	67.0	47.2	61.7	65.2	47.3	56.0	58.9	45.2	63.0	69.0	46.4	**62.5**
8-May-18	11:20	55.1	58.2	46.3	61.2	64.8	47.1	62.1	63.4	44.8	63.7	65.2	45.3	64.2	67.1	46.1	65.1	68.5	45.2	**62.8**

Remarks: (*) Public Holiday or Sunday

Noise Measurement Results (dB(A)) of CN-4 During Restricted Hours (19:00 – 07:00 next day)

Date	Start Time	1st Leq_{5min}	L10	L90	2nd Leq_{5min}	L10	L90	3rd Leq_{5min}	L10	L90	Leq_{15min}
25-Apr-18	20:13	61.5	65.9	38.5	63.1	67.1	38.6	62.6	62.3	38.1	**62.5**
26-Apr-18	20:22	62.7	67.0	41.5	61.3	61.8	40.2	62.6	61.1	40.0	**62.2**
27-Apr-18	21:03	64.7	67.5	45.5	66.8	69.6	50.9	64.6	66.9	48.8	**65.5**
28-Apr-18	20:22	67.2	72.2	42.9	64.7	70.2	44.2	62.9	67.8	43.9	**65.3**
29-Apr-18*	19:26	50.8	51.4	43.6	44.1	44.7	41.9	54.0	55.8	42.4	**51.2**
30-Apr-18	19:08	64.5	68.1	43.5	59.0	62.7	43.8	57.6	61.3	43.1	**61.4**
1-May-18*	20:13	57.8	61.2	42.3	59.0	62.7	43.0	62.0	64.6	44.4	**60.0**
2-May-18	20:50	60.9	62.1	43.1	54.5	58.5	42.7	59.4	60.6	42.0	**59.0**
3-May-18	20:19	67.4	71.0	41.0	70.6	73.9	60.0	63.3	68.1	45.7	**68.0**
4-May-18	20:24	61.4	64.9	42.8	69.9	71.4	46.4	64.8	69.1	44.6	**66.7**
5-May-18	20:28	61.1	66.9	40.4	57.4	59.1	40.0	57.9	63.6	40.7	**59.1**
6-May-18*	20:27	50.6	51.1	42.2	54.6	53.7	43.2	60.2	55.1	43.4	**56.8**
7-May-18	20:18	62.0	61.1	42.2	59.6	61.7	42.2	57.8	62.5	43.7	**60.1**
8-May-18	20:13	64.8	62.9	43.0	62.2	62.8	43.7	57.2	62.1	43.0	**62.4**

Remarks: (*) Public Holiday or Sunday

Water Quality

Baseline Water Quality Monitoring at M1																	
Date	**Time**	**Depth (m)**	**Flow Velocity (m/s)**	**Temp (oC)**		**DO (mg/L)**		**DOS (%)**		**Turbidity (NTU)**		**pH**		**SS**	
27-4-2018	10:48	0.37	<0.1	22.8	22.8	3.84	3.84	45.0	44.9	2.5	2.6	6.3	6.2	6.0	6.5
				22.8		3.83		44.7		2.6		6.2		7.0	
30-4-2018	10:35	0.38	<0.1	23.7	23.7	3.82	3.75	43.7	45.3	3.7	3.5	6.9	6.9	3.0	3.5
				23.7		3.68		46.9		3.3		6.9		4.0	
2-May-18	10:25	0.37	<0.1	24.2	24.2	3.83	3.84	45.8	45.9	2.8	3.1	6.6	6.6	4.0	4.0
				24.2		3.85		46.0		3.3		6.6		4.0	
4-May-18	10:00	0.37	<0.1	23.4	23.4	3.76	3.75	44.2	43.9	6.5	6.4	6.9	6.9	4.0	4.5
				23.4		3.73		43.6		6.3		6.9		5.0	
7-May-18	10:10	0.37	<0.1	26.4	26.4	3.77	3.79	46.8	47.0	7.8	7.7	7.0	7.0	10.0	10.5
				26.4		3.80		47.2		7.7		7.0		11.0	
9-May-18	10:00	0.45	<0.1	24.7	24.7	5.24	5.24	63.0	63.0	37.5	37.4	7.1	7.1	20.0	19.5
				24.7		5.23		62.9		37.3		7.1		19.0	
11-May-18	9:45	0.37	<0.1	23.4	23.4	3.81	3.82	45.0	44.9	3.0	2.9	6.9	6.9	4.0	4.0
				23.4		3.82		44.7		2.8		6.9		4.0	
14-May-18	10:39	0.38	<0.1	24.0	24.1	2.93	2.96	35.1	36.1	2.6	2.7	6.8	6.8	<2	<2
				24.2		2.99		37.1		2.7		6.8		<2	
16-May-18	11:00	0.37	<0.1	24.9	24.9	3.38	3.31	40.9	40.0	4.7	4.9	7.0	7.0	2.0	2.5
				24.9		3.24		39.1		5.2		7.0		3.0	
18-May-18	10:35	0.37	<0.1	25.8	25.8	3.59	3.58	43.9	43.8	3.8	4.0	6.6	6.6	<2	<2
				25.8		3.56		43.6		4.1		6.6		<2	
21-May-18	10:25	0.38	<0.1	24.9	24.9	3.08	3.10	37.1	37.6	4.0	4.1	7.2	7.2	5.0	5.0
				24.9		3.11		38.1		4.1		7.2		5.0	
23-May-18	11:00	0.37	<0.1	25.0	25.0	3.08	3.09	37.4	37.5	3.5	3.3	6.2	6.2	2.0	2.0
				25.0		3.10		37.6		3.1		6.2		2.0	

Baseline Water Quality Monitoring at M2																	
Date	**Time**	**Depth (m)**	**Flow Velocity (m/s)**	**Temp (oC)**		**DO (mg/L)**		**DOS (%)**		**Turbidity (NTU)**		**pH**		**SS**	
12-Jul-18	10:45	0.15	<0.1	32.1	32.1	6.47	6.51	89.0	89.1	12.4	12.5	7.4	7.4	6.0	9.0
				32.1		6.54		89.1		12.5		7.4		12.0	
14-Jul-18	9:45	0.50	0.10	27.3	27.3	7.37	7.36	92.9	92.8	61.6	59.5	7.3	7.3	35.0	36.5
				27.3		7.35		92.7		57.3		7.3		38.0	
16-Jul-18	10:15	0.15	<0.1	29.4	29.4	5.09	5.10	66.6	66.8	24.4	24.0	6.7	6.7	16.0	16.0
				29.4		5.10		66.9		23.5		6.7		16.0	
18-Jul-18	10:00	0.25	<0.1	27.7	27.7	7.50	7.50	95.3	95.2	17.8	17.7	7.4	7.4	12.0	11.5
				27.7		7.49		95.1		17.6		7.4		11.0	
20-Jul-18	10:00	0.20	<0.1	29.6	29.6	5.35	5.37	70.1	70.4	6.6	6.3	7.0	7.0	4.0	3.5
				29.6		5.38		70.7		6.0		7.0		3.0	
24-Jul-18	10:00	0.18	<0.1	31.0	31.0	5.46	5.45	74.3	74.2	22.8	22.7	7.3	7.3	12.0	11.5
				31.0		5.43		74.1		22.6		7.3		11.0	
26-Jul-18	9:40	0.15	<0.1	31.9	31.9	6.67	6.66	91.1	91.1	36.0	36.0	6.8	6.8	31.0	31.5
				31.9		6.65		91.0		36.0		6.8		32.0	
28-Jul-18	9:25	0.15	<0.1	32.1	32.1	5.07	5.08	69.4	69.7	42.8	42.8	7.1	7.1	22.0	21.5
				32.0		5.09		70.0		42.8		7.1		21.0	
30-Jul-18	9:30	0.15	<0.1	32.6	32.6	4.85	4.88	67.1	67.6	18.3	18.2	7.5	7.5	8.0	8.0
				32.6		4.91		68.0		18.1		7.5		8.0	
1-Aug-18	9:40	0.13	<0.1	33.5	33.5	8.45	8.46	118.7	118.9	38.6	33.8	7.1	7.1	27.0	26.0
				33.5		8.46		119.0		28.9		7.1		25.0	
3-Aug-18	9:45	0.13	<0.1	33.1	33.1	9.28	9.26	129.3	129.1	69.0	69.6	7.3	7.3	54.0	52.5
				33.1		9.24		128.9		70.2		7.3		51.0	
6-Aug-18	9:40	0.17	<0.1	31.0	31.0	5.26	5.27	71.4	71.6	9.5	9.6	7.1	7.1	3.0	3.0
				31.0		5.28		71.7		9.6		7.1		3.0	

Baseline Water Quality Monitoring at M3																	
Date	**Time**	**Depth (m)**	**Flow Velocity (m/s)**	**Temp (oC)**		**DO (mg/L)**		**DOS (%)**		**Turbidity (NTU)**		**pH**		**SS**	
27-4-2018	11:52	2.61	<0.1	25.5	25.6	8.30	8.28	104.2	103.3	9.9	9.9	5.9	5.9	24.0	23.5
				25.6		8.25		102.3		9.9		5.9		23.0	
30-4-2018	11:40	2.50	<0.1	27.4	27.4	7.93	7.89	101.5	100.5	4.9	5.2	5.9	5.9	10.0	9.5
				27.4		7.84		99.5		5.5		5.9		9.0	
2-May-18	11:50	2.61	<0.1	27.4	27.4	7.34	7.32	92.8	92.5	4.1	4.2	6.5	6.5	7.0	7.5
				27.4		7.30		92.2		4.3		6.5		8.0	
4-May-18	10:50	2.62	<0.1	27.1	27.1	7.46	7.40	93.8	92.8	5.6	5.9	6.3	6.3	10.0	9.0
				27.1		7.34		91.7		6.2		6.3		8.0	
7-May-18	11:30	2.68	<0.1	26.8	26.8	5.86	5.87	75.5	75.5	2.7	2.8	5.9	5.9	5.0	4.5
				26.8		5.87		75.5		2.8		5.9		4.0	
10-May-18	10:00	2.70	<0.1	25.8	25.8	7.78	7.73	95.2	94.6	4.0	4.1	7.9	7.9	8.0	7.5
				25.8		7.67		93.9		4.2		7.9		7.0	
12-May-18	9:41	2.61	<0.1	25.8	25.8	6.80	6.78	83.5	83.2	4.0	3.9	6.0	6.0	6.0	6.0
				25.8		6.75		82.8		3.8		6.0		6.0	
14-May-18	9:11	2.65	<0.1	26.8	26.8	4.64	4.68	57.2	57.6	1.8	1.9	6.9	6.9	2.0	3.0
				26.8		4.71		58.0		1.9		6.9		4.0	
16-May-18	10:35	2.60	<0.1	27.4	27.4	4.81	4.83	62.7	62.9	2.9	3.0	7.0	7.0	3.0	4.0
				27.4		4.85		63.0		3.0		7.0		5.0	
18-May-18	10:00	2.61	<0.1	31.2	31.2	6.01	6.02	81.2	81.4	3.8	4.0	6.6	6.6	5.0	6.0
				31.2		6.03		81.5		4.2		6.6		7.0	
21-May-18	9:21	2.71	<0.1	31.4	31.4	6.23	6.24	84.4	84.5	2.1	2.1	6.4	6.4	8.0	7.0
				31.4		6.24		84.5		2.1		6.4		6.0	
23-May-18	10:30	2.61	<0.1	32.1	32.1	4.42	4.47	59.4	60.1	2.8	2.8	7.7	7.7	4.0	4.0
				32.1		4.51		60.7		2.8		7.7		4.0	

Baseline Water Quality Monitoring at M4																	
Date	**Time**	**Depth (m)**	**Flow Velocity (m/s)**	**Temp (oC)**		**DO (mg/L)**		**DOS (%)**		**Turbidity (NTU)**		**pH**		**SS**	
27-4-2018	10:34	0.41	<0.1	22.3	22.3	3.49	3.49	40.1	40.2	3.4	3.4	6.2	6.2	5.0	5.0
				22.3		3.49		40.3		3.4		6.2		5.0	
30-4-2018	10:25	0.40	<0.1	23.9	23.9	4.71	4.72	55.7	55.8	4.9	4.8	7.7	7.7	5.0	4.5
				23.9		4.72		55.8		4.8		7.7		4.0	
2-May-18	10:00	0.42	<0.1	24.1	24.1	3.88	4.11	47.2	49.5	5.9	6.0	7.8	7.8	4.0	4.5
				24.1		4.33		51.8		6.1		7.8		5.0	
4-May-18	9:50	0.43	<0.1	23.5	23.5	5.64	5.59	66.4	65.9	4.7	4.7	7.7	7.7	2.0	2.5
				23.5		5.53		65.3		4.7		7.7		3.0	
7-May-18	10:00	0.42	<0.1	25.6	24.9	5.37	5.36	65.7	65.5	3.8	3.6	7.3	7.3	<2	<2
				24.2		5.34		65.3		3.5		7.3		<2	
9-May-18	9:50	0.48	<0.1	24.2	24.2	7.66	7.60	91.0	90.4	29.8	29.5	8.2	8.2	25.0	25.0
				24.2		7.53		89.7		29.2		8.2		25.0	
11-May-18	9:55	0.42	<0.1	23.0	23.0	5.41	5.40	63.3	63.2	2.5	2.5	6.8	6.8	3.0	3.5
				23.0		5.38		63.0		2.5		6.8		4.0	
14-May-18	10:57	0.37	<0.1	25.3	25.3	4.08	4.09	49.1	49.5	2.0	2.1	6.8	6.8	<2	<2
				25.3		4.10		49.9		2.1		6.8		<2	
16-May-18	11:15	0.43	<0.1	25.5	25.5	5.19	5.06	63.4	61.6	3.7	3.5	6.7	6.7	<2	<2
				25.5		4.93		59.7		3.3		6.7		<2	
18-May-18	11:45	0.42	<0.1	26.1	26.1	5.98	5.81	73.0	71.4	3.2	3.2	6.6	6.6	<2	<2
				26.1		5.64		69.7		3.2		6.6		<2	
21-May-18	10:32	0.41	<0.1	25.7	25.7	4.68	4.67	33.0	32.9	3.7	3.8	7.1	7.1	3.0	3.5
				25.7		4.65		32.8		3.8		7.1		4.0	
23-May-18	11:10	0.42	<0.1	26.3	26.3	3.73	3.74	46.3	46.4	4.5	4.4	6.8	6.8	3.0	3.0
				26.3		3.74		46.5		4.3		6.8		3.0	

Appendix I

Laboratory Data Report

- **Air Quality - 24-hour TSP**
- **Water Quality – Suspended Solids**

Air Quality - 24-hour TSP

ALS Technichem (HK) Pty Ltd

ALS Laboratory Group

ANALYICAL CHEMISTRY & TESTING SERVICES

CERTIFICATE OF ANALYSIS

Client	: ACTION UNITED ENVIRONMENT SERVICES AND CONSULTING	Laboratory	: ALS Technichem (HK) Pty Ltd	Page	: 1 of 4
Contact	: MR BEN TAM	Contact	: Richard Fung	Work Order	: HK1827573
Address	: RM A 20/F., GOLD KING IND BLDG, NO. 35-41 TAI LIN PAI ROAD, KWAI CHUNG, N.T. HONG KONG	Address	: 11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong	Amendment	: 1
E-mail	: Bentam@fordbusiness.com	E-mail	: richard.fung@alsglobal.com		
Telephone	: +852 2959 6059	Telephone	: +852 2610 1044		
Facsimile	: +852 2959 6079	Facsimile	: +852 2610 2021		
Project	:			Date Samples Received	: 27-Apr-2018
Order number	: ----	Quote number	: HKE/2982/2017	Issue Date	: 23-May-2018
C-O-C number	: ----			No. of samples received	: 2
Site	: ----			No. of samples analysed	: 2

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

Signatories	*Position*	*Authorised results for*
Fung Lim Chee, Richard	General Manager	Inorganics

General Comments

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release. When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes. Testing period is from 27-Apr-2018 to 28-Apr-2018.

Key: LOR = Limit of reporting; CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.

Specific Comments for Work Order: HK1827573

Sample(s) were picked up from client by ALS Technichem (HK) staff in ambient condition.

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

Analytical Results

Sub-Matrix: FILTER (TSP/RSP)			Client sample ID	22511 881 ASR-1	22513 881 ASR-3	---	---	---
			Client sampling date / time	25-Apr-2018	25-Apr-2018	----	----	----
Compound	CAS Number	LOR	Unit	HK1827573-001	HK1827573-002	-------	-------	-------
EA/ED: Physical and Aggregate Properties								
HK-TSP: Total Suspended Particulates	----	0.0010	g	0.2497	0.1304	---	---	---
HK-TSP: Initial Weight	----	0.0010	g	2.6936	2.7022	---	---	---
HK-TSP: Final Weight	----	0.0010	g	2.9433	2.8326	---	---	---

Laboratory Duplicate (DUP) Report

- No Laboratory Duplicate (DUP) Results are required to be reported.

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

Matrix: **AIR**

Method: Compound	CAS Number	Method Blank (MB) Report			Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report						
					Spike Concentration	Spike Recovery (%)		Recovery Limits(%)		RPD (%)	
		LOR	Unit	Result		LCS	DCS	Low	High	Value	Control Limit
Particulate Matters (QC Lot: 1603182)											
HK-TSP: Total Suspended Particulates	----	0.001	g	<0.0010	----	----	----	----	----	----	----
HK-TSP: Initial Weight	----	0.001	g	2.6166	----	----	----	----	----	----	----
HK-TSP: Final Weight	----	0.001	g	2.6168	----	----	----	----	----	----	----

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

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

CERTIFICATE OF ANALYSIS

Client	:	ACTION UNITED ENVIRONMENT SERVICES AND CONSULTING	*Laboratory*	:	ALS Technichem (HK) Pty Ltd	*Page*	: 1 of 4
Contact	:	MR BEN TAM	*Contact*	:	Richard Fung	*Work Order*	: **HK1827781**
Address	:	RM A 20/F., GOLD KING IND BLDG, NO. 35-41 TAI LIN PAI ROAD, KWAI CHUNG, N.T. HONG KONG	*Address*	:	11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong	*Amendment No.*	: 1
E-mail	:	Bentam@fordbusiness.com	*E-mail*	:	richard.fung@alsglobal.com		
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Facsimile	:	+852 2959 6079	*Facsimile*	:	+852 2610 2021		
Project	:		*Quote number*	:	HKE/2982/2017	*Date received*	: 30-Apr-2018
Order number	:	—				*Date of issue*	: 23-May-2018
C-O-C number	:	—				*No. of samples*	- *Received* : 11
Site	:	—					- *Analysed* : 11

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

Signatory	*Position*	*Authorised results for:*
Fung Lim Chee, Richard	**General Manager**	**Inorganics**

Report Comments

This report for ALS Technichem (HK) Pty Ltd work order reference HK1827781, Amendment 1 supersedes any previous reports with this reference. Testing period is from 30-Apr-2018 to 02-May-2018. Results apply to sample(s) as submitted. All pages of this report have been checked and approved for release. When date(s) and/or time(s) are shown bracketed, these have been assumed by the laboratory for process purposes. Abbreviations: CAS number = Chemical Abstract Services number. LOR = Limit of reporting.

Specific Comments for Work Order HK1827781 :

Sample(s) were picked up from client by ALS Technichem (HK) staff in ambient condition.

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

Analytical Results

Sub-Matrix: **FILTER (TSP/RSP)**

Client sample ID	Client sampling date / time	Laboratory sample ID	HK-TSP: Final Weight	HK-TSP: Initial Weight	HK-TSP: Total Suspended Particulates	----	----
Compound							
LOR Unit			0.0010 g	0.0010 g	0.0010 g	----	----
			EA/ED: Physical and Aggregate Properties	EA/ED: Physical and Aggregate Properties	EA/ED: Physical and Aggregate Properties	----	----
22525 881 ASR1	26-Apr-2018	HK1827781-001	**2.8226**	**2.6513**	**0.1713**	**----**	**----**
22527 881 ASR1	27-Apr-2018	HK1827781-002	**2.7980**	**2.6780**	**0.1200**	**----**	**----**
22580 881 ASR1	29-Apr-2018	HK1827781-003	**2.8110**	**2.6872**	**0.1238**	**----**	**----**
22512 881 ASR2	26-Apr-2018	HK1827781-004	**2.8305**	**2.6742**	**0.1563**	**----**	**----**
22523 881 ASR2	27-Apr-2018	HK1827781-005	**2.8597**	**2.6833**	**0.1764**	**----**	**----**
22529 881 ASR2	28-Apr-2018	HK1827781-006	**2.8033**	**2.6703**	**0.1330**	**----**	**----**
22538 881 ASR2	29-Apr-2018	HK1827781-007	**2.8238**	**2.7041**	**0.1197**	**----**	**----**
22524 881 ASR3	26-Apr-2018	HK1827781-008	**2.7765**	**2.6701**	**0.1064**	**----**	**----**
22526 881 ASR3	27-Apr-2018	HK1827781-009	**2.7919**	**2.6855**	**0.1064**	**----**	**----**
22530 881 ASR3	28-Apr-2018	HK1827781-010	**2.7704**	**2.7018**	**0.0686**	**----**	**----**
22537 881 ASR3	29-Apr-2018	HK1827781-011	**2.7722**	**2.6755**	**0.0967**	**----**	**----**

Laboratory Duplicate (DUP) Report

- **No Laboratory Duplicate (DUP) Results are required to be reported.**

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

Matrix: **AIR**

		Method Blank (MB) Report			Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report						
					Spike	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	DCS	Low	High	Value	Control Limit
Particulate Matters (QCLot: 1612214)											
HK-TSP: Total Suspended Particulates	----	0.001	g	<0.0010	----	----	----	----	----	----	----
HK-TSP: Initial Weight	----	0.001	g	2.6162	----	----	----	----	----	----	----
HK-TSP: Final Weight	----	0.001	g	2.6165	----	----	----	----	----	----	----

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

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

ALS Technichem (HK) Pty Ltd

ALS Laboratory Group

ANALYICAL CHEMISTRY & TESTING SERVICES

CERTIFICATE OF ANALYSIS

Client	: ACTION UNITED ENVIRONMENT SERVICES AND CONSULTING	Laboratory	: ALS Technichem (HK) Pty Ltd	Page	: 1 of 4
Contact	: MR BEN TAM	Contact	: Richard Fung	Work Order	: HK1828001
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E-mail	: Bentam@fordbusiness.com	E-mail	: richard.fung@alsglobal.com		
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Facsimile	: +852 2959 6079	Facsimile	: +852 2610 2021		
Project	:			Date Samples Received	: 02-May-2018
Order number	: ----	Quote number	: HKE/2982/2017	Issue Date	: 23-May-2018
C-O-C number	: ----			No. of samples received	: 5
Site	: ----			No. of samples analysed	: 5

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

Signatories	*Position*	*Authorised results for*
Fung Lim Chee, Richard	General Manager	Inorganics

General Comments

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release. When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes. Testing period is from 02-May-2018 to 03-May-2018.

Key: LOR = Limit of reporting; CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.

Specific Comments for Work Order: HK1828001

Sample(s) were picked up from client by ALS Technichem (HK) staff in ambient condition.

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

Analytical Results

Sub-Matrix: **FILTER (TSP/RSP)**

Compound	CAS Number	LOR	Unit	Client sample ID	22581 881 ASR1	22565 881 ASR2	22540 881 ASR2	22566 881 ASR3	22541 881 ASR3
				Client sampling date / time	01-May-2018	30-Apr-2018	01-May-2018	30-Apr-2018	01-May-2018
					HK1828001-001	HK1828001-002	HK1828001-003	HK1828001-004	HK1828001-005
EA/ED: Physical and Aggregate Properties									
HK-TSP: Total Suspended Particulates	----	0.0010	g		**0.0832**	**0.0844**	**0.0791**	**0.0652**	**0.0658**
HK-TSP: Initial Weight	----	0.0010	g		**2.6760**	**2.6932**	**2.6671**	**2.6838**	**2.6727**
HK-TSP: Final Weight	----	0.0010	g		**2.7592**	**2.7776**	**2.7462**	**2.7490**	**2.7385**

Laboratory Duplicate (DUP) Report

- No Laboratory Duplicate (DUP) Results are required to be reported.

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

Matrix: **AIR**

Method: Compound	CAS Number	Method Blank (MB) Report			Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report						
					Spike Concentration	Spike Recovery (%)		Recovery Limits(%)		RPD (%)	
		LOR	Unit	Result		LCS	DCS	Low	High	Value	Control Limit
Particulate Matters (QC Lot: 1615439)											
HK-TSP: Total Suspended Particulates	----	0.001	g	<0.0010	----	----	----	----	----	----	----
HK-TSP: Initial Weight	----	0.001	g	2.6165	----	----	----	----	----	----	----
HK-TSP: Final Weight	----	0.001	g	2.6161	----	----	----	----	----	----	----
Particulate Matters (QC Lot: 1615449)											
HK-TSP: Total Suspended Particulates	----	0.001	g	<0.0010	----	----	----	----	----	----	----
HK-TSP: Initial Weight	----	0.001	g	2.6165	----	----	----	----	----	----	----
HK-TSP: Final Weight	----	0.001	g	2.6161	----	----	----	----	----	----	----

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

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

CERTIFICATE OF ANALYSIS

Client	:	ACTION UNITED ENVIRONMENT SERVICES AND CONSULTING	*Laboratory*	:	ALS Technichem (HK) Pty Ltd	*Page*	: 1 of 4
Contact	:	MR BEN TAM	*Contact*	:	Richard Fung	*Work Order*	: **HK1828636**
Address	:	RM A 20/F., GOLD KING IND BLDG, NO. 35-41 TAI LIN PAI ROAD, KWAI CHUNG, N.T. HONG KONG	*Address*	:	11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong	*Amendment No.*	: 1
E-mail	:	Bentam@fordbusiness.com	*E-mail*	:	richard.fung@alsglobal.com		
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Project	:	TCS00881/18	*Quote number*	:	HKE/2982/2017	*Date received*	: 04-May-2018
Order number	:	—				*Date of issue*	: 23-May-2018
C-O-C number	:	—				*No. of samples*	- *Received* : 7
Site	:	SHA LING					- *Analysed* : 7

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

Signatory	*Position*	*Authorised results for:*
Fung Lim Chee, Richard	**General Manager**	**Inorganics**

Report Comments

This report for ALS Technichem (HK) Pty Ltd work order reference HK1828636, Amendment 1 supersedes any previous reports with this reference. Testing period is from 04-May-2018 to 07-May-2018. Results apply to sample(s) as submitted. All pages of this report have been checked and approved for release. When date(s) and/or time(s) are shown bracketed, these have been assumed by the laboratory for process purposes. Abbreviations: CAS number = Chemical Abstract Services number. LOR = Limit of reporting.

Specific Comments for Work Order HK1828636 :

Sample(s) were picked up from client by ALS Technichem (HK) staff in ambient condition.

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

Analytical Results

Sub-Matrix: **FILTER (TSP/RSP)**

Client sample ID	Client sampling date / time	Laboratory sample ID	Compound	HK-TSP: Final Weight	HK-TSP: Initial Weight	HK-TSP: Total Suspended Particulates	----	----
			LOR Unit	0.0010 g	0.0010 g	0.0010 g	----	----
				EA/ED: Physical and Aggregate Properties	EA/ED: Physical and Aggregate Properties	EA/ED: Physical and Aggregate Properties	----	----
22579 881 ASR1	02-May-2018	HK1828636-001		**2.7626**	**2.6583**	**0.1043**	**----**	**----**
22568 881 ASR1	03-May-2018	HK1828636-002		**2.7709**	**2.7006**	**0.0703**	**----**	**----**
22551 881 ASR2	02-May-2018	HK1828636-003		**2.7838**	**2.6763**	**0.1075**	**----**	**----**
22569 881 ASR2	03-May-2018	HK1828636-004		**2.7384**	**2.6760**	**0.0624**	**----**	**----**
22567 881 ASR3	02-May-2018	HK1828636-005		**2.7525**	**2.6828**	**0.0697**	**----**	**----**
22528 881 ASR1	28-Apr-2018	HK1828636-006		**2.9207**	**2.6708**	**0.2499**	**----**	**----**
22539 881 ASR1	30-Apr-2018	HK1828636-007		**2.8855**	**2.6719**	**0.2136**	**----**	**----**

Laboratory Duplicate (DUP) Report

- **No Laboratory Duplicate (DUP) Results are required to be reported.**

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

Matrix: **AIR**

		Method Blank (MB) Report			Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report						
					Spike	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	DCS	Low	High	Value	Control Limit
Particulate Matters (QCLot: 1622183)											
HK-TSP: Total Suspended Particulates	----	0.001	g	<0.0010	----	----	----	----	----	----	----
HK-TSP: Initial Weight	----	0.001	g	2.6156	----	----	----	----	----	----	----
HK-TSP: Final Weight	----	0.001	g	2.6155	----	----	----	----	----	----	----

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

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

ALS Technichem (HK) Pty Ltd

ALS Laboratory Group

ANALYICAL CHEMISTRY & TESTING SERVICES

CERTIFICATE OF ANALYSIS

Client	: ACTION UNITED ENVIRONMENT SERVICES AND CONSULTING	Laboratory	: ALS Technichem (HK) Pty Ltd	Page	: 1 of 4
Contact	: MR BEN TAM	Contact	: Richard Fung	Work Order	: HK1828836
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E-mail	: Bentam@fordbusiness.com	E-mail	: richard.fung@alsglobal.com		
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Facsimile	: +852 2959 6079	Facsimile	: +852 2610 2021		
Project	:			Date Samples Received	: 07-May-2018
Order number	: ----	Quote number	: HKE/2982/2017	Issue Date	: 23-May-2018
C-O-C number	: ----			No. of samples received	: 5
Site	: ----			No. of samples analysed	: 5

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

Signatories	*Position*	*Authorised results for*
Fung Lim Chee, Richard	General Manager	Inorganics

General Comments

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release. When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes. Testing period is from 07-May-2018 to 08-May-2018.

Key: LOR = Limit of reporting; CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.

Specific Comments for Work Order: HK1828836

Sample(s) were picked up from client by ALS Technichem (HK) staff in ambient condition.

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

Analytical Results

Sub-Matrix: **FILTER (TSP/RSP)**

Compound	CAS Number	LOR	Unit	Client sample ID	22583 881 ASR1	22571 881 ASR2	22542 881 ASR2	22570 881 ASR3	22605 881 ASR3
				Client sampling date / time	04-May-2018	04-May-2018	06-May-2018	04-May-2018	06-May-2018
					HK1828836-001	HK1828836-002	HK1828836-003	HK1828836-004	HK1828836-005
EA/ED: Physical and Aggregate Properties									
HK-TSP: Total Suspended Particulates	----	0.0010	g		0.2093	0.0986	0.0562	0.0771	0.0294
HK-TSP: Initial Weight	----	0.0010	g		2.6970	2.6589	2.6715	2.6844	2.6888
HK-TSP: Final Weight	----	0.0010	g		2.9063	2.7575	2.7277	2.7615	2.7182

Laboratory Duplicate (DUP) Report

- No Laboratory Duplicate (DUP) Results are required to be reported.

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

Matrix: **AIR**

Method: Compound	CAS Number	Method Blank (MB) Report			Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report						
					Spike Concentration	Spike Recovery (%)		Recovery Limits(%)		RPD (%)	
		LOR	Unit	Result		LCS	DCS	Low	High	Value	Control Limit
Particulate Matters (QC Lot: 1625033)											
HK-TSP: Total Suspended Particulates	----	0.001	g	<0.0010	----	----	----	----	----	----	----
HK-TSP: Initial Weight	----	0.001	g	2.6155	----	----	----	----	----	----	----
HK-TSP: Final Weight	----	0.001	g	2.6155	----	----	----	----	----	----	----

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

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

ALS Technichem (HK) Pty Ltd

ALS Laboratory Group

ANALYICAL CHEMISTRY & TESTING SERVICES

CERTIFICATE OF ANALYSIS

Client	: ACTION UNITED ENVIRONMENT SERVICES AND CONSULTING	Laboratory	: ALS Technichem (HK) Pty Ltd	Page	: 1 of 4
Contact	: MR BEN TAM	Contact	: Richard Fung	Work Order	: HK1829282
Address	: RM A 20/F., GOLD KING IND BLDG, NO. 35-41 TAI LIN PAI ROAD, KWAI CHUNG, N.T. HONG KONG	Address	: 11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong	Amendment	: 1
E-mail	: Bentam@fordbusiness.com	E-mail	: richard.fung@alsglobal.com		
Telephone	: +852 2959 6059	Telephone	: +852 2610 1044		
Facsimile	: +852 2959 6079	Facsimile	: +852 2610 2021		
Project	: TCS00881/18			Date Samples Received	: 09-May-2018
Order number	: ----	Quote number	: HKE/2982/2017	Issue Date	: 23-May-2018
C-O-C number	: ----			No. of samples received	: 4
Site	: SHA LING			No. of samples analysed	: 4

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

Signatories	*Position*	*Authorised results for*
Fung Lim Chee, Richard	General Manager	Inorganics

General Comments

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release. When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes. Testing period is from 09-May-2018 to 10-May-2018.

Key: LOR = Limit of reporting; CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.

Specific Comments for Work Order: HK1829282

Sample(s) were picked up from client by ALS Technichem (HK) staff in ambient condition.

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

Analytical Results

Sub-Matrix: **FILTER (TSP/RSP)**

			Client sample ID	22599 881 ASR1	22607 881 ASR1	22601 881 ASR2	22602 881 ASR3	----
			Client sampling date / time	05-May-2018	07-May-2018	07-May-2018	07-May-2018	----
Compound	CAS Number	LOR	Unit	HK1829282-001	HK1829282-002	HK1829282-003	HK1829282-004	--------
EA/ED: Physical and Aggregate Properties								
HK-TSP: Total Suspended Particulates	----	0.0010	g	0.1054	0.1081	0.0702	0.0386	----
HK-TSP: Initial Weight	----	0.0010	g	2.6700	2.6909	2.6491	2.6518	----
HK-TSP: Final Weight	----	0.0010	g	2.7754	2.7990	2.7193	2.6904	----

Laboratory Duplicate (DUP) Report

- No Laboratory Duplicate (DUP) Results are required to be reported.

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

Matrix: **AIR**

Method: Compound	CAS Number	Method Blank (MB) Report			Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report						
					Spike Concentration	Spike Recovery (%)		Recovery Limits(%)		RPD (%)	
		LOR	Unit	Result		LCS	DCS	Low	High	Value	Control Limit
Particulate Matters (QC Lot: 1631139)											
HK-TSP: Total Suspended Particulates	----	0.001	g	<0.0010	----	----	----	----	----	----	----
HK-TSP: Initial Weight	----	0.001	g	2.6154	----	----	----	----	----	----	----
HK-TSP: Final Weight	----	0.001	g	2.6150	----	----	----	----	----	----	----

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

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

CERTIFICATE OF ANALYSIS

Client	:	ACTION UNITED ENVIRONMENT SERVICES AND CONSULTING	*Laboratory*	:	ALS Technichem (HK) Pty Ltd	*Page*	: 1 of 4
Contact	:	MR BEN TAM	*Contact*	:	Richard Fung	*Work Order*	: **HK1829721**
Address	:	RM A 20/F., GOLD KING IND BLDG, NO. 35-41 TAI LIN PAI ROAD, KWAI CHUNG, N.T. HONG KONG	*Address*	:	11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong	*Amendment No.*	: 1
E-mail	:	Bentam@fordbusiness.com	*E-mail*	:	richard.fung@alsglobal.com		
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Facsimile	:	+852 2959 6079	*Facsimile*	:	+852 2610 2021		
Project	:	TCS00881/18	*Quote number*	:	HKE/2982/2017	*Date received*	: 11-May-2018
Order number	:	—				*Date of issue*	: 23-May-2018
C-O-C number	:	—				*No. of samples*	- *Received* : 8
Site	:	SHA LING					- *Analysed* : 8

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

Signatory	*Position*	*Authorised results for:*
Fung Lim Chee, Richard	**General Manager**	**Inorganics**

Report Comments

This report for ALS Technichem (HK) Pty Ltd work order reference HK1829721, Amendment 1 supersedes any previous reports with this reference. Testing period is from 11-May-2018 to 15-May-2018. Results apply to sample(s) as submitted. All pages of this report have been checked and approved for release. When date(s) and/or time(s) are shown bracketed, these have been assumed by the laboratory for process purposes. Abbreviations: CAS number = Chemical Abstract Services number. LOR = Limit of reporting.

Specific Comments for Work Order HK1829721 :

Sample(s) were picked up from client by ALS Technichem (HK) staff in ambient condition.

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

Analytical Results

Sub-Matrix: **FILTER (TSP/RSP)**

Client sample ID	Client sampling date / time	Laboratory sample ID	HK-TSP: Final Weight	HK-TSP: Initial Weight	HK-TSP: Total Suspended Particulates	----	----
Compound							
LOR Unit			0.0010 g	0.0010 g	0.0010 g	----	----
			EA/ED: Physical and Aggregate Properties	EA/ED: Physical and Aggregate Properties	EA/ED: Physical and Aggregate Properties	----	----
22582 881 ASR1	06-May-2018	HK1829721-001	**2.7136**	**2.6820**	**0.0316**	**----**	**----**
22603 881 ASR1	08-May-2018	HK1829721-002	**2.7614**	**2.6536**	**0.1078**	**----**	**----**
22600 881 ASR2	05-May-2018	HK1829721-003	**2.7188**	**2.6556**	**0.0632**	**----**	**----**
22604 881 ASR2	08-May-2018	HK1829721-004	**2.7347**	**2.6672**	**0.0675**	**----**	**----**
22557 881 ASR2	09-May-2018	HK1829721-005	**2.7669**	**2.6892**	**0.0777**	**----**	**----**
22572 881 ASR3	05-May-2018	HK1829721-006	**2.7141**	**2.6603**	**0.0538**	**----**	**----**
22623 881 ASR3	08-May-2018	HK1829721-007	**2.6969**	**2.6624**	**0.0345**	**----**	**----**
22624 881 ASR3	09-May-2018	HK1829721-008	**2.7063**	**2.6710**	**0.0353**	**----**	**----**

Laboratory Duplicate (DUP) Report

- **No Laboratory Duplicate (DUP) Results are required to be reported.**

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

Matrix: **AIR**

		Method Blank (MB) Report			Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report						
					Spike	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	DCS	Low	High	Value	Control Limit
Particulate Matters (QCLot: 1642133)											
HK-TSP: Total Suspended Particulates	----	0.001	g	<0.0010	----	----	----	----	----	----	----
HK-TSP: Initial Weight	----	0.001	g	2.6147	----	----	----	----	----	----	----
HK-TSP: Final Weight	----	0.001	g	2.6150	----	----	----	----	----	----	----

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

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

Water Quality – Suspended Solids

CERTIFICATE OF ANALYSIS

Client	:	ACTION UNITED ENVIRONMENT SERVICES AND CONSULTING	*Laboratory*	:	ALS Technichem (HK) Pty Ltd	*Page*	: 1 of 4
Contact	:	MR BEN TAM	*Contact*	:	Richard Fung	*Work Order*	: **HK1827647**
Address	:	RM A 20/F., GOLD KING IND BLDG, NO. 35-41 TAI LIN PAI ROAD, KWAI CHUNG, N.T. HONG KONG	*Address*	:	11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong		
E-mail	:	Bentam@fordbusiness.com	*E-mail*	:	richard.fung@alsglobal.com		
Telephone	:	+852 2959 6059	*Telephone*	:	+852 2610 1044		
Facsimile	:	+852 2959 6079	*Facsimile*	:	+852 2610 2021		
Project	:	TCS00881/18	*Quote number*	:	HKE/2982/2017	*Date received*	: 27-Apr-2018
Order number	:					*Date of issue*	: 04-May-2018
C-O-C number	:	—				*No. of samples*	- *Received* : 8
Site	:	SANDY RIDGE CEMETERY					- *Analysed* : 8

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

Signatory	*Position*	*Authorised results for:*
Fung Lim Chee, Richard	**General Manager**	**Inorganics**

Report Comments

This report for ALS Technichem (HK) Pty Ltd work order reference HK1827647 supersedes any previous reports with this reference. Testing period is from 27-Apr-2018 to 04-May-2018. Results apply to sample(s) as submitted. All pages of this report have been checked and approved for release. When date(s) and/or time(s) are shown bracketed, these have been assumed by the laboratory for process purposes. Abbreviations: CAS number = Chemical Abstract Services number. LOR = Limit of reporting.

Specific Comments for Work Order HK1827647 :

Sample(s) were received in chilled condition.

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

Analytical Results

Sub-Matrix: **WATER**			*Compound*	**EA025: Suspended Solids (SS)**	----	----	----	----
			LOR Unit	2 mg/L	----	----	----	----
Client sample ID	*Client sampling date / time*	*Laboratory sample ID*		EA/ED: Physical and Aggregate Properties	----	----	----	----
M1 (DUPLICATE)	27-Apr-2018	HK1827647-001		**6**	----	----	----	----
M1	27-Apr-2018	HK1827647-002		**7**	----	----	----	----
M2a (DUPLICATE)	27-Apr-2018	HK1827647-003		**16**	----	----	----	----
M2a	27-Apr-2018	HK1827647-004		**14**	----	----	----	----
M3 (DUPLICATE)	27-Apr-2018	HK1827647-005		**24**	----	----	----	----
M3	27-Apr-2018	HK1827647-006		**23**	----	----	----	----
M4 (DUPLICATE)	27-Apr-2018	HK1827647-007		**5**	----	----	----	----
M4	27-Apr-2018	HK1827647-008		**5**	----	----	----	----

Laboratory Duplicate (DUP) Report

Matrix: **WATER**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report				
				LOR	Unit	Original Result	Duplicate Result	RPD (%)
EA/ED: Physical and Aggregate Properties (QC Lot: 1609859)								
HK1827626-006	Anonymous	EA025: Suspended Solids (SS)	----	2	mg/L	97	92	5.01
HK1827656-001	Anonymous	EA025: Suspended Solids (SS)	----	2	mg/L	162	169	3.83

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

Matrix: **WATER**

Method: Compound	CAS Number	Method Blank (MB) Report			Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report						
					Spike	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
		LOR	Unit	Result	Concentration	LCS	DCS	Low	High	Value	Control Limit
EA/ED: Physical and Aggregate Properties (QCLot: 1609859)											
EA025: Suspended Solids (SS)	----	2	mg/L	<2	10 mg/L	112	----	81	117	----	----

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

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

CERTIFICATE OF ANALYSIS

Client	:	ACTION UNITED ENVIRONMENT SERVICES AND CONSULTING	*Laboratory*	:	ALS Technichem (HK) Pty Ltd	*Page*	: 1 of 4
Contact	:	MR BEN TAM	*Contact*	:	Richard Fung	*Work Order*	: **HK1827752**
Address	:	RM A 20/F., GOLD KING IND BLDG, NO. 35-41 TAI LIN PAI ROAD, KWAI CHUNG, N.T. HONG KONG	*Address*	:	11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong		
E-mail	:	Bentam@fordbusiness.com	*E-mail*	:	richard.fung@alsglobal.com		
Telephone	:	+852 2959 6059	*Telephone*	:	+852 2610 1044		
Facsimile	:	+852 2959 6079	*Facsimile*	:	+852 2610 2021		
Project	:	TCS00881/18	*Quote number*	:	HKE/2982/2017	*Date received*	: 30-Apr-2018
Order number	:	—				*Date of issue*	: 07-May-2018
C-O-C number	:	—				*No. of samples*	- *Received* : 8
Site	:	SANDY RIDGE CEMETERY					- *Analysed* : 8

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

Signatory	*Position*	*Authorised results for:*
Fung Lim Chee, Richard	**General Manager**	**Inorganics**

Report Comments

This report for ALS Technichem (HK) Pty Ltd work order reference HK1827752 supersedes any previous reports with this reference. Testing period is from 30-Apr-2018 to 07-May-2018. Results apply to sample(s) as submitted. All pages of this report have been checked and approved for release. When date(s) and/or time(s) are shown bracketed, these have been assumed by the laboratory for process purposes. Abbreviations: CAS number = Chemical Abstract Services number. LOR = Limit of reporting.

Specific Comments for Work Order HK1827752 :

Sample(s) were picked up from client by ALS Technichem (HK) staff in chilled condition.

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

Analytical Results

Sub-Matrix: **WATER**		*Compound*	**EA025: Suspended Solids (SS)**	----	----	----	----
		LOR Unit	2 mg/L	----	----	----	----
Client sample ID	*Client sampling date / time*	*Laboratory sample ID*	EA/ED: Physical and Aggregate Properties	----	----	----	----
M1 (DUPLICATE)	30-Apr-2018	HK1827752-001	**3**	----	----	----	----
M1	30-Apr-2018	HK1827752-002	**4**	----	----	----	----
M2a (DUPLICATE)	30-Apr-2018	HK1827752-003	**4**	----	----	----	----
M2a	30-Apr-2018	HK1827752-004	**3**	----	----	----	----
M3 (DUPLICATE)	30-Apr-2018	HK1827752-005	**10**	----	----	----	----
M3	30-Apr-2018	HK1827752-006	**9**	----	----	----	----
M4 (DUPLICATE)	30-Apr-2018	HK1827752-007	**5**	----	----	----	----
M4	30-Apr-2018	HK1827752-008	**4**	----	----	----	----

Laboratory Duplicate (DUP) Report

Matrix: **WATER**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report				
				LOR	Unit	Original Result	Duplicate Result	RPD (%)
EA/ED: Physical and Aggregate Properties (QC Lot: 1613727)								
HK1827752-001	M1 (DUPLICATE)	EA025: Suspended Solids (SS)	----	2	mg/L	3	3	0.00
HK1827752-008	M4	EA025: Suspended Solids (SS)	----	2	mg/L	4	4	0.00

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

Matrix: **WATER**

Method: Compound	CAS Number	Method Blank (MB) Report			Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report						
					Spike	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
		LOR	Unit	Result	Concentration	LCS	DCS	Low	High	Value	Control Limit
EA/ED: Physical and Aggregate Properties (QCLot: 1613727)											
EA025: Suspended Solids (SS)	----	2	mg/L	<2	10 mg/L	98.0	----	81	117	----	----

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

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

CERTIFICATE OF ANALYSIS

Client	:	ACTION UNITED ENVIRONMENT SERVICES AND CONSULTING	*Laboratory*	:	ALS Technichem (HK) Pty Ltd	*Page*	: 1 of 4
Contact	:	MR BEN TAM	*Contact*	:	Richard Fung	*Work Order*	: **HK1827951**
Address	:	RM A 20/F., GOLD KING IND BLDG, NO. 35-41 TAI LIN PAI ROAD, KWAI CHUNG, N.T. HONG KONG	*Address*	:	11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong		
E-mail	:	Bentam@fordbusiness.com	*E-mail*	:	richard.fung@alsglobal.com		
Telephone	:	+852 2959 6059	*Telephone*	:	+852 2610 1044		
Facsimile	:	+852 2959 6079	*Facsimile*	:	+852 2610 2021		
Project	:	TCS00881/18	*Quote number*	:	HKE/2982/2017	*Date received*	: 02-May-2018
Order number	:					*Date of issue*	: 07-May-2018
C-O-C number	:	—				*No. of samples*	- *Received* : 8
Site	:	SANDY RIDGE CEMETERY					- *Analysed* : 8

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

Signatory	*Position*	*Authorised results for:*
Fung Lim Chee, Richard	**General Manager**	**Inorganics**

Report Comments

This report for ALS Technichem (HK) Pty Ltd work order reference HK1827951 supersedes any previous reports with this reference. Testing period is from 02-May-2018 to 07-May-2018. Results apply to sample(s) as submitted. All pages of this report have been checked and approved for release. When date(s) and/or time(s) are shown bracketed, these have been assumed by the laboratory for process purposes. Abbreviations: CAS number = Chemical Abstract Services number. LOR = Limit of reporting.

Specific Comments for Work Order HK1827951 :

Sample(s) were received in chilled condition.

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

Analytical Results

Sub-Matrix: **WATER**			*Compound*	**EA025: Suspended Solids (SS)**	----	----	----	----
			LOR Unit	2 mg/L	----	----	----	----
Client sample ID	*Client sampling date / time*	*Laboratory sample ID*		EA/ED: Physical and Aggregate Properties	----	----	----	----
M1 (DUPLICATE)	02-May-2018	HK1827951-001		**4**	----	----	----	----
M1	02-May-2018	HK1827951-002		**4**	----	----	----	----
M2a (DUPLICATE)	02-May-2018	HK1827951-003		**4**	----	----	----	----
M2a	02-May-2018	HK1827951-004		**4**	----	----	----	----
M3 (DUPLICATE)	02-May-2018	HK1827951-005		**7**	----	----	----	----
M3	02-May-2018	HK1827951-006		**8**	----	----	----	----
M4 (DUPLICATE)	02-May-2018	HK1827951-007		**4**	----	----	----	----
M4	02-May-2018	HK1827951-008		**5**	----	----	----	----

Laboratory Duplicate (DUP) Report

Matrix: **WATER**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report				
				LOR	Unit	Original Result	Duplicate Result	RPD (%)
EA/ED: Physical and Aggregate Properties (QC Lot: 1613728)								
HK1827870-001	Anonymous	EA025: Suspended Solids (SS)	----	2	mg/L	<2	<2	0.00
HK1827918-001	Anonymous	EA025: Suspended Solids (SS)	----	2	mg/L	3	3	0.00
EA/ED: Physical and Aggregate Properties (QC Lot: 1613729)								
HK1827951-003	M2a (DUPLICATE)	EA025: Suspended Solids (SS)	----	2	mg/L	4	5	26.7
HK1827955-005	Anonymous	EA025: Suspended Solids (SS)	----	2	mg/L	26	27	0.00

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

Matrix: **WATER**

Method: Compound	CAS Number	Method Blank (MB) Report			Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report						
					Spike	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
		LOR	Unit	Result	Concentration	LCS	DCS	Low	High	Value	Control Limit
EA/ED: Physical and Aggregate Properties (QCLot: 1613728)											
EA025: Suspended Solids (SS)	----	2	mg/L	<2	10 mg/L	114	----	81	117	----	----
EA/ED: Physical and Aggregate Properties (QCLot: 1613729)											
EA025: Suspended Solids (SS)	----	2	mg/L	<2	10 mg/L	111	----	81	117	----	----

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

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

CERTIFICATE OF ANALYSIS

Client	:	ACTION UNITED ENVIRONMENT SERVICES AND CONSULTING	*Laboratory*	:	ALS Technichem (HK) Pty Ltd	*Page*	: 1 of 4
Contact	:	MR BEN TAM	*Contact*	:	Richard Fung	*Work Order*	: **HK1828528**
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Facsimile	:	+852 2959 6079	*Facsimile*	:	+852 2610 2021		
Project	:	TCS00881/18	*Quote number*	:	HKE/2982/2017	*Date received*	: 04-May-2018
Order number	:					*Date of issue*	: 08-May-2018
C-O-C number	:	—				*No. of samples*	- *Received* : 8
Site	:	SANDY RIDGE CEMETERY					- *Analysed* : 8

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

Signatory	*Position*	*Authorised results for:*
Fung Lim Chee, Richard	**General Manager**	**Inorganics**

Report Comments

This report for ALS Technichem (HK) Pty Ltd work order reference HK1828528 supersedes any previous reports with this reference. Testing period is from 04-May-2018 to 08-May-2018. Results apply to sample(s) as submitted. All pages of this report have been checked and approved for release. When date(s) and/or time(s) are shown bracketed, these have been assumed by the laboratory for process purposes. Abbreviations: CAS number = Chemical Abstract Services number. LOR = Limit of reporting.

Specific Comments for Work Order HK1828528 :

Sample(s) were received in chilled condition.

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

Analytical Results

Sub-Matrix: **WATER**		*Compound*	**EA025: Suspended Solids (SS)**	**----**	**----**	**----**	**----**
		LOR Unit	2 mg/L	----	----	----	----
Client sample ID	*Client sampling date / time*	*Laboratory sample ID*	EA/ED: Physical and Aggregate Properties	----	----	----	----
M1 (DUPLICATE)	04-May-2018	HK1828528-001	**4**	**----**	**----**	**----**	**----**
M1	04-May-2018	HK1828528-002	**5**	**----**	**----**	**----**	**----**
M2a (DUPLICATE)	04-May-2018	HK1828528-003	**4**	**----**	**----**	**----**	**----**
M2a	04-May-2018	HK1828528-004	**3**	**----**	**----**	**----**	**----**
M3 (DUPLICATE)	04-May-2018	HK1828528-005	**10**	**----**	**----**	**----**	**----**
M3	04-May-2018	HK1828528-006	**8**	**----**	**----**	**----**	**----**
M4 (DUPLICATE)	04-May-2018	HK1828528-007	**2**	**----**	**----**	**----**	**----**
M4	04-May-2018	HK1828528-008	**3**	**----**	**----**	**----**	**----**

Laboratory Duplicate (DUP) Report

Matrix: **WATER**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report				
				LOR	Unit	Original Result	Duplicate Result	RPD (%)
EA/ED: Physical and Aggregate Properties (QC Lot: 1620951)								
HK1828528-001	M1 (DUPLICATE)	EA025: Suspended Solids (SS)	----	2	mg/L	4	6	31.1
HK1828533-003	Anonymous	EA025: Suspended Solids (SS)	----	2	mg/L	36	38	3.92

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

Matrix: **WATER**

Method: Compound	CAS Number	Method Blank (MB) Report			Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report						
					Spike	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
		LOR	Unit	Result	Concentration	LCS	DCS	Low	High	Value	Control Limit
EA/ED: Physical and Aggregate Properties (QCLot: 1620951)											
EA025: Suspended Solids (SS)	----	2	mg/L	<2	10 mg/L	111	----	81	117	----	----

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

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

CERTIFICATE OF ANALYSIS

Client	:	ACTION UNITED ENVIRONMENT SERVICES AND CONSULTING	*Laboratory*	:	ALS Technichem (HK) Pty Ltd	*Page*	: 1 of 4
Contact	:	MR BEN TAM	*Contact*	:	Richard Fung	*Work Order*	: **HK1828796**
Address	:	RM A 20/F., GOLD KING IND BLDG, NO. 35-41 TAI LIN PAI ROAD, KWAI CHUNG, N.T. HONG KONG	*Address*	:	11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong		
E-mail	:	Bentam@fordbusiness.com	*E-mail*	:	richard.fung@alsglobal.com		
Telephone	:	+852 2959 6059	*Telephone*	:	+852 2610 1044		
Facsimile	:	+852 2959 6079	*Facsimile*	:	+852 2610 2021		
Project	:	TCS00881/18	*Quote number*	:	HKE/2982/2017	*Date received*	: 07-May-2018
Order number	:	—				*Date of issue*	: 10-May-2018
C-O-C number	:	—				*No. of samples*	- *Received* : 8
Site	:	SANDY RIDGE CEMETERY					- *Analysed* : 8

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

Signatory	*Position*	*Authorised results for:*
Fung Lim Chee, Richard	**General Manager**	**Inorganics**

Report Comments

This report for ALS Technichem (HK) Pty Ltd work order reference HK1828796 supersedes any previous reports with this reference. Testing period is from 07-May-2018 to 10-May-2018. Results apply to sample(s) as submitted. All pages of this report have been checked and approved for release. When date(s) and/or time(s) are shown bracketed, these have been assumed by the laboratory for process purposes. Abbreviations: CAS number = Chemical Abstract Services number. LOR = Limit of reporting.

Specific Comments for Work Order HK1828796 :

Sample(s) were received in ambient condition.

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

Analytical Results

Sub-Matrix: **WATER**			*Compound*	**EA025: Suspended Solids (SS)**	----	----	----	----
			LOR Unit	2 mg/L	----	----	----	----
Client sample ID	*Client sampling date / time*	*Laboratory sample ID*		EA/ED: Physical and Aggregate Properties	----	----	----	----
M1 (DUPLICATE)	07-May-2018	HK1828796-001		**10**	----	----	----	----
M1	07-May-2018	HK1828796-002		**11**	----	----	----	----
M2a (DUPLICATE)	07-May-2018	HK1828796-003		**6**	----	----	----	----
M2a	07-May-2018	HK1828796-004		**4**	----	----	----	----
M3 (DUPLICATE)	07-May-2018	HK1828796-005		**5**	----	----	----	----
M3	07-May-2018	HK1828796-006		**4**	----	----	----	----
M4 (DUPLICATE)	07-May-2018	HK1828796-007		<2	----	----	----	----
M4	07-May-2018	HK1828796-008		<2	----	----	----	----

Laboratory Duplicate (DUP) Report

Matrix: **WATER**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report				
				LOR	Unit	Original Result	Duplicate Result	RPD (%)
EA/ED: Physical and Aggregate Properties (QC Lot: 1623970)								
HK1828795-006	Anonymous	EA025: Suspended Solids (SS)	----	2	mg/L	5	5	0.00
HK1828796-006	M3	EA025: Suspended Solids (SS)	----	2	mg/L	4	6	33.6

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

Matrix: **WATER**

Method: Compound	CAS Number	Method Blank (MB) Report			Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report						
					Spike	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
		LOR	Unit	Result	Concentration	LCS	DCS	Low	High	Value	Control Limit
EA/ED: Physical and Aggregate Properties (QCLot: 1623970)											
EA025: Suspended Solids (SS)	----	2	mg/L	<2	10 mg/L	89.5	----	81	117	----	----

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

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

CERTIFICATE OF ANALYSIS

Client	:	ACTION UNITED ENVIRONMENT SERVICES AND CONSULTING	*Laboratory*	:	ALS Technichem (HK) Pty Ltd	*Page*	: 1 of 4
Contact	:	MR BEN TAM	*Contact*	:	Richard Fung	*Work Order*	: **HK1829214**
Address	:	RM A 20/F., GOLD KING IND BLDG, NO. 35-41 TAI LIN PAI ROAD, KWAI CHUNG, N.T. HONG KONG	*Address*	:	11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong		
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Facsimile	:	+852 2959 6079	*Facsimile*	:	+852 2610 2021		
Project	:	TCS00881/18	*Quote number*	:	HKE/2982/2017	*Date received*	: 09-May-2018
Order number	:	—				*Date of issue*	: 11-May-2018
C-O-C number	:	—				*No. of samples*	- *Received* : 6
Site	:	SANDY RIDGE CEMETERY					- *Analysed* : 6

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

Signatory	*Position*	*Authorised results for:*
Fung Lim Chee, Richard	**General Manager**	**Inorganics**

Report Comments

This report for ALS Technichem (HK) Pty Ltd work order reference HK1829214 supersedes any previous reports with this reference. Testing period is from 09-May-2018 to 11-May-2018. Results apply to sample(s) as submitted. All pages of this report have been checked and approved for release. When date(s) and/or time(s) are shown bracketed, these have been assumed by the laboratory for process purposes. Abbreviations: CAS number = Chemical Abstract Services number. LOR = Limit of reporting.

Specific Comments for Work Order HK1829214 :

Sample(s) were received in ambient condition.

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

Analytical Results

Sub-Matrix: **WATER**		*Compound*	**EA025: Suspended Solids (SS)**	**----**	**----**	**----**	**----**
		LOR Unit	2 mg/L	----	----	----	----
Client sample ID	*Client sampling date / time*	*Laboratory sample ID*	EA/ED: Physical and Aggregate Properties	----	----	----	----
M1 (DUPLICATE)	09-May-2018	HK1829214-001	**20**	**----**	**----**	**----**	**----**
M1	09-May-2018	HK1829214-002	**19**	**----**	**----**	**----**	**----**
M2a (DUPLICATE)	09-May-2018	HK1829214-003	**34**	**----**	**----**	**----**	**----**
M2a	09-May-2018	HK1829214-004	**34**	**----**	**----**	**----**	**----**
M4 (DUPLICATE)	09-May-2018	HK1829214-005	**25**	**----**	**----**	**----**	**----**
M4	09-May-2018	HK1829214-006	**25**	**----**	**----**	**----**	**----**

Laboratory Duplicate (DUP) Report

Matrix: **WATER**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report				
				LOR	Unit	Original Result	Duplicate Result	RPD (%)
EA/ED: Physical and Aggregate Properties (QC Lot: 1629603)								
HK1829214-001	M1 (DUPLICATE)	EA025: Suspended Solids (SS)	----	2	mg/L	20	21	0.00
HK1829216-005	Anonymous	EA025: Suspended Solids (SS)	----	2	mg/L	19	21	7.04

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

Matrix: **WATER**

Method: Compound	CAS Number	Method Blank (MB) Report			Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report						
					Spike	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
		LOR	Unit	Result	Concentration	LCS	DCS	Low	High	Value	Control Limit
EA/ED: Physical and Aggregate Properties (QCLot: 1629603)											
EA025: Suspended Solids (SS)	----	2	mg/L	<2	10 mg/L	89.5	----	81	117	----	----

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

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

CERTIFICATE OF ANALYSIS

Client	: ACTION UNITED ENVIRONMENT SERVICES AND CONSULTING	Laboratory	: ALS Technichem (HK) Pty Ltd	Page	: 1 of 4
Contact	: MR BEN TAM	Contact	: Richard Fung	Work Order	: HK1829397
Address	: RM A 20/F., GOLD KING IND BLDG, NO. 35-41 TAI LIN PAI ROAD, KWAI CHUNG, N.T. HONG KONG	Address	: 11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong		
E-mail	: Bentam@fordbusiness.com	E-mail	: richard.fung@alsglobal.com		
Telephone	: +852 2959 6059	Telephone	: +852 2610 1044		
Facsimile	: +852 2959 6079	Facsimile	: +852 2610 2021		
Project	: TCS00881/18			Date Samples Received	: 10-May-2018
Order number	:	Quote number	: HKE/2982/2017	Issue Date	: 15-May-2018
C-O-C number	: ----			No. of samples received	: 2
Site	: SANDY RIDGE CEMETERY			No. of samples analysed	: 2

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

Signatories	*Position*	*Authorised results for*
Fung Lim Chee, Richard	General Manager	Inorganics

General Comments

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release. When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes. Testing period is from 10-May-2018 to 14-May-2018.

Key: LOR = Limit of reporting; CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.

Specific Comments for Work Order: HK1829397

Sample(s) were received in chilled condition.

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

Analytical Results

Sub-Matrix: WATER			Client sample ID	M3 (DUPLICATE)	M3	----	----	----
			Client sampling date / time	10-May-2018	10-May-2018	----	----	----
Compound	CAS Number	LOR	Unit	HK1829397-001	HK1829397-002	-------	-------	-------
EA/ED: Physical and Aggregate Properties								
EA025: Suspended Solids (SS)	----	2	mg/L	8	7	----	----	----

Laboratory Duplicate (DUP) Report

Matrix: **WATER**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report				
				LOR	Unit	Original Result	Duplicate Result	RPD (%)
EA/ED: Physical and Aggregate Properties (QC Lot: 1633149)								
HK1829363-001	Anonymous	**EA025: Suspended Solids (SS)**	----	2	mg/L	<2	<2	0.00
HK1829397-001	M3 (DUPLICATE)	**EA025: Suspended Solids (SS)**	----	2	mg/L	8	10	24.0

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

Matrix: **WATER**

Method: Compound	CAS Number	Method Blank (MB) Report			Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report					
					Spike Concentration	Spike Recovery (%)		Recovery Limits(%)		RPD (%)	
		LOR	Unit	Result		LCS	DCS	Low	High	Value	Control Limit
EA/ED: Physical and Aggregate Properties (QC Lot: 1633149)											
EA025: Suspended Solids (SS)	----	2	mg/L	<2	10 mg/L	111	----	81	117	----	----

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

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

CERTIFICATE OF ANALYSIS

Client	:	ACTION UNITED ENVIRONMENT SERVICES AND CONSULTING	*Laboratory*	:	ALS Technichem (HK) Pty Ltd	*Page*	: 1 of 4
Contact	:	MR BEN TAM	*Contact*	:	Richard Fung	*Work Order*	: **HK1829637**
Address	:	RM A 20/F., GOLD KING IND BLDG, NO. 35-41 TAI LIN PAI ROAD, KWAI CHUNG, N.T. HONG KONG	*Address*	:	11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong		
E-mail	:	Bentam@fordbusiness.com	*E-mail*	:	richard.fung@alsglobal.com		
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Facsimile	:	+852 2959 6079	*Facsimile*	:	+852 2610 2021		
Project	:	TCS00881/18	*Quote number*	:	HKE/2982/2017	*Date received*	: 11-May-2018
Order number	:	—				*Date of issue*	: 16-May-2018
C-O-C number	:	—				*No. of samples*	- *Received* : 6
Site	:	SANDY RIDGE CEMETERY					- *Analysed* : 6

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

Signatory	*Position*	*Authorised results for:*
Fung Lim Chee, Richard	**General Manager**	**Inorganics**

Report Comments

This report for ALS Technichem (HK) Pty Ltd work order reference HK1829637 supersedes any previous reports with this reference. Testing period is from 11-May-2018 to 15-May-2018. Results apply to sample(s) as submitted. All pages of this report have been checked and approved for release. When date(s) and/or time(s) are shown bracketed, these have been assumed by the laboratory for process purposes. Abbreviations: CAS number = Chemical Abstract Services number. LOR = Limit of reporting.

Specific Comments for Work Order HK1829637 :

Sample(s) were picked up from client by ALS Technichem (HK) staff in chilled condition.

Sample(s) were received in ambient condition.

Sample(s) were picked up from client by ALS Technichem (HK) staff in ambient condition.

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

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

Analytical Results

Sub-Matrix: **WATER**		*Compound*	**EA025: Suspended Solids (SS)**	**----**	**----**	**----**	**----**
		LOR Unit	2 mg/L	----	----	----	----
Client sample ID	*Client sampling date / time*	*Laboratory sample ID*	EA/ED: Physical and Aggregate Properties	----	----	----	----
M1 (DUPLICATE)	11-May-2018	HK1829637-001	**4**	**----**	**----**	**----**	**----**
M1	11-May-2018	HK1829637-002	**4**	**----**	**----**	**----**	**----**
M2a (DUPLICATE)	11-May-2018	HK1829637-003	**3**	**----**	**----**	**----**	**----**
M2a	11-May-2018	HK1829637-004	**3**	**----**	**----**	**----**	**----**
M4 (DUPLICATE)	11-May-2018	HK1829637-005	**3**	**----**	**----**	**----**	**----**
M4	11-May-2018	HK1829637-006	**4**	**----**	**----**	**----**	**----**

Laboratory Duplicate (DUP) Report

Matrix: **WATER**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report				
				LOR	Unit	Original Result	Duplicate Result	RPD (%)
EA/ED: Physical and Aggregate Properties (QC Lot: 1637168)								
HK1829636-003	Anonymous	EA025: Suspended Solids (SS)	----	2	mg/L	15	15	0.00
HK1829637-003	M2a (DUPLICATE)	EA025: Suspended Solids (SS)	----	2	mg/L	3	4	0.00

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

Matrix: **WATER**

Method: Compound	CAS Number	Method Blank (MB) Report			Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report						
					Spike	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
		LOR	Unit	Result	Concentration	LCS	DCS	Low	High	Value	Control Limit
EA/ED: Physical and Aggregate Properties (QCLot: 1637168)											
EA025: Suspended Solids (SS)	----	2	mg/L	<2	10 mg/L	111	----	81	117	----	----

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

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

CERTIFICATE OF ANALYSIS

Client	:	ACTION UNITED ENVIRONMENT SERVICES AND CONSULTING	*Laboratory*	:	ALS Technichem (HK) Pty Ltd	*Page*	: 1 of 4
Contact	:	MR BEN TAM	*Contact*	:	Richard Fung	*Work Order*	: **HK1829921**
Address	:	RM A 20/F., GOLD KING IND BLDG, NO. 35-41 TAI LIN PAI ROAD, KWAI CHUNG, N.T. HONG KONG	*Address*	:	11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong		
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Project	:	TCS00881/18	*Quote number*	:	HKE/2982/2017	*Date received*	: 14-May-2018
Order number	:	—				*Date of issue*	: 17-May-2018
C-O-C number	:	—				*No. of samples*	- *Received* : 8
Site	:	SANDY RIDGE CEMETERY					- *Analysed* : 8

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

Signatory	*Position*	*Authorised results for:*
Fung Lim Chee, Richard	**General Manager**	**Inorganics**

Report Comments

This report for ALS Technichem (HK) Pty Ltd work order reference HK1829921 supersedes any previous reports with this reference. Testing period is from 14-May-2018 to 17-May-2018. Results apply to sample(s) as submitted. All pages of this report have been checked and approved for release. When date(s) and/or time(s) are shown bracketed, these have been assumed by the laboratory for process purposes. Abbreviations: CAS number = Chemical Abstract Services number. LOR = Limit of reporting.

Specific Comments for Work Order HK1829921 :

Sample(s) were received in ambient condition.

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

Analytical Results

Sub-Matrix: **WATER**			*Compound*	**EA025: Suspended Solids (SS)**	----	----	----	----
			LOR Unit	2 mg/L	----	----	----	----
Client sample ID	*Client sampling date / time*	*Laboratory sample ID*		EA/ED: Physical and Aggregate Properties	----	----	----	----
M1 (DUPLICATE)	14-May-2018	HK1829921-001		<2	----	----	----	----
M1	14-May-2018	HK1829921-002		<2	----	----	----	----
M2a (DUPLICATE)	14-May-2018	HK1829921-003		<2	----	----	----	----
M2a	14-May-2018	HK1829921-004		<2	----	----	----	----
M3 (DUPLICATE)	14-May-2018	HK1829921-005		**2**	----	----	----	----
M3	14-May-2018	HK1829921-006		**4**	----	----	----	----
M4 (DUPLICATE)	14-May-2018	HK1829921-007		<2	----	----	----	----
M4	14-May-2018	HK1829921-008		<2	----	----	----	----

Laboratory Duplicate (DUP) Report

Matrix: **WATER**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report				
				LOR	Unit	Original Result	Duplicate Result	RPD (%)
EA/ED: Physical and Aggregate Properties (QC Lot: 1640423)								
HK1829917-008	Anonymous	EA025: Suspended Solids (SS)	----	2	mg/L	36	39	9.02
HK1829921-008	M4	EA025: Suspended Solids (SS)	----	2	mg/L	<2	<2	0.00

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

Matrix: **WATER**

Method: Compound	CAS Number	Method Blank (MB) Report			Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report						
					Spike	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
		LOR	Unit	Result	Concentration	LCS	DCS	Low	High	Value	Control Limit
EA/ED: Physical and Aggregate Properties (QCLot: 1640423)											
EA025: Suspended Solids (SS)	----	2	mg/L	<2	10 mg/L	104	----	81	117	----	----

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

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

ALS Technichem (HK) Pty Ltd

ALS Laboratory Group

ANALYICAL CHEMISTRY & TESTING SERVICES

CERTIFICATE OF ANALYSIS

Client	: ACTION UNITED ENVIRONMENT SERVICES AND CONSULTING	Laboratory	: ALS Technichem (HK) Pty Ltd	Page	: 1 of 4
Contact	: MR BEN TAM	Contact	: Richard Fung	Work Order	: HK1829922
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Telephone	: +852 2959 6059	Telephone	: +852 2610 1044		
Facsimile	: +852 2959 6079	Facsimile	: +852 2610 2021		
Project	: TCS00881/18			Date Samples Received	: 14-May-2018
Order number	: ----	Quote number	: HKE/2982/2017	Issue Date	: 17-May-2018
C-O-C number	: ----			No. of samples received	: 2
Site	: SANDY RIDGE CERETERY			No. of samples analysed	: 2

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

Signatories	*Position*	*Authorised results for*
Fung Lim Chee, Richard	General Manager	Inorganics

General Comments

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release. When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes. Testing period is from 14-May-2018 to 17-May-2018.

Key: LOR = Limit of reporting; CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.

Specific Comments for Work Order: HK1829922

Sample(s) were received in ambient condition.

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

Analytical Results

Sub-Matrix: WATER			Client sample ID	M3 (DUPLICATE)	M3	----	----	----
			Client sampling date / time	12-May-2018	12-May-2018	----	----	----
Compound	CAS Number	LOR	Unit	HK1829922-001	HK1829922-002	-------	-------	-------
EA/ED: Physical and Aggregate Properties								
EA025: Suspended Solids (SS)	----	2	mg/L	6	6	----	----	----

Laboratory Duplicate (DUP) Report

Matrix: **WATER**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report				
				LOR	Unit	Original Result	Duplicate Result	RPD (%)
EA/ED: Physical and Aggregate Properties (QC Lot: 1640423)								
HK1829917-008	Anonymous	**EA025: Suspended Solids (SS)**	----	2	mg/L	36	39	9.02
HK1829921-008	Anonymous	**EA025: Suspended Solids (SS)**	----	2	mg/L	<2	<2	0.00

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

Matrix: **WATER**

Method: Compound	CAS Number	Method Blank (MB) Report			Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report					
					Spike Concentration	Spike Recovery (%)		Recovery Limits(%)		RPD (%)	
		LOR	Unit	Result		LCS	DCS	Low	High	Value	Control Limit
EA/ED: Physical and Aggregate Properties (QC Lot: 1640423)											
EA025: Suspended Solids (SS)	----	2	mg/L	<2	10 mg/L	104	----	81	117	----	----

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

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

CERTIFICATE OF ANALYSIS

Client	:	ACTION UNITED ENVIRONMENT SERVICES AND CONSULTING	*Laboratory*	:	ALS Technichem (HK) Pty Ltd	*Page*	: 1 of 4
Contact	:	MR BEN TAM	*Contact*	:	Richard Fung	*Work Order*	: **HK1830300**
Address	:	RM A 20/F., GOLD KING IND BLDG, NO. 35-41 TAI LIN PAI ROAD, KWAI CHUNG, N.T. HONG KONG	*Address*	:	11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong		
E-mail	:	Bentam@fordbusiness.com	*E-mail*	:	richard.fung@alsglobal.com		
Telephone	:	+852 2959 6059	*Telephone*	:	+852 2610 1044		
Facsimile	:	+852 2959 6079	*Facsimile*	:	+852 2610 2021		
Project	:	TCS00881/18	*Quote number*	:	HKE/2982/2017	*Date received*	: 16-May-2018
Order number	:	—				*Date of issue*	: 21-May-2018
C-O-C number	:	—				*No. of samples*	- *Received* : 8
Site	:	SANDY RIDGE CEMETERY					- *Analysed* : 8

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

Signatory	*Position*	*Authorised results for:*
Fung Lim Chee, Richard	**General Manager**	**Inorganics**

Report Comments

This report for ALS Technichem (HK) Pty Ltd work order reference HK1830300 supersedes any previous reports with this reference. Testing period is from 16-May-2018 to 21-May-2018. Results apply to sample(s) as submitted. All pages of this report have been checked and approved for release. When date(s) and/or time(s) are shown bracketed, these have been assumed by the laboratory for process purposes. Abbreviations: CAS number = Chemical Abstract Services number. LOR = Limit of reporting.

Specific Comments for Work Order HK1830300 :

Sample(s) were received in ambient condition.

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

Analytical Results

Sub-Matrix: **WATER**			*Compound*	**EA025: Suspended Solids (SS)**	**----**	**----**	**----**	**----**
			LOR Unit	2 mg/L	----	----	----	----
Client sample ID	*Client sampling date / time*	*Laboratory sample ID*		EA/ED: Physical and Aggregate Properties	----	----	----	----
M1 (DUPLICATE)	16-May-2018	HK1830300-001		**3**	**----**	**----**	**----**	**----**
M1	16-May-2018	HK1830300-002		**2**	**----**	**----**	**----**	**----**
M2a (DUPLICATE)	16-May-2018	HK1830300-003		<2	**----**	**----**	**----**	**----**
M2a	16-May-2018	HK1830300-004		<2	**----**	**----**	**----**	**----**
M3 (DUPLICATE)	16-May-2018	HK1830300-005		**5**	**----**	**----**	**----**	**----**
M3	16-May-2018	HK1830300-006		**3**	**----**	**----**	**----**	**----**
M4 (DUPLICATE)	16-May-2018	HK1830300-007		<2	**----**	**----**	**----**	**----**
M4	16-May-2018	HK1830300-008		<2	**----**	**----**	**----**	**----**

Laboratory Duplicate (DUP) Report

Matrix: **WATER**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report				
				LOR	Unit	Original Result	Duplicate Result	RPD (%)
EA/ED: Physical and Aggregate Properties (QC Lot: 1648420)								
HK1830230-001	Anonymous	EA025: Suspended Solids (SS)	----	2	mg/L	4	6	38.0
HK1830281-001	Anonymous	EA025: Suspended Solids (SS)	----	2	mg/L	11	11	0.00
EA/ED: Physical and Aggregate Properties (QC Lot: 1648421)								
HK1830300-002	M1	EA025: Suspended Solids (SS)	----	2	mg/L	2	2	0.00
HK1830301-004	Anonymous	EA025: Suspended Solids (SS)	----	2	mg/L	21	21	0.00

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

Matrix: **WATER**

Method: Compound	CAS Number	Method Blank (MB) Report			Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report						
					Spike	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
		LOR	Unit	Result	Concentration	LCS	DCS	Low	High	Value	Control Limit
EA/ED: Physical and Aggregate Properties (QCLot: 1648420)											
EA025: Suspended Solids (SS)	----	2	mg/L	<2	10 mg/L	109	----	81	117	----	----
EA/ED: Physical and Aggregate Properties (QCLot: 1648421)											
EA025: Suspended Solids (SS)	----	2	mg/L	<2	10 mg/L	95.5	----	81	117	----	----

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

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

CERTIFICATE OF ANALYSIS

Client	:	ACTION UNITED ENVIRONMENT SERVICES AND CONSULTING	*Laboratory*	:	ALS Technichem (HK) Pty Ltd	*Page*	: 1 of 4
Contact	:	MR BEN TAM	*Contact*	:	Richard Fung	*Work Order*	: **HK1830680**
Address	:	RM A 20/F., GOLD KING IND BLDG, NO. 35-41 TAI LIN PAI ROAD, KWAI CHUNG, N.T. HONG KONG	*Address*	:	11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong		
E-mail	:	Bentam@fordbusiness.com	*E-mail*	:	richard.fung@alsglobal.com		
Telephone	:	+852 2959 6059	*Telephone*	:	+852 2610 1044		
Facsimile	:	+852 2959 6079	*Facsimile*	:	+852 2610 2021		
Project	:	TCS00881/18	*Quote number*	:	HKE/2982/2017	*Date received*	: 18-May-2018
Order number	:	—				*Date of issue*	: 24-May-2018
C-O-C number	:	—				*No. of samples*	- *Received* : 8
Site	:	SANDY RIDGE CEMETERY					- *Analysed* : 8

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

Signatory	*Position*	*Authorised results for:*
Fung Lim Chee, Richard	**General Manager**	**Inorganics**

Report Comments

This report for ALS Technichem (HK) Pty Ltd work order reference HK1830680 supersedes any previous reports with this reference. Testing period is from 18-May-2018 to 23-May-2018. Results apply to sample(s) as submitted. All pages of this report have been checked and approved for release. When date(s) and/or time(s) are shown bracketed, these have been assumed by the laboratory for process purposes. Abbreviations: CAS number = Chemical Abstract Services number. LOR = Limit of reporting.

Specific Comments for Work Order HK1830680 :

Sample(s) were received in ambient condition.

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

Analytical Results

Sub-Matrix: **WATER**			*Compound*	**EA025: Suspended Solids (SS)**	**----**	**----**	**----**	**----**
			LOR Unit	2 mg/L	----	----	----	----
Client sample ID	*Client sampling date / time*	*Laboratory sample ID*		EA/ED: Physical and Aggregate Properties	----	----	----	----
M1 (DUPLICATE)	18-May-2018	HK1830680-001		<2	**----**	**----**	**----**	**----**
M1	18-May-2018	HK1830680-002		<2	**----**	**----**	**----**	**----**
M2a (DUPLICATE)	18-May-2018	HK1830680-003		<2	**----**	**----**	**----**	**----**
M2a	18-May-2018	HK1830680-004		<2	**----**	**----**	**----**	**----**
M3 (DUPLICATE)	18-May-2018	HK1830680-005		**7**	**----**	**----**	**----**	**----**
M3	18-May-2018	HK1830680-006		**5**	**----**	**----**	**----**	**----**
M4 (DUPLICATE)	18-May-2018	HK1830680-007		<2	**----**	**----**	**----**	**----**
M4	18-May-2018	HK1830680-008		<2	**----**	**----**	**----**	**----**

Laboratory Duplicate (DUP) Report

Matrix: **WATER**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report				
				LOR	Unit	Original Result	Duplicate Result	RPD (%)
EA/ED: Physical and Aggregate Properties (QC Lot: 1658239)								
HK1830646-001	Anonymous	EA025: Suspended Solids (SS)	----	2	mg/L	<2	<2	0.00
HK1830652-001	Anonymous	EA025: Suspended Solids (SS)	----	2	mg/L	<2	<2	0.00

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

Matrix: **WATER**

Method: Compound	CAS Number	Method Blank (MB) Report			Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report						
					Spike	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
		LOR	Unit	Result	Concentration	LCS	DCS	Low	High	Value	Control Limit
EA/ED: Physical and Aggregate Properties (QCLot: 1658239)											
EA025: Suspended Solids (SS)	----	2	mg/L	<2	10 mg/L	104	----	81	117	----	----

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

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

CERTIFICATE OF ANALYSIS

Client	:	ACTION UNITED ENVIRONMENT SERVICES AND CONSULTING	*Laboratory*	:	ALS Technichem (HK) Pty Ltd	*Page*	: 1 of 4
Contact	:	MR BEN TAM	*Contact*	:	Richard Fung	*Work Order*	: **HK1830957**
Address	:	RM A 20/F., GOLD KING IND BLDG, NO. 35-41 TAI LIN PAI ROAD, KWAI CHUNG, N.T. HONG KONG	*Address*	:	11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong		
E-mail	:	Bentam@fordbusiness.com	*E-mail*	:	richard.fung@alsglobal.com		
Telephone	:	+852 2959 6059	*Telephone*	:	+852 2610 1044		
Facsimile	:	+852 2959 6079	*Facsimile*	:	+852 2610 2021		
Project	:	TCS00881/18	*Quote number*	:	HKE/2982/2017	*Date received*	: 21-May-2018
Order number	:	—				*Date of issue*	: 25-May-2018
C-O-C number	:	—				*No. of samples*	- *Received* : 8
Site	:	SANDY RIDGE CEMETERY					- *Analysed* : 8

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

Signatory	*Position*	*Authorised results for:*
Fung Lim Chee, Richard	**General Manager**	**Inorganics**

Report Comments

This report for ALS Technichem (HK) Pty Ltd work order reference HK1830957 supersedes any previous reports with this reference. Testing period is from 21-May-2018 to 24-May-2018. Results apply to sample(s) as submitted. All pages of this report have been checked and approved for release. When date(s) and/or time(s) are shown bracketed, these have been assumed by the laboratory for process purposes. Abbreviations: CAS number = Chemical Abstract Services number. LOR = Limit of reporting.

Specific Comments for Work Order HK1830957 :

Sample(s) were received in ambient condition.

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

Analytical Results

Sub-Matrix: **WATER**			*Compound*	**EA025: Suspended Solids (SS)**	----	----	----	----
			LOR Unit	2 mg/L	----	----	----	----
Client sample ID	*Client sampling date / time*	*Laboratory sample ID*		EA/ED: Physical and Aggregate Properties	----	----	----	----
M1 (DUPLICATE)	21-May-2018	HK1830957-001		**5**	----	----	----	----
M1	21-May-2018	HK1830957-002		**5**	----	----	----	----
M2a (DUPLICATE)	21-May-2018	HK1830957-003		<2	----	----	----	----
M2a	21-May-2018	HK1830957-004		**2**	----	----	----	----
M3 (DUPLICATE)	21-May-2018	HK1830957-005		**8**	----	----	----	----
M3	21-May-2018	HK1830957-006		**6**	----	----	----	----
M4 (DUPLICATE)	21-May-2018	HK1830957-007		**3**	----	----	----	----
M4	21-May-2018	HK1830957-008		**4**	----	----	----	----

Laboratory Duplicate (DUP) Report

Matrix: **WATER**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report				
				LOR	Unit	Original Result	Duplicate Result	RPD (%)
EA/ED: Physical and Aggregate Properties (QC Lot: 1668488)								
HK1830669-001	Anonymous	EA025: Suspended Solids (SS)	----	2	mg/L	<2	<2	0.00
HK1830863-001	Anonymous	EA025: Suspended Solids (SS)	----	2	mg/L	3	3	0.00
EA/ED: Physical and Aggregate Properties (QC Lot: 1668489)								
HK1830957-007	M4 (DUPLICATE)	EA025: Suspended Solids (SS)	----	2	mg/L	3	3	0.00
HK1830962-001	Anonymous	EA025: Suspended Solids (SS)	----	2	mg/L	9	9	0.00

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

Matrix: **WATER**

Method: Compound	CAS Number	Method Blank (MB) Report			Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report						
					Spike	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
		LOR	Unit	Result	Concentration	LCS	DCS	Low	High	Value	Control Limit
EA/ED: Physical and Aggregate Properties (QCLot: 1668488)											
EA025: Suspended Solids (SS)	----	2	mg/L	<2	10 mg/L	93.5	----	81	117	----	----
EA/ED: Physical and Aggregate Properties (QCLot: 1668489)											
EA025: Suspended Solids (SS)	----	2	mg/L	<2	10 mg/L	92.5	----	81	117	----	----

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

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

CERTIFICATE OF ANALYSIS

Client	:	ACTION UNITED ENVIRONMENT SERVICES AND CONSULTING	*Laboratory*	:	ALS Technichem (HK) Pty Ltd	*Page*	: 1 of 4
Contact	:	MR BEN TAM	*Contact*	:	Richard Fung	*Work Order*	: **HK1831073**
Address	:	RM A 20/F., GOLD KING IND BLDG, NO. 35-41 TAI LIN PAI ROAD, KWAI CHUNG, N.T. HONG KONG	*Address*	:	11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong		
E-mail	:	Bentam@fordbusiness.com	*E-mail*	:	richard.fung@alsglobal.com		
Telephone	:	+852 2959 6059	*Telephone*	:	+852 2610 1044		
Facsimile	:	+852 2959 6079	*Facsimile*	:	+852 2610 2021		
Project	:	TCS00881/18	*Quote number*	:	HKE/2982/2017	*Date received*	: 23-May-2018
Order number	:	—				*Date of issue*	: 25-May-2018
C-O-C number	:	—				*No. of samples*	- *Received* : 8
Site	:	SANDY RIDGE CEMETERY					- *Analysed* : 8

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

Signatory	*Position*	*Authorised results for:*
Fung Lim Chee, Richard	**General Manager**	**Inorganics**

Report Comments

This report for ALS Technichem (HK) Pty Ltd work order reference HK1831073 supersedes any previous reports with this reference. Testing period is from 23-May-2018 to 25-May-2018. Results apply to sample(s) as submitted. All pages of this report have been checked and approved for release. When date(s) and/or time(s) are shown bracketed, these have been assumed by the laboratory for process purposes. Abbreviations: CAS number = Chemical Abstract Services number. LOR = Limit of reporting.

Specific Comments for Work Order HK1831073 :

Sample(s) were received in ambient condition.

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

Analytical Results

Sub-Matrix: **WATER**			*Compound*	**EA025: Suspended Solids (SS)**	----	----	----	----
			LOR Unit	2 mg/L	----	----	----	----
Client sample ID	*Client sampling date / time*	*Laboratory sample ID*		EA/ED: Physical and Aggregate Properties	----	----	----	----
M1 (DUPLICATE)	23-May-2018	HK1831073-001		<2	----	----	----	----
M1	23-May-2018	HK1831073-002		<2	----	----	----	----
M2a (DUPLICATE)	23-May-2018	HK1831073-003		<2	----	----	----	----
M2a	23-May-2018	HK1831073-004		<2	----	----	----	----
M3 (DUPLICATE)	23-May-2018	HK1831073-005		**4**	----	----	----	----
M3	23-May-2018	HK1831073-006		**4**	----	----	----	----
M4 (DUPLICATE)	23-May-2018	HK1831073-007		**3**	----	----	----	----
M4	23-May-2018	HK1831073-008		**3**	----	----	----	----

Laboratory Duplicate (DUP) Report

Matrix: **WATER**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report				
				LOR	Unit	Original Result	Duplicate Result	RPD (%)
EA/ED: Physical and Aggregate Properties (QC Lot: 1672278)								
HK1831090-019	Anonymous	EA025: Suspended Solids (SS)	----	2	mg/L	341	335	1.78
HK1831073-003	M2a (DUPLICATE)	EA025: Suspended Solids (SS)	----	2	mg/L	<2	<2	0.00

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

Matrix: **WATER**

Method: Compound	CAS Number	Method Blank (MB) Report			Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report						
					Spike	Spike Recovery (%)		Recovery Limits (%)		RPDs (%)	
		LOR	Unit	Result	Concentration	LCS	DCS	Low	High	Value	Control Limit
EA/ED: Physical and Aggregate Properties (QCLot: 1672278)											
EA025: Suspended Solids (SS)	----	2	mg/L	<2	10 mg/L	95.0	----	81	117	----	----

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

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

ALS Technichem (HK) Pty Ltd

ALS Laboratory Group

ANALYICAL CHEMISTRY & TESTING SERVICES

CERTIFICATE OF ANALYSIS

Client	: ACTION UNITED ENVIRONMENT SERVICES AND CONSULTING	Laboratory	: ALS Technichem (HK) Pty Ltd	Page	: 1 of 4
Contact	: MR BEN TAM	Contact	: Richard Fung	Work Order	: HK1838888
Address	: RM A 20/F., GOLD KING IND BLDG, NO. 35-41 TAI LIN PAI ROAD, KWAI CHUNG, N.T. HONG KONG	Address	: 11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong		
E-mail	: Bentam@fordbusiness.com	E-mail	: richard.fung@alsglobal.com		
Telephone	: +852 2959 6059	Telephone	: +852 2610 1044		
Facsimile	: +852 2959 6079	Facsimile	: +852 2610 2021		
Project	: TCS00881/18			Date Samples Received	: 12-Jul-2018
Order number	: ----	Quote number	: HKE/2982/2017	Issue Date	: 18-Jul-2018
C-O-C number	: ----			No. of samples received	: 2
Site	: SANDY RIDGE CEMETERY			No. of samples analysed	: 2

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

Signatories	*Position*	*Authorised results for*
Fung Lim Chee, Richard	General Manager	Inorganics

General Comments

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release. When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes. Testing period is from 12-Jul-2018 to 17-Jul-2018.

Key: LOR = Limit of reporting; CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.

Specific Comments for Work Order: HK1838888

Sample(s) were received in ambient condition.

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

Analytical Results

Sub-Matrix: WATER			Client sample ID	M2 (DUPLICATE)	M2	----	----	----
			Client sampling date / time	12-Jul-2018	12-Jul-2018	----	----	----
Compound	CAS Number	LOR	Unit	HK1838888-001	HK1838888-002	--------	--------	--------
EA/ED: Physical and Aggregate Properties								
EA025: Suspended Solids (SS)	----	2	mg/L	6	12	----	----	----

Laboratory Duplicate (DUP) Report

Matrix: **WATER**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report				
				LOR	Unit	Original Result	Duplicate Result	RPD (%)
EA/ED: Physical and Aggregate Properties (QC Lot: 1798518)								
HK1838886-005	Anonymous	**EA025: Suspended Solids (SS)**	----	2	mg/L	33	35	6.78
HK1838988-001	Anonymous	**EA025: Suspended Solids (SS)**	----	2	mg/L	5	6	0.00

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

Matrix: **WATER**

Method: Compound	CAS Number	Method Blank (MB) Report			Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report					
					Spike Concentration	Spike Recovery (%)		Recovery Limits(%)		RPD (%)	
		LOR	Unit	Result		LCS	DCS	Low	High	Value	Control Limit
EA/ED: Physical and Aggregate Properties (QC Lot: 1798518)											
EA025: Suspended Solids (SS)	----	2	mg/L	<2	10 mg/L	88.0	----	81	117	----	----

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

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

ALS Technichem (HK) Pty Ltd

ALS Laboratory Group

ANALYICAL CHEMISTRY & TESTING SERVICES

CERTIFICATE OF ANALYSIS

Client	: ACTION UNITED ENVIRONMENT SERVICES AND CONSULTING	Laboratory	: ALS Technichem (HK) Pty Ltd	Page	: 1 of 4
Contact	: MR BEN TAM	Contact	: Richard Fung	Work Order	: HK1839402
Address	: RM A 20/F., GOLD KING IND BLDG, NO. 35-41 TAI LIN PAI ROAD, KWAI CHUNG, N.T. HONG KONG	Address	: 11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong		
E-mail	: Bentam@fordbusiness.com	E-mail	: richard.fung@alsglobal.com		
Telephone	: +852 2959 6059	Telephone	: +852 2610 1044		
Facsimile	: +852 2959 6079	Facsimile	: +852 2610 2021		
Project	: TCS00881/18			Date Samples Received	: 16-Jul-2018
Order number	: ----	Quote number	: HKE/2982/2017	Issue Date	: 19-Jul-2018
C-O-C number	: ----			No. of samples received	: 2
Site	: SANDY RIDGE CEMETERY			No. of samples analysed	: 2

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

Signatories	*Position*	*Authorised results for*
Fung Lim Chee, Richard	General Manager	Inorganics

General Comments

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release. When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes. Testing period is from 16-Jul-2018 to 19-Jul-2018.

Key: LOR = Limit of reporting; CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.

Specific Comments for Work Order: HK1839402

Sample(s) were received in ambient condition.

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

Analytical Results

Sub-Matrix: WATER			Client sample ID	M2 (DUPLICATE)	M2	----	----	----
			Client sampling date / time	14-Jul-2018	14-Jul-2018	----	----	----
Compound	CAS Number	LOR	Unit	HK1839402-001	HK1839402-002	-------	-------	-------
EA/ED: Physical and Aggregate Properties								
EA025: Suspended Solids (SS)	----	2	mg/L	35	38	----	----	----

Laboratory Duplicate (DUP) Report

Matrix: **WATER**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report				
				LOR	Unit	Original Result	Duplicate Result	RPD (%)
EA/ED: Physical and Aggregate Properties (QC Lot: 1805653)								
HK1839400-006	Anonymous	**EA025: Suspended Solids (SS)**	----	2	mg/L	36	37	3.32
HK1839409-003	Anonymous	**EA025: Suspended Solids (SS)**	----	2	mg/L	189	179	5.44

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

Matrix: **WATER**

Method: Compound	CAS Number	Method Blank (MB) Report			Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report					
					Spike Concentration	Spike Recovery (%)		Recovery Limits(%)		RPD (%)	
		LOR	Unit	Result		LCS	DCS	Low	High	Value	Control Limit
EA/ED: Physical and Aggregate Properties (QC Lot: 1805653)											
EA025: Suspended Solids (SS)	----	2	mg/L	<2	10 mg/L	93.5	----	81	117	----	----

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

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

CERTIFICATE OF ANALYSIS

Client	: ACTION UNITED ENVIRONMENT SERVICES AND CONSULTING	Laboratory	: ALS Technichem (HK) Pty Ltd	Page	: 1 of 4
Contact	: MR BEN TAM	Contact	: Richard Fung	Work Order	: HK1839401
Address	: RM A 20/F., GOLD KING IND BLDG, NO. 35-41 TAI LIN PAI ROAD, KWAI CHUNG, N.T. HONG KONG	Address	: 11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong		
E-mail	: Bentam@fordbusiness.com	E-mail	: richard.fung@alsglobal.com		
Telephone	: +852 2959 6059	Telephone	: +852 2610 1044		
Facsimile	: +852 2959 6079	Facsimile	: +852 2610 2021		
Project	: TCS00881/18			Date Samples Received	: 16-Jul-2018
Order number	: ----	Quote number	: HKE/2982/2017	Issue Date	: 19-Jul-2018
C-O-C number	: ----			No. of samples received	: 2
Site	: SANDY RIDGE CEMETERY			No. of samples analysed	: 2

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

Signatories	*Position*	*Authorised results for*
Fung Lim Chee, Richard	General Manager	Inorganics

General Comments

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release. When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes. Testing period is from 16-Jul-2018 to 19-Jul-2018.

Key: LOR = Limit of reporting; CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.

Specific Comments for Work Order: HK1839401

Sample(s) were received in ambient condition.

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

Analytical Results

Sub-Matrix: WATER			Client sample ID	M2 (DUPLICATE)	M2	----	----	----
			Client sampling date / time	16-Jul-2018	16-Jul-2018	----	----	----
Compound	CAS Number	LOR	Unit	HK1839401-001	HK1839401-002	-------	-------	-------
EA/ED: Physical and Aggregate Properties								
EA025: Suspended Solids (SS)	----	2	mg/L	16	16	----	----	----

Laboratory Duplicate (DUP) Report

Matrix: **WATER**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report				
				LOR	Unit	Original Result	Duplicate Result	RPD (%)
EA/ED: Physical and Aggregate Properties (QC Lot: 1805653)								
HK1839400-006	Anonymous	**EA025: Suspended Solids (SS)**	----	2	mg/L	36	37	3.32
HK1839409-003	Anonymous	**EA025: Suspended Solids (SS)**	----	2	mg/L	189	179	5.44

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

Matrix: **WATER**

Method: Compound	CAS Number	Method Blank (MB) Report			Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report					
					Spike Concentration	Spike Recovery (%)		Recovery Limits(%)		RPD (%)	
		LOR	Unit	Result		LCS	DCS	Low	High	Value	Control Limit
EA/ED: Physical and Aggregate Properties (QC Lot: 1805653)											
EA025: Suspended Solids (SS)	----	2	mg/L	<2	10 mg/L	93.5	----	81	117	----	----

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

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

ALS Technichem (HK) Pty Ltd

ALS Laboratory Group

ANALYTICAL CHEMISTRY & TESTING SERVICES

CERTIFICATE OF ANALYSIS

Client	: ACTION UNITED ENVIRONMENT SERVICES AND CONSULTING	Laboratory	: ALS Technichem (HK) Pty Ltd	Page	: 1 of 4
Contact	: MR BEN TAM	Contact	: Richard Fung	Work Order	: HK1839838
Address	: RM A 20/F., GOLD KING IND BLDG, NO. 35-41 TAI LIN PAI ROAD, KWAI CHUNG, N.T. HONG KONG	Address	: 11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong		
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Telephone	: +852 2959 6059	Telephone	: +852 2610 1044		
Facsimile	: +852 2959 6079	Facsimile	: +852 2610 2021		
Project	: TCS00881/18			Date Samples Received	: 18-Jul-2018
Order number	: ----	Quote number	: HKE/2982/2017	Issue Date	: 24-Jul-2018
C-O-C number	: ----			No. of samples received	: 2
Site	: SANDY RIDGE CEMETERY			No. of samples analysed	: 2

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

Signatories	*Position*	*Authorised results for*
Fung Lim Chee, Richard	General Manager	Inorganics

General Comments

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Key: LOR = Limit of reporting; CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.

Specific Comments for Work Order: HK1839838

Sample(s) were received in ambient condition.

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

Analytical Results

Sub-Matrix: WATER			Client sample ID	M2 (DUPLICATE)	M2	----	----	----
			Client sampling date / time	18-Jul-2018	18-Jul-2018	----	----	----
Compound	CAS Number	LOR	Unit	HK1839838-001	HK1839838-002	-------	-------	-------
EA/ED: Physical and Aggregate Properties								
EA025: Suspended Solids (SS)	----	2	mg/L	12	11	----	----	----

Laboratory Duplicate (DUP) Report

Matrix: **WATER**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report				
				LOR	Unit	Original Result	Duplicate Result	RPD (%)
EA/ED: Physical and Aggregate Properties (QC Lot: 1816958)								
HK1839821-001	Anonymous	**EA025: Suspended Solids (SS)**	----	2	mg/L	119	117	2.03
HK1839836-002	Anonymous	**EA025: Suspended Solids (SS)**	----	2	mg/L	129	128	0.00
EA/ED: Physical and Aggregate Properties (QC Lot: 1816959)								
HK1839838-002	M2	**EA025: Suspended Solids (SS)**	----	2	mg/L	11	11	0.00
HK1839977-001	Anonymous	**EA025: Suspended Solids (SS)**	----	2	mg/L	6	7	0.00

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

Matrix: **WATER**

Method: Compound	CAS Number	Method Blank (MB) Report			Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report						
					Spike Concentration	Spike Recovery (%)		Recovery Limits(%)		RPD (%)	
		LOR	Unit	Result		LCS	DCS	Low	High	Value	Control Limit
EA/ED: Physical and Aggregate Properties (QC Lot: 1816958)											
EA025: Suspended Solids (SS)	----	2	mg/L	<2	10 mg/L	96.5	----	81	117	----	----
EA/ED: Physical and Aggregate Properties (QC Lot: 1816959)											
EA025: Suspended Solids (SS)	----	2	mg/L	<2	10 mg/L	103	----	81	117	----	----

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

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

ALS Technichem (HK) Pty Ltd

ALS Laboratory Group

ANALYICAL CHEMISTRY & TESTING SERVICES

CERTIFICATE OF ANALYSIS

Client	: ACTION UNITED ENVIRONMENT SERVICES AND CONSULTING	Laboratory	: ALS Technichem (HK) Pty Ltd	Page	: 1 of 4
Contact	: MR BEN TAM	Contact	: Richard Fung	Work Order	: HK1840180
Address	: RM A 20/F., GOLD KING IND BLDG, NO. 35-41 TAI LIN PAI ROAD, KWAI CHUNG, N.T. HONG KONG	Address	: 11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong		
E-mail	: Bentam@fordbusiness.com	E-mail	: richard.fung@alsglobal.com		
Telephone	: +852 2959 6059	Telephone	: +852 2610 1044		
Facsimile	: +852 2959 6079	Facsimile	: +852 2610 2021		
Project	: TCS00881/18			Date Samples Received	: 20-Jul-2018
Order number	: ----	Quote number	: HKE/2982/2017	Issue Date	: 24-Jul-2018
C-O-C number	: ----			No. of samples received	: 2
Site	: SANDY RIDGE CEMETERY			No. of samples analysed	: 2

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

Signatories	*Position*	*Authorised results for*
Fung Lim Chee, Richard	General Manager	Inorganics

General Comments

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release. When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes. Testing period is from 20-Jul-2018 to 24-Jul-2018.

Key: LOR = Limit of reporting; CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.

Specific Comments for Work Order: HK1840180

Sample(s) were received in ambient condition.

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

Analytical Results

Sub-Matrix: WATER			Client sample ID	M2 (DUPLICATE)	M2	----	----	----
			Client sampling date / time	20-Jul-2018	20-Jul-2018	----	----	----
Compound	CAS Number	LOR	Unit	HK1840180-001	HK1840180-002	-------	-------	-------
EA/ED: Physical and Aggregate Properties								
EA025: Suspended Solids (SS)	----	2	mg/L	4	3	----	----	----

Laboratory Duplicate (DUP) Report

Matrix: **WATER**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report				
				LOR	Unit	Original Result	Duplicate Result	RPD (%)
EA/ED: Physical and Aggregate Properties (QC Lot: 1820664)								
HK1840162-004	Anonymous	**EA025: Suspended Solids (SS)**	----	2	mg/L	<2	<2	0.00
HK1840185-006	Anonymous	**EA025: Suspended Solids (SS)**	----	2	mg/L	23	24	4.28

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

Matrix: **WATER**

Method: Compound	CAS Number	Method Blank (MB) Report			Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report						
					Spike Concentration	Spike Recovery (%)		Recovery Limits(%)		RPD (%)	
		LOR	Unit	Result		LCS	DCS	Low	High	Value	Control Limit
EA/ED: Physical and Aggregate Properties (QC Lot: 1820664)											
EA025: Suspended Solids (SS)	----	2	mg/L	<2	10 mg/L	99.5	----	81	117	----	----

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

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

ALS Technichem (HK) Pty Ltd

ALS Laboratory Group

ANALYTICAL CHEMISTRY & TESTING SERVICES

CERTIFICATE OF ANALYSIS

Client	: ACTION UNITED ENVIRONMENT SERVICES AND CONSULTING	Laboratory	: ALS Technichem (HK) Pty Ltd	Page	: 1 of 4
Contact	: MR BEN TAM	Contact	: Richard Fung	Work Order	: HK1840609
Address	: RM A 20/F., GOLD KING IND BLDG, NO. 35-41 TAI LIN PAI ROAD, KWAI CHUNG, N.T. HONG KONG	Address	: 11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong		
E-mail	: Bentam@fordbusiness.com	E-mail	: richard.fung@alsglobal.com		
Telephone	: +852 2959 6059	Telephone	: +852 2610 1044		
Facsimile	: +852 2959 6079	Facsimile	: +852 2610 2021		
Project	: TCS00881/18			Date Samples Received	: 24-Jul-2018
Order number	: ----	Quote number	: HKE/2982/2017	Issue Date	: 26-Jul-2018
C-O-C number	: ----			No. of samples received	: 2
Site	: SANDY RIDGE CEMETERY			No. of samples analysed	: 2

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Signatories	*Position*	*Authorised results for*
Fung Lim Chee, Richard	General Manager	Inorganics

General Comments

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Key: LOR = Limit of reporting; CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.

Specific Comments for Work Order: HK1840609

Sample(s) were received in ambient condition.

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

Analytical Results

Sub-Matrix: WATER			Client sample ID	M2 (DUPLICATE)	M2	----	----	----
			Client sampling date / time	24-Jul-2018	24-Jul-2018	----	----	----
Compound	CAS Number	LOR	Unit	HK1840609-001	HK1840609-002	-------	-------	-------
EA/ED: Physical and Aggregate Properties								
EA025: Suspended Solids (SS)	----	2	mg/L	12	11	----	----	----

Laboratory Duplicate (DUP) Report

Matrix: **WATER**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report				
				LOR	Unit	Original Result	Duplicate Result	RPD (%)
EA/ED: Physical and Aggregate Properties (QC Lot: 1827104)								
HK1840548-001	Anonymous	**EA025: Suspended Solids (SS)**	----	2	mg/L	2	<2	0.00
HK1840612-005	Anonymous	**EA025: Suspended Solids (SS)**	----	2	mg/L	5	5	0.00

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

Matrix: **WATER**

Method: Compound	CAS Number	Method Blank (MB) Report			Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report					
					Spike Concentration	Spike Recovery (%)		Recovery Limits(%)		RPD (%)	
		LOR	Unit	Result		LCS	DCS	Low	High	Value	Control Limit
EA/ED: Physical and Aggregate Properties (QC Lot: 1827104)											
EA025: Suspended Solids (SS)	----	2	mg/L	<2	10 mg/L	106	----	81	117	----	----

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

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

CERTIFICATE OF ANALYSIS

Client	: ACTION UNITED ENVIRONMENT SERVICES AND CONSULTING	Laboratory	: ALS Technichem (HK) Pty Ltd	Page	: 1 of 4
Contact	: MR BEN TAM	Contact	: Richard Fung	Work Order	: HK1841034
Address	: RM A 20/F., GOLD KING IND BLDG, NO. 35-41 TAI LIN PAI ROAD, KWAI CHUNG, N.T. HONG KONG	Address	: 11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong		
E-mail	: Bentam@fordbusiness.com	E-mail	: richard.fung@alsglobal.com		
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Facsimile	: +852 2959 6079	Facsimile	: +852 2610 2021		
Project	: TCS00881/18			Date Samples Received	: 26-Jul-2018
Order number	: ----	Quote number	: HKE/2982/2017	Issue Date	: 30-Jul-2018
C-O-C number	: ----			No. of samples received	: 2
Site	: SANDY RIDGE CEMETERY			No. of samples analysed	: 2

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Signatories	*Position*	*Authorised results for*
Fung Lim Chee, Richard	General Manager	Inorganics

General Comments

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Key: LOR = Limit of reporting; CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.

Specific Comments for Work Order: HK1841034

Sample(s) were received in ambient condition.

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

Analytical Results

Sub-Matrix: WATER			Client sample ID	M2 (Duplicate)	M2	----	----	----
			Client sampling date / time	26-Jul-2018	26-Jul-2018	----	----	----
Compound	CAS Number	LOR	Unit	HK1841034-001	HK1841034-002	-------	-------	-------
EA/ED: Physical and Aggregate Properties								
EA025: Suspended Solids (SS)	----	2	mg/L	31	32	----	----	----

Laboratory Duplicate (DUP) Report

Matrix: **WATER**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report				
				LOR	Unit	Original Result	Duplicate Result	RPD (%)
EA/ED: Physical and Aggregate Properties (QC Lot: 1833456)								
HK1841026-001	Anonymous	**EA025: Suspended Solids (SS)**	----	2	mg/L	22	22	0.00
HK1841032-001	Anonymous	**EA025: Suspended Solids (SS)**	----	2	mg/L	8	8	0.00

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

Matrix: **WATER**

Method: Compound	CAS Number	Method Blank (MB) Report			Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report						
					Spike Concentration	Spike Recovery (%)		Recovery Limits(%)		RPD (%)	
		LOR	Unit	Result		LCS	DCS	Low	High	Value	Control Limit
EA/ED: Physical and Aggregate Properties (QC Lot: 1833456)											
EA025: Suspended Solids (SS)	----	2	mg/L	<2	10 mg/L	105	----	81	117	----	----

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

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

CERTIFICATE OF ANALYSIS

Client	: ACTION UNITED ENVIRONMENT SERVICES AND CONSULTING	Laboratory	: ALS Technichem (HK) Pty Ltd	Page	: 1 of 4
Contact	: MR BEN TAM	Contact	: Richard Fung	Work Order	: HK1841352
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E-mail	: Bentam@fordbusiness.com	E-mail	: richard.fung@alsglobal.com		
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Facsimile	: +852 2959 6079	Facsimile	: +852 2610 2021		
Project	: TCS00881/18			Date Samples Received	: 30-Jul-2018
Order number	: ----	Quote number	: HKE/2982/2017	Issue Date	: 01-Aug-2018
C-O-C number	: ----			No. of samples received	: 2
Site	: SANDY RIDGE CEMETERY			No. of samples analysed	: 2

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

Signatories	*Position*	*Authorised results for*
Fung Lim Chee, Richard	General Manager	Inorganics

General Comments

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release. When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes. Testing period is from 30-Jul-2018 to 01-Aug-2018.

Key: LOR = Limit of reporting; CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.

Specific Comments for Work Order: HK1841352

Sample(s) were received in ambient condition.

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

Analytical Results

Sub-Matrix: WATER			Client sample ID	M2 (DUPLICATE)	M2	----	----	----
			Client sampling date / time	28-Jul-2018	28-Jul-2018	----	----	----
Compound	CAS Number	LOR	Unit	HK1841352-001	HK1841352-002	-------	-------	-------
EA/ED: Physical and Aggregate Properties								
EA025: Suspended Solids (SS)	----	2	mg/L	22	21	----	----	----

Laboratory Duplicate (DUP) Report

Matrix: **WATER**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report				
				LOR	Unit	Original Result	Duplicate Result	RPD (%)
EA/ED: Physical and Aggregate Properties (QC Lot: 1840022)								
HK1841350-005	Anonymous	**EA025: Suspended Solids (SS)**	----	2	mg/L	8	8	0.00
HK1841358-001	Anonymous	**EA025: Suspended Solids (SS)**	----	2	mg/L	<2	2	0.00

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

Matrix: **WATER**

Method: Compound	CAS Number	Method Blank (MB) Report			Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report					
					Spike Concentration	Spike Recovery (%)		Recovery Limits(%)		RPD (%)	
		LOR	Unit	Result		LCS	DCS	Low	High	Value	Control Limit
EA/ED: Physical and Aggregate Properties (QC Lot: 1840022)											
EA025: Suspended Solids (SS)	----	2	mg/L	<2	10 mg/L	110	----	81	117	----	----

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

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

CERTIFICATE OF ANALYSIS

Client	: ACTION UNITED ENVIRONMENT SERVICES AND CONSULTING	Laboratory	: ALS Technichem (HK) Pty Ltd	Page	: 1 of 4
Contact	: MR BEN TAM	Contact	: Richard Fung	Work Order	: HK1841353
Address	: RM A 20/F., GOLD KING IND BLDG, NO. 35-41 TAI LIN PAI ROAD, KWAI CHUNG, N.T. HONG KONG	Address	: 11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong		
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Telephone	: +852 2959 6059	Telephone	: +852 2610 1044		
Facsimile	: +852 2959 6079	Facsimile	: +852 2610 2021		
Project	: TCS00881/18			Date Samples Received	: 30-Jul-2018
Order number	: ----	Quote number	: HKE/2982/2017	Issue Date	: 01-Aug-2018
C-O-C number	: ----			No. of samples received	: 2
Site	: SANDY RIDGE CEMETERY			No. of samples analysed	: 2

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

Signatories	*Position*	*Authorised results for*
Fung Lim Chee, Richard	General Manager	Inorganics

General Comments

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release. When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes. Testing period is from 30-Jul-2018 to 01-Aug-2018.

Key: LOR = Limit of reporting; CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.

Specific Comments for Work Order: HK1841353

Sample(s) were received in ambient condition.

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

Analytical Results

Sub-Matrix: WATER			Client sample ID	M2 (DUPLICATE)	M2	----	----	----
			Client sampling date / time	30-Jul-2018	30-Jul-2018	----	----	----
Compound	CAS Number	LOR	Unit	HK1841353-001	HK1841353-002	-------	-------	-------
EA/ED: Physical and Aggregate Properties								
EA025: Suspended Solids (SS)	----	2	mg/L	8	8	----	----	----

Laboratory Duplicate (DUP) Report

Matrix: **WATER**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report				
				LOR	Unit	Original Result	Duplicate Result	RPD (%)
EA/ED: Physical and Aggregate Properties (QC Lot: 1840022)								
HK1841350-005	Anonymous	**EA025: Suspended Solids (SS)**	----	2	mg/L	8	8	0.00
HK1841358-001	Anonymous	**EA025: Suspended Solids (SS)**	----	2	mg/L	<2	2	0.00

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

Matrix: **WATER**

Method: Compound	CAS Number	Method Blank (MB) Report			Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report					
					Spike Concentration	Spike Recovery (%)		Recovery Limits(%)		RPD (%)	
		LOR	Unit	Result		LCS	DCS	Low	High	Value	Control Limit
EA/ED: Physical and Aggregate Properties (QC Lot: 1840022)											
EA025: Suspended Solids (SS)	----	2	mg/L	<2	10 mg/L	110	----	81	117	----	----

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

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

ALS Technichem (HK) Pty Ltd

ALS Laboratory Group

ANALYICAL CHEMISTRY & TESTING SERVICES

CERTIFICATE OF ANALYSIS

Client	: ACTION UNITED ENVIRONMENT SERVICES AND CONSULTING	Laboratory	: ALS Technichem (HK) Pty Ltd	Page	: 1 of 4
Contact	: MR BEN TAM	Contact	: Richard Fung	Work Order	: HK1841645
Address	: RM A 20/F., GOLD KING IND BLDG, NO. 35-41 TAI LIN PAI ROAD, KWAI CHUNG, N.T. HONG KONG	Address	: 11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong		
E-mail	: Bentam@fordbusiness.com	E-mail	: richard.fung@alsglobal.com		
Telephone	: +852 2959 6059	Telephone	: +852 2610 1044		
Facsimile	: +852 2959 6079	Facsimile	: +852 2610 2021		
Project	: TCS00881/18			Date Samples Received	: 01-Aug-2018
Order number	: ----	Quote number	: HKE/2982/2017	Issue Date	: 03-Aug-2018
C-O-C number	: ----			No. of samples received	: 2
Site	: SANDY RIDGE CEMETERY			No. of samples analysed	: 2

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

Signatories	*Position*	*Authorised results for*
Fung Lim Chee, Richard	General Manager	Inorganics

General Comments

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Key: LOR = Limit of reporting; CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.

Specific Comments for Work Order: HK1841645

Sample(s) were received in ambient condition.

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

Analytical Results

Sub-Matrix: WATER			Client sample ID	M2 (DUPLICATE)	M2	----	----	----
			Client sampling date / time	01-Aug-2018	01-Aug-2018	----	----	----
Compound	CAS Number	LOR	Unit	HK1841645-001	HK1841645-002	-------	-------	-------
EA/ED: Physical and Aggregate Properties								
EA025: Suspended Solids (SS)	----	2	mg/L	27	25	----	----	----

Laboratory Duplicate (DUP) Report

Matrix: **WATER**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report				
				LOR	Unit	Original Result	Duplicate Result	RPD (%)
EA/ED: Physical and Aggregate Properties (QC Lot: 1846739)								
HK1841621-001	Anonymous	**EA025: Suspended Solids (SS)**	----	2	mg/L	6	6	0.00
HK1841635-004	Anonymous	**EA025: Suspended Solids (SS)**	----	2	mg/L	<2	<2	0.00

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

Matrix: **WATER**

Method: Compound	CAS Number	Method Blank (MB) Report			Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report						
					Spike Concentration	Spike Recovery (%)		Recovery Limits(%)		RPD (%)	
		LOR	Unit	Result		LCS	DCS	Low	High	Value	Control Limit
EA/ED: Physical and Aggregate Properties (QC Lot: 1846739)											
EA025: Suspended Solids (SS)	----	2	mg/L	<2	10 mg/L	92.0	----	81	117	----	----

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

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

CERTIFICATE OF ANALYSIS

Client	: ACTION UNITED ENVIRONMENT SERVICES AND CONSULTING	Laboratory	: ALS Technichem (HK) Pty Ltd	Page	: 1 of 4
Contact	: MR BEN TAM	Contact	: Richard Fung	Work Order	: HK1842447
Address	: RM A 20/F., GOLD KING IND BLDG, NO. 35-41 TAI LIN PAI ROAD, KWAI CHUNG, N.T. HONG KONG	Address	: 11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong		
E-mail	: Bentam@fordbusiness.com	E-mail	: richard.fung@alsglobal.com		
Telephone	: +852 2959 6059	Telephone	: +852 2610 1044		
Facsimile	: +852 2959 6079	Facsimile	: +852 2610 2021		
Project	: TCS00881/18			Date Samples Received	: 03-Aug-2018
Order number	: ----	Quote number	: HKE/2982/2017	Issue Date	: 07-Aug-2018
C-O-C number	: ----			No. of samples received	: 2
Site	: SANDY RIDGE CEMETERY			No. of samples analysed	: 2

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

Signatories	*Position*	*Authorised results for*
Fung Lim Chee, Richard	General Manager	Inorganics

General Comments

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Key: LOR = Limit of reporting; CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.

Specific Comments for Work Order: HK1842447

Sample(s) were received in ambient condition.

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

Analytical Results

Sub-Matrix: WATER			Client sample ID	M2 (DUPLICATE)	M2	----	----	----
			Client sampling date / time	03-Aug-2018	03-Aug-2018	----	----	----
Compound	CAS Number	LOR	Unit	HK1842447-001	HK1842447-002	--------	--------	--------
EA/ED: Physical and Aggregate Properties								
EA025: Suspended Solids (SS)	----	2	mg/L	54	51	----	----	----

Laboratory Duplicate (DUP) Report

Matrix: **WATER**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report				
				LOR	Unit	Original Result	Duplicate Result	RPD (%)
EA/ED: Physical and Aggregate Properties (QC Lot: 1852759)								
HK1842245-001	Anonymous	**EA025: Suspended Solids (SS)**	----	2	mg/L	<2	<2	0.00
HK1842357-001	Anonymous	**EA025: Suspended Solids (SS)**	----	2	mg/L	<2	<2	0.00
EA/ED: Physical and Aggregate Properties (QC Lot: 1852760)								
HK1842447-002	M2	**EA025: Suspended Solids (SS)**	----	2	mg/L	51	51	0.00
HK1842450-005	Anonymous	**EA025: Suspended Solids (SS)**	----	2	mg/L	2	3	0.00

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

Matrix: **WATER**

Method: Compound	CAS Number	Method Blank (MB) Report			Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report						
					Spike Concentration	Spike Recovery (%)		Recovery Limits(%)		RPD (%)	
		LOR	Unit	Result		LCS	DCS	Low	High	Value	Control Limit
EA/ED: Physical and Aggregate Properties (QC Lot: 1852759)											
EA025: Suspended Solids (SS)	----	2	mg/L	<2	10 mg/L	98.0	----	81	117	----	----
EA/ED: Physical and Aggregate Properties (QC Lot: 1852760)											
EA025: Suspended Solids (SS)	----	2	mg/L	<2	10 mg/L	106	----	81	117	----	----

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

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

CERTIFICATE OF ANALYSIS

Client	: ACTION UNITED ENVIRONMENT SERVICES AND CONSULTING	Laboratory	: ALS Technichem (HK) Pty Ltd	Page	: 1 of 4
Contact	: MR BEN TAM	Contact	: Richard Fung	Work Order	: HK1842698
Address	: RM A 20/F., GOLD KING IND BLDG, NO. 35-41 TAI LIN PAI ROAD, KWAI CHUNG, N.T. HONG KONG	Address	: 11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong		
E-mail	: Bentam@fordbusiness.com	E-mail	: richard.fung@alsglobal.com		
Telephone	: +852 2959 6059	Telephone	: +852 2610 1044		
Facsimile	: +852 2959 6079	Facsimile	: +852 2610 2021		
Project	: TCS00881/18			Date Samples Received	: 06-Aug-2018
Order number	: ----	Quote number	: HKE/2982/2017	Issue Date	: 08-Aug-2018
C-O-C number	: ----			No. of samples received	: 2
Site	: SANDY RIDGE CEMETERY			No. of samples analysed	: 2

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

Signatories	*Position*	*Authorised results for*
Fung Lim Chee, Richard	General Manager	Inorganics

General Comments

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Key: LOR = Limit of reporting; CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.

Specific Comments for Work Order: HK1842698

Sample(s) were received in ambient condition.

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

Analytical Results

Sub-Matrix: WATER			Client sample ID	M2 (DUPLICATE)	M2	----	----	----
			Client sampling date / time	06-Aug-2018	06-Aug-2018	----	----	----
Compound	CAS Number	LOR	Unit	HK1842698-001	HK1842698-002	-------	-------	-------
EA/ED: Physical and Aggregate Properties								
EA025: Suspended Solids (SS)	----	2	mg/L	3	3	----	----	----

Laboratory Duplicate (DUP) Report

Matrix: **WATER**

Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report				
				LOR	Unit	Original Result	Duplicate Result	RPD (%)
EA/ED: Physical and Aggregate Properties (QC Lot: 1855663)								
HK1842695-002	Anonymous	**EA025: Suspended Solids (SS)**	----	2	mg/L	13	13	0.00
HK1842696-002	Anonymous	**EA025: Suspended Solids (SS)**	----	2	mg/L	31	33	4.37

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

Matrix: **WATER**

Method: Compound	CAS Number	Method Blank (MB) Report			Laboratory Control Spike (LCS) and Laboratory Control Spike Duplicate (DCS) Report					
					Spike Concentration	Spike Recovery (%)		Recovery Limits(%)		RPD (%)	
		LOR	Unit	Result		LCS	DCS	Low	High	Value	Control Limit
EA/ED: Physical and Aggregate Properties (QC Lot: 1855663)											
EA025: Suspended Solids (SS)	----	2	mg/L	<2	10 mg/L	110	----	81	117	----	----

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

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