

OSCAR Bioenergy Joint Venture

Contract No. EP/SP/61/10
Organic Resources Recovery
Centre (Phase 1):
Forty-sixth Monthly EM&A Report

1 March 2019 – 31 March 2019

Environmental Resources Management

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Meinhardt Infrastructure and Environment Limited

**Organic Resources Recovery Centre,
Phase I**

Monthly EM&A Report
(1 March 2019 – 31 March 2019)

(May 2019)

Verified by: _____ Helen Cochrane 

Position: Independent Environmental Checker

Date: _____ 8 May 2019

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Reference 0279222

For and on behalf of ERM-Hong Kong, Limited	
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CONTENTS

EXECUTIVE SUMMARY

1	INTRODUCTION	1
1.1	PURPOSE OF THE REPORT	1
1.2	STRUCTURE OF THE REPORT	1
2	PROJECT INFORMATION	3
2.1	BACKGROUND	3
2.2	GENERAL SITE DESCRIPTION	4
2.3	MAJOR ACTIVITIES UNDERTAKEN	4
2.4	PROJECT ORGANISATION AND MANAGEMENT STRUCTURE	4
2.5	STATUS OF ENVIRONMENTAL APPROVAL DOCUMENTS	4
3	ENVIRONMENTAL MONITORING AND AUDIT REQUIREMENTS	6
3.1	ENVIRONMENTAL MONITORING	6
3.1.1	<i>Air Quality</i>	6
3.1.2	<i>Odour</i>	8
3.2	SITE AUDIT	11
3.2.1	<i>Water Quality</i>	11
3.2.2	<i>Landscape and Visual</i>	11
4	MONITORING RESULTS	13
4.1	AIR QUALITY	13
4.1.1	<i>Commissioning Phase Monitoring</i>	13
4.1.2	<i>Operation Phase Monitoring</i>	13
4.2	ODOUR	17
4.2.1	<i>Commissioning Phase Monitoring</i>	17
4.2.2	<i>Operation Phase Monitoring</i>	17
4.3	WATER QUALITY	17
4.3.1	<i>Construction Phase Monitoring</i>	17
4.3.2	<i>Operation Phase Monitoring</i>	17
4.4	WASTE MANAGEMENT	18
4.4.1	<i>Construction Phase Monitoring</i>	18
4.4.2	<i>Operation Phase Monitoring</i>	18
5	SITE AUDIT	20
5.1	WEEKLY ENVIRONMENTAL SITE AUDIT	20
5.2	LANDSCAPE AND VISUAL AUDIT	20
6	ENVIRONMENTAL NON-CONFORMANCE	22
6.1	SUMMARY OF ENVIRONMENTAL NON-COMPLIANCE	22
6.2	SUMMARY OF ENVIRONMENTAL COMPLAINT	22
6.3	SUMMARY OF ENVIRONMENTAL SUMMON AND SUCCESSFUL PROSECUTION	23

7	<i>FUTURE KEY ISSUES</i>	24
7.1	<i>KEY ISSUES FOR THE COMING MONTH</i>	24
8	<i>CONCLUSIONS</i>	25

LIST OF TABLES

TABLE 2.1	SUMMARY OF ACTIVITIES UNDERTAKEN IN THE REPORTING PERIOD
TABLE 2.2	SUMMARY OF ENVIRONMENTAL LICENSING, NOTIFICATION AND PERMIT STATUS
TABLE 3.1	SAMPLING AND LABORATORY ANALYSIS METHODOLOGY
TABLE 3.2	EMISSION LIMIT FOR CAPCS STACK
TABLE 3.3	EMISSION LIMIT FOR CHP STACK
TABLE 3.6	ODOUR INTENSITY LEVEL
TABLE 3.7	ACTION AND LIMIT LEVELS FOR ODOUR NUISANCE
TABLE 3.8	EVENT AND ACTION PLAN FOR ODOUR MONITORING
TABLE 4.1	HOURLY AVERAGE OF PARAMETERS RECORDED FOR CAPCS
TABLE 4.2	HOURLY AVERAGE OF PARAMETERS RECORDED FOR CHP 1
TABLE 4.3	HOURLY AVERAGE OF PARAMETERS RECORDED FOR CHP 2
TABLE 4.4	HOURLY AVERAGE OF PARAMETERS RECORDED FOR CHP 3
TABLE 4.5	HOURLY AVERAGE OF PARAMETERS RECORDED FOR ASP
TABLE 4.5	RESULTS OF THE DISCHARGE SAMPLE
TABLE 4.7	QUANTITIES OF WASTE GENERATED FROM THE CONSTRUCTION OF THE PROJECT
TABLE 4.8	QUANTITIES OF WASTE GENERATED FROM THE OPERATION OF THE PROJECT

LIST OF ANNEXES

ANNEX A	LOCATION OF PROJECT
ANNEX B	WORKS LOCATION
ANNEX C	CONSTRUCTION PROGRAMME
ANNEX D	PROJECT ORGANISATION CHART AND CONTACT DETAIL
ANNEX E	CALIBRATION CERTIFICATION FOR THE ON-LINE STACK MONITORING SYSTEM
ANNEX F	IMPLEMENTATION SCHEDULE OF MITIGATION MEASURES
ANNEX G	HOURLY AVERAGE OF PARAMETERS RECORDED FOR CAPCS, CHP AND ASP
ANNEX H	WASTE FLOW TABLE
ANNEX I	ENVIRONMENTAL COMPLAINT, ENVIRONMENTAL SUMMONS AND PROSECUTION LOG
ANNEX J	ODOUR MONITORING RESULT
ANNEX K	INVESTIGATION REPORT

EXECUTIVE SUMMARY

The construction works of *No. EP/SP/61/10 Organic Resources Recovery Centre Phase 1 (the Project)* commenced on 21 May 2015. This is the 46th monthly Environmental Monitoring and Audit (EM&A) report presenting the EM&A works carried out during the period from 1 to 31 March 2019 in accordance with the EM&A Manual. Substantial completion of the construction works was confirmed on 3 December 2018. In the meantime, the operation phase EM&A programme had commenced in March 2019.

Summary of Works undertaken during the Reporting Month

Works undertaken in the reporting month included:

- Operation of the Project, including organic waste reception, and operation of the pre-treatment facilities, anaerobic digesters, composting facilities, air pollution control systems, on-line emission monitoring system for the Centralised Air Pollution Control Unit (CAPCS), Co-generation Units (CHP)s and Ammonia Stripping Plant (ASP), and the wastewater treatment plant;
- Process fine-tune, including adjustment of the ASP with new treatment media, modification of Continuous Environmental Monitoring System (CEMS) and Supervisory Control and Data Acquisition System (SCADA) rectification and improvement works following equipment failures and the alteration of different operation modes and measures to adapt to the high variation of SSOW nature and sources; and
- Construction of the Visitor Centre.

Environmental Monitoring and Audit Progress

Air Quality Monitoring

Exceedances on odour from CAPCS, on dust, NO_x and SO₂ from CHP and on CO, NO_x, SO₂, VOCs and NH₃ from ASP were recorded on the on-line monitoring system. It should be noted that measurements recorded under abnormal operating conditions, e.g. start up and stopping of stacks, unstable operation, test runs and interference of sensor, are disregarded.

Exceedances in emission parameters of CAPCS, CHP and ASP were found to be a result of the breakdown of the automatic chemical dosing system of the air pollution control systems of the CAPCS, tripping of the circulation pump resulting in the incomplete desulphurisation of biogas which fed to the CHPs, and the combustion efficiency of the thermal combustion unit of the ASP was under further optimisation process.

The Contractor has implemented mitigation measures to control the exceedance (including the arrangement of the supplier of the dosing system for the CAPCS to repair the dosing system and manual dosing of chemical to the CAPCS until the problems of the automatic dosing system is expected to

be fixed in the next reporting period; adding an additional activated carbon filters to the biogas desulphurisation system to control the H₂S level in the biogas which fed to the CHP and the ASP; and tuning the thermal combustion unit of the ASP to optimise combustion efficiency and overall performance.

The Contractor is recommended to closely monitor the processes, including the chemical dosing system in the CAPCS, the desulphurisation process, and combustion of biogas in the ASP to avoid the reoccurrence of similar problems.

Odour Patrol

Odour patrol were conducted by representatives of the Contractor, the ER and Employer (EPD Project Team) on 1, 4, 8, 11, 13, 15, 18, 20, 22, 25, 27 and 29 March 2019. The Independent Odour Patrol Team, ALS Technichem (HK) Pty Ltd (ALS), has also joined the odour patrol on 1 March 2019. No Level 2 Odour Intensity was recorded during odour patrols.

Air samples were also collected at the CAPCS for olfactometry analysis at the laboratory on 10, 11, 19 and 27 December 2018 and 16 and 29 January 2019. The odour level of the samples collected on 10, 11, 19 and 27 December 2018 and 16 January 2019 have exceeded the odour limit. The cause of the exceedances recorded was due to the breakdown of the automatic chemical dosing system and the repairing time of the automatic chemical dosing system was longer than anticipated. The system was fixed and the odour concentration of the air sample taken on 29 January 2019 showed compliance with the odour limit.

An investigation of the cause of the exceedance has been carried out. The investigation report is shown in *Annex K*.

Water Quality

No non-compliance to the effluent discharge limit stipulated in the discharge licence issued by the EPD under the *Water Pollution Control Ordinance* was recorded during this reporting period.

Waste Management

Waste generated from the construction of the Project includes inert construction and demolition (C&D) materials (public fill) and non-inert C&D materials (construction wastes).

Inert C&D materials (public fill) include bricks, concrete, building debris, rubble and excavated spoil. In total, 190.40 tonnes of inert C&D material were generated from the construction of the Project.

Non-inert C&D materials (construction wastes) from the construction of this Project include metals, paper / cardboard packaging waste, plastics and other wastes such as general refuse. 0.00 kg of metals, 0.00 kg of papers/ cardboard packing and 0.00 kg of plastics were sent to recyclers for recycling

during the reporting period. 16.45 tonnes of general refuse was disposed of at the landfill.

0.00 L of chemical waste was collected by licenced waste collector from the construction of the Project.

Waste generated from the operation of the Project includes chemical waste, waste generated from pre-treatment process and general refuse.

1,200 L of chemical waste was collected by licenced waste collector from the operation of the Project.

477.08 tonnes of waste generated from pre-treatment process from the operation of the Project was disposed of at landfill. Among waste generated from pre-treatment process from the operation of the Project, 0.00 kg of metals, 0.00 kg of papers/ cardboard packing and 0.00 kg of plastics were sent to recyclers for recycling during the reporting period.

Around 1.50 tonnes of general refuse from the operation of the Project was disposed of at landfill. Among general refuse from the operation of the Project, 0.00 kg of metals, 0.00 kg of papers/ cardboard packing and 0.00 kg of plastics were sent to recyclers for recycling during the reporting period.

Findings of Environmental Site Audit

A summary of the monitoring activities undertaken in this reporting period is listed below:

- Joint Environmental Site Inspections 4 times
- Landscape & Visual Inspections 2 times

Four weekly joint environmental site inspections were carried out by the representatives of the Contractor and the ET. The IEC was also present at the joint inspection on 22 March 2019. The environmental control/ mitigation measures (related to air quality, water quality, waste (including land contamination prevention), hazard-to-life and landscape and visual) recommended in the approved EIA Report and the EM&A Manual were properly implemented by the Contractor during the reporting month.

Environmental Exceedance/Non-conformance/Compliant/Summons and Prosecution

Exceedances for the air emission limits for the CAPCS, CHP and ASP stacks were recorded during the reporting period.

No incident occurred during the reporting period.

No complaint/ summon/prosecution was received in this reporting period.

Future Key Issues

Activities to be undertaken in the next reporting month include:

- Operation of the Project.
- Contractor should resolve the technical issue related to the on-line monitoring of methane emission (hence the calculation of the NMVOC concentration) from the CHP stacks as soon as possible and undertake bi-weekly gas sampling and laboratory analysis of NMVOC when the on-line monitoring equipment for methane is not available.
- Implementation of further measures to control the air emission from the CAPCS, CHP and ASP.
- Continue construction of the Visitor Centre.

ERM-Hong Kong, Limited (ERM) was appointed by OSCAR Bioenergy Joint Venture (the Contractor) as the Environmental Team (ET) to undertake the construction Environmental Monitoring and Audit (EM&A) programme for the *Contract No. EP/SP/61/10 of Organic Waste Treatment Facilities Phase I*, which the project name has been updated to *Organic Resources Recovery Centre (Phase I) (the Project)* since November 2017. ERM was also appointed by the Contractor to undertake the operation EM&A programme starting 1 March 2019.

1.1 PURPOSE OF THE REPORT

This is the 46th EM&A report which summarises the monitoring results and audit findings for the EM&A programme during the reporting period from 1 to 31 March 2019.

1.2 STRUCTURE OF THE REPORT

The structure of the report is as follows:

Section 1: Introduction

It details the scope and structure of the report.

Section 2: Project Information

It summarises the background and scope of the Project, site description, project organisation and status of the Environmental Permits (EP)/licences.

Section 3: Environmental Monitoring and Audit Requirements

It summarises the environmental monitoring requirements including monitoring parameters, programmes, methodologies, frequency, locations, Action and Limit Levels, Event/ Action Plans, as well as environmental audit requirements as recommended in the EM&A Manual and approved EIA report.

Section 4: Monitoring Results

It summarises monitoring results of the reporting period.

Section 5: Site Audit

It summarises the audit findings of the environmental as well as landscape and visual site audits undertaken within the reporting period.

Section 6: Environmental Non-conformance

It summarises any exceedance of environmental performance standard, environmental complaints and summons received within the reporting period.

Section 7: Further Key Issues

It summarises the impact forecast for the next reporting month.

Section 8: Conclusions

2.1

BACKGROUND

The Organic Resources Recovery Centre (ORRC) Phase I development (hereinafter referred to as “the Project”) is to design, construct and operate a biological treatment facility with a capacity of about 200 tonnes per day and convert source-separated organic waste from commercial and industrial sectors (mostly food waste) into compost and biogas through proven biological treatment technologies. The location of the Project site is shown in *Annex A*.

The environmental acceptability of the construction and operation of the Project had been confirmed by findings of the associated Environmental Impact Assessment (EIA) Study completed in 2009. The Director of Environmental Protection (DEP) approved this EIA Report under the *Environmental Impact Assessment Ordinance* (EIAO) (Cap. 499) in February 2010 (Register No.: AEIAR-149/2010) (hereafter referred to as the approved EIA Report). Subsequent Report on Re-assessment on Environmental Implications and Report on Re-assessment on Hazard to Life Implications were completed in 2013, respectively.

An Environmental Permit (EP) (No. EP-395/2010) was issued by the DEP to the EPD (Project Team), the Permit Holder, on 21 June 2010 and varied on 18 March 2013 (No. EP-395/2010/A) and 21 May 2013 (No. EP-395/2010/B), respectively. The Design Build and Operate Contract for the ORRC Phase 1 (Contract No. EP/SP/61/10 Organic Resources Recovery Centre (Phase 1) (the Contract)) was awarded to SITA Waste Services Limited, ATAL Engineering Limited and Ros-Roca, Sociedad Anonima jointly trading as the OSCAR Bioenergy Joint Venture (OSCAR or the Contractor). A Further EP (No. FEP-01/395/2010/B) was issued by the DEP to the OSCAR on 16 February 2015. Variation to both EPs (Nos. EP-395/2010/B and FEP-01/395/2010/B) were made in December 2015. The latest EPs, Nos. EP-395/2010/C and FEP-01/395/2010/C, were issued by the DEP on 21 December 2015.

Under the requirements of Condition 5 of the EP (No. FEP-01/395/2010/C), an Environmental Monitoring and Audit (EM&A) programme as set out in the approved EM&A Manual (hereinafter referred to as EM&A Manual) is required to be implemented during the construction and operation of the Project. ERM-Hong Kong, Ltd (ERM) has been appointed by OSCAR as the Environmental Team (ET) for the construction phase EM&A programme and the Monitoring Team (MT) for the operation phase EM&A programme for the implementation of the EM&A programme in accordance with the requirements of the EP and the approved EM&A Manual.

The construction works commenced on 21 May 2015. The construction phase

EM&A programme was completed in end of March 2019 ⁽¹⁾. The operation phase of the EM&A programme commenced on 1 March 2019.

2.2 GENERAL SITE DESCRIPTION

The Project Site is located at Siu Ho Wan in North Lantau with an area of about 2 hectares. The layout of the Project Site is illustrated in *Annex A*. The facility received and treated an average of 100 tonnes of source separated organic waste per day during the reporting month.

2.3 MAJOR ACTIVITIES UNDERTAKEN

A summary of the major activities undertaken in the reporting period is shown in *Table 2.1*. The site layout plan is shown in *Annex B*. The construction programme is shown in *Annex C*.

Table 2.1 *Summary of Activities Undertaken in the Reporting Period*

Activities Undertaken in the Reporting Period
<ul style="list-style-type: none"> Systems being operated – waste reception, pre-treatment, CAPCS extraction, the digesters, the centrifuge, , the composting tunnels the desulphurisation, the emergency flare, the CHPs, the ASP and the biological waste water treatment plant (about 100-130 t/d SSOW input); Process fine-tune – adjustment of the ASP operational parameters with new treatment media, CEMS/SCADA modification and improvement work following equipment failures and the alteration of different operation modes and measures to adapt to the high variation of SSOW nature and sources; and Construction of the Visitor Centre.

2.4 PROJECT ORGANISATION AND MANAGEMENT STRUCTURE

The project organisation chart and contact details are shown in *Annex D*.

2.5 STATUS OF ENVIRONMENTAL APPROVAL DOCUMENTS

A summary of the valid permits, licences, and/or notifications on environmental protection for this Project is presented in *Table 2.2*.

Table 2.2 *Summary of Environmental Licensing, Notification and Permit Status*

Permit/ Licences/ Notification	Reference	Validity Period	Remarks
Environmental Permit	FEP-01/395/2010/C	Throughout the Contract	Permit granted on 21 December 2015
Notification of Construction Works under the Air	Ref No. 386715	Throughout the Contract	-

(1) As some of the minor items are yet to be closed out in March 2019, the construction phase EM&A programme and Operation Phase EM&A programme were undertaking in parallel in March 2019.

Permit/ Licences/ Notification	Reference	Validity Period	Remarks
Pollution Control (Construction Dust) Regulation			
Effluent Discharge License	WT00024352-2016	3 June 2016 – 30 June 2021	Approved on 3 June 2016
Construction Noise Permit – P1&P2	GW-RW0538-18 (Superseded CNP GW-RW0229-18)	21 January 2019-20 July 2019	Approved on 31 December 2018
Construction Noise Permit – P5 (slope)	GW-RW0347-18 (superseded the GW-RW0107-18)	30 September 2018 – 29 March 2019	Approved on 15 August 2018
Chemical Waste Producer Registration	WPN 5213-961- O2231-01	Throughout the Contract	Approved on 29 April 2015
Chemical Waste Producer Registration	WPN 5213-961- O2231-02	Throughout the implementation of the Project	Approved on 10 November 2017
Waste Disposal Billing Account	Account number: 702310	Throughout the Contract	-

3.1 ENVIRONMENTAL MONITORING

The air quality (including odour) monitoring to be carried out during the commissioning and operation phase of the Project are described below. No monitoring for noise, waste, land contamination, hazard-to-life and landscape and visual are required during construction and operation phases of the Project. Although water quality monitoring is not required for the construction and operation phases under the EM&A programme, there are water quality monitoring requirement under the Water Discharge Licence of the plant under the *Water Pollution Control Ordinance* (WPCO). As part of this EM&A programme, the monitoring results will be reviewed to check the compliance with the WPCO requirements.

3.1.1 Air Quality

According to the EM&A Manual and EP requirements, stack monitoring are required during the commissioning and operation phase of the Project.

On-line monitoring (using continuous environmental monitoring system (CEMS) shall be carried out for the centralised air pollution unit (CAPCS), cogeneration units (CHP) and the ammonia stripping plant (ASP) during the commissioning and operation phase. The calibration certificate for the on-line monitoring equipment is provided in *Annex E*.

The monitoring data is transmitted instantaneously to EPD (Regional Office) by telemetry system.

When the on-line monitoring for certain parameter cannot be undertaken, monitoring will be carried out using the following methodology approved by the EPD.

Table 3.1 *Sampling and Laboratory Analysis Methodology*

Parameters	Method	Stacks to be Monitored
Gaseous and vaporous organic substances (including methane)	USEPA Method 18	<ul style="list-style-type: none"> • CAPCS • CHP • ASP
Particulate	USEPA Method 5	<ul style="list-style-type: none"> • CAPCS • CHP • ASP
Carbon monoxide (CO)	USEPA Method 10	<ul style="list-style-type: none"> • CHP • ASP
Nitrogen oxides (NO _x)	USEPA Method 7E	<ul style="list-style-type: none"> • CHP • ASP
Sulphur dioxide (SO ₂);	USEPA Method 6	<ul style="list-style-type: none"> • CHP • ASP

Parameters	Method	Stacks to be Monitored
Hydrogen chloride (HCl)	USEPA Method 26A	<ul style="list-style-type: none"> • CHP • ASP
Hydrogen fluoride (HF)	USEPA Method 26A	<ul style="list-style-type: none"> • CHP • ASP
Oxygen (O ₂);	USEPA Method 3A	<ul style="list-style-type: none"> • CAPCS • CHP • ASP
Velocity and Volumetric Flow	USEPA Method 2	<ul style="list-style-type: none"> • CAPCS • CHP • ASP
Ammonia (NH ₃)	USEPA CTM 027	<ul style="list-style-type: none"> • ASP
Odour (including NH ₃ and H ₂ S)	EN 13725	<ul style="list-style-type: none"> • CAPCS
Water vapour content (continuous measurement of the water vapour content should not be required if the sample exhaust gas is dried before the emissions are analysed)	USEPA Method 4	<ul style="list-style-type: none"> • CAPCS • CHP • ASP
Temperature	USEPA Method 4	<ul style="list-style-type: none"> • CAPCS • CHP • ASP

With reference to the EM&A Manual, the air emission of the stacks shall meet the following emission limits as presented in *Tables 3.2 to 3.5*.

Table 3.2 *Emission Limit for CAPCS Stack*

Parameter	Emission Level (mg/Nm ³) (a)
VOCs (including methane)	680
Dust (or Total Suspended Particulates (TSP))	6
Odour (including NH ₃ & H ₂ S)	220 (b)
Notes:	
(a) Hourly average concentration	
(b) The odour unit is OU/Nm ³	

Table 3.3 *Emission Limit for CHP Stack*

Parameter	Maximum Emission Level (mg/Nm ³) (a) (b)
Dust (or Total Suspended Particulates)	15
Carbon Monoxide	650
NO _x	300
SO ₂	50
NMVOCs	150
VOCs (including methane) (c)	1,500
HCl	10
HF	1
Notes:	
(a) All values refer to an oxygen content in the exhaust gas of 6% and dry basis.	
(b) Hourly average concentration	
(c) The VOCs emission limit include methane as biogas is adopted as fuel in the combustion	

Parameter	Maximum Emission Level (mg/Nm ³) (a) (b)
process.	

Table 3.4 *Emission Limit for ASP Stack*

Parameter	Maximum Emission Level (mg/Nm ³) (a) (b)
Dust (or Total Suspended Particulates)	5
Carbon Monoxide	100
NO _x	200
SO ₂	50
VOCs (including methane) (c)	20
NH ₃	35
HCl	10
HF	1

Notes:

- (a) All values refer to an oxygen content in the exhaust gas of 11% and dry basis.
- (b) Hourly average concentration
- (c) The VOCs emission limit include methane as biogas is adopted as fuel in the combustion process.

Table 3.5 *Emission Limit for Standby Flaring Gas Unit* ⁽¹⁾

Parameter	Maximum Emission level (mg/Nm ³) (a) (b)
Dust (or Total Suspended Particulates)	5
Carbon Monoxide	100
NO _x	200
SO ₂	50
VOCs (including methane) (c)	20
HCl	10
HF	1

Notes:

- (a) All values refer to an oxygen content in the exhaust gas of 11% and dry basis.
- (b) Hourly average concentration
- (c) The VOCs emission limit include methane as biogas is adopted as fuel in the combustion process.

3.1.2 Odour

To determine the effectiveness of the proposed odour mitigation measures and to ensure that the operation of the ORRC1 will not cause adverse odour impacts, odour monitoring of the CAPCS stack (see *Section 3.1.1*) and odour patrol will be carried out.

Odour sampling works shall be conducted weekly in the first month of the commissioning stage of the Project. The air samples at the CAPCS stack under full capacity of operation should be collected for olfactometry analysis.

(1) A standby facility. Only operate when the CHPs are not in operation or when the biogas generated exceeded the utilisation rate of the CHPs.

Odour patrol shall be conducted by independent trained personnel/ competent persons in summer months (i.e. from July to September) for the first two operational years of ORRC1 at monthly intervals along an odour patrol route at the Project Site boundary as shown in *Annex A*.

The perceived odour intensity is divided into 5 levels. *Table 3.6* describes the odour intensity for different levels.

Table 3.4 *Odour Intensity Level*

Level	Odour Intensity
0	Not detected. No odour perceived or an odour so weak that it cannot be easily characterised or described
1	Slight identifiable odour, and slight chance to have odour nuisance
2	Moderate identifiable odour, and moderate chance to have odour nuisance
3	Strong identifiable, likely to have odour nuisance
4	Extreme severe odour, and unacceptable odour level

Table 3.7 shows the action level and limit level to be used for odour patrol. Should any exceedance of the action and limit levels occurs, actions in accordance with the event and action plan in *Table 3.8* should be carried out.

Table 3.5 *Action and Limit Levels for Odour Nuisance*

Parameter	Action Level	Limit Level
Odour Nuisance (from odour patrol)	When one documented compliant is received ^(a) , or Odour Intensity of 2 is measured from odour patrol.	Two or more documented complaints are received ^(a) within a week; or Odour intensity of 3 or above is measured from odour patrol.

Note:

(a) Once the complaint is received by the Project Proponent (EPD), the Project Proponent would investigate and verify the complaint whether it is related to the potential odour emission from the ORRC1 and its on-site wastewater treatment unit.

Table 3.6 *Event and Action Plan for Odour Monitoring*

Event	Action	
	Person-in-charge of Odour Monitoring	Project Proponent ^(a)
Action Level		

Exceedance of action level (Odour Patrol)	<ol style="list-style-type: none"> 1. Identify source/reason of exceedance; 2. Repeat odour patrol to confirm finding. 	<ol style="list-style-type: none"> 1. Carry out investigation to identify the source/reason of exceedance. Investigation should be completed within 2 weeks; 2. Rectify any unacceptable practice; 3. Implement more mitigation measures if necessary; 4. Inform Drainage Services Department (DSD) or the operator of the Siu Ho Wan Sewage Treatment Works (SHWSTW) if exceedance is considered to be caused by the operation of the SHWSTW. 5. Inform North Lantau Refuse Transfer Station (NLTS) operator if exceedance is considered to be caused by the operation of NLTS.
Exceedance of action level (Odour Complaints)	<ol style="list-style-type: none"> 1. Identify source/reason of exceedance; 2. Carry out odour patrol to determinate odour intensity. 	<ol style="list-style-type: none"> 1. Carry out investigation and verify the complaint whether it is related to potential odour emission from the nearby SHWSTW; 2. Carry out investigation to identify the source/reason of exceedance. Investigation should be completed within 2 weeks; 3. Rectify any unacceptable practice; 4. Implement more mitigation measures if necessary; 5. Inform DSD or the operator of the SHWSTW if exceedance is considered to be caused by the operation of the SHWSTW. 6. Inform NLTS operator if exceedance is considered to be caused by the operation of NLTS.
Limit Level		
Exceedance of limit level	<ol style="list-style-type: none"> 1. Identify source/reason of exceedance; 2. Inform EPD; 3. Repeat odour patrol to confirm findings; 4. Increase odour patrol frequency to bi-weekly; 5. Assess effectiveness of remedial action and keep EPD informed of the results; 6. If exceedance stops, cease additional odour patrol. 	<ol style="list-style-type: none"> 1. Carry out investigation to identify the source/reason of exceedance. Investigation should be completed within 2 week; 2. Rectify any unacceptable practice; 3. Formulate remedial actions; 4. Ensure remedial actions properly implemented; 5. If exceedance continues, consider what more/enhanced mitigation measures should be implemented; 6. Inform DSD or the operator of the SHWSTW if exceedance is considered to be caused by the operation of the SHWSTW.
Note:		
(a) Project Proponent shall identify an implementation agent.		

3.2

SITE AUDIT

Environmental mitigation measures (related to air quality, water quality, waste, land contamination, hazard-to-life, and landscape and visual) to be implemented during the construction and operation phase of the Project are recommended in the approved EIA Report and EM&A Manual and are summarised in *Annex F*. Weekly site audits for construction phase and monthly site audits for operation phase will be carried out to check the implementation of these measures.

3.2.1

Water Quality

Compliance audits are to be undertaken to ensure that a valid discharge licence has been issued by EPD prior to the discharge of effluent from the operation of the Project site. The audit shall be conducted to ensure that the effluent quality is in compliance with the discharge licence requirements. The effluent quality shall meet the discharge limits as described in *Table 3.9*.

Table 3.9 *Discharge Limits for Effluent*

Parameters	Discharge Limit (mg/L)
Flow Rate (m ³ /day)	685
pH (pH units)	6-10 (a)
Suspended Solids	800
Biochemical Oxygen Demand (5 days, 20°)	800
Chemical Oxygen Demand	2,000
Oil & Grease	40
Total Nitrogen	200
Total Phosphorus	50
Surfactants (total)	25

Note:
(a) Range.

3.2.2

Landscape and Visual

In accordance with EM&A Manual, the landscape and visual mitigation measures shall be implemented. Bi-weekly landscape and visual audit during the construction phase is required to ensure that the design, implementation and maintenance of landscape and visual mitigation measures recommended in the approved EIA Report are fully achieved. The implementation status of the mitigation measures for construction phase is summarised in *Annex F*.

For operation phase, site inspection shall be conducted once a month for the first year of operation of the Project. All measures as stated in the implementation schedule of the EM&A Manual (see *Annex F*), including compensatory planting, undertaken by both the Contractor and the specialist Landscape Sub-Contractor during the first year of the operation phase shall be audited by a Registered Landscape Architect (RLA) to ensure compliance with

the intended aims of the measures and the effectiveness of the mitigation measures.

4 MONITORING RESULTS

4.1 AIR QUALITY

4.1.1 Commissioning Phase Monitoring

On 10, 11, 19 and 27 December 2018 and 16 and 29 January 2019, air samples were collected from the outlet of the CAPCS by ALS for measurement of the Odour Intensity by olfactometry analysis at the laboratory. The odour level of the odour samples collected from the CAPCS on 10, 11, 19 and 27 December 2018 and 16 January 2019 have exceeded the odour limit as shown in *Table 3.2*. No exceedance was found for the samples collected on 29 January 2019. The laboratory results are shown in *Annex J*. The cause of the exceedances recorded was due to the breakdown of the automatic chemical dosing system and the repairing of the automatic chemical dosing system was longer than anticipated. The system was fixed and the odour concentration of the air sample taken on 29 January 2019 showed compliance with the odour limit.

Investigation of the exceedances has been conducted. The investigation report is shown in *Annex K*.

Monitoring results of air quality parameters from stack emissions of the centralised air pollution control system, the ammonia stripping plant and the cogeneration units will be provided once available to show compliance with the monitoring requirements stated in the EM&A Manual (Rev. E) to support the termination of the construction phase EM&A programme.

4.1.2 Operation Phase Monitoring

The concentrations of concerned air pollutants emitted from the stacks of the CAPCS, CHP, and ASP during the reporting period are monitored on-line by the continuous environmental monitoring system (CEMS). During the reporting period, there is no need to operate the standby flare and therefore no monitoring of the flare stack was undertaken.

With reference to the emission limits shown in *Tables 3.2, 3.3 and 3.4*, the hourly average concentrations and the number of exceedances of the concerned air emissions monitored for the CAPCS, CHP and ASP during this reporting period are presented in *Tables 4.1 to 4.5*.

It should be noted that measurements recorded under abnormal operating conditions, e.g. start up and stopping of stacks, unstable operation, test runs and interference of sensor, are disregarded.

Table 4.1 *Hourly Average of Parameters Recorded for CAPCS*

Parameter	Range of Hourly Average Conc. (mg/Nm ³) (a)	Emission Limit (mg/Nm ³)	Exceedance Identified	Remarks
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Parameter	Range of Hourly Average Conc. (mg/Nm ³) ^(a)	Emission Limit (mg/Nm ³)	Exceedance Identified	Remarks
VOCs (including methane) ^(b)	1 - 17	680	Nil	Nil
Dust (or TSP)	0	6	Nil	Nil
Odour (including NH ₃ & H ₂ S)	0 - 3,229	220 ^(c)	Identified ^(d)	Breakdown of the automatic chemical dosing system of the CAPCS. Manual dosing of the chemical to the system was arranged. The defect will be rectified in the next reporting period.

Notes:

- (a) The hourly average concentrations for the monitoring period are presented in *Annex G*.
- (b) On-line monitoring was not available during the reporting period. Alternative monitoring method as specified in the EM&A manual was used to measure VOCs.
- (c) The odour unit is OU/Nm³.
- (d) Dates with exceedances on Odour (number of exceedances on the day) were identified on 2 (2), 8 (1), 9 (1) 10 (11), 11 (5), 12 (15), 13 (24), 14 (24), 15 (22), 16 (21), 17 (24), 18 (22), 19 (24), 20 (17), 21 (19), 22 (12), 25 (5), 27 (2), 28 (1), 29 (10), 30 (4) and 31 (2) March 2019.

Table 4.2 *Hourly Average of Parameters Recorded for CHP 1*

Parameter	Range of Hourly Average Conc. (mg/Nm ³) ^(a) ^(b)	Max. Emission Limit (mg/Nm ³)	Exceedance Identified	Remarks
Dust (or TSP)	0 - 2.5	15	Nil	Nil
Carbon Monoxide	0 - 459	650	Nil	Nil
NO _x	0 - 272	300	Nil	Nil
SO ₂	0 - 202	50	Identified ^(d)	Desulphurisation system interruption.
NMVOCs	Not Available	150	Not Available ^(e)	Nil
VOCs (including methane) ^(c)	Not Available	1,500	Not Available ^(e)	Nil
HCl	0	10	Nil	Nil
HF	0 - 0.5	1	Nil	Nil

Notes:

- (a) All values refer to an oxygen content in the exhaust gas of 6% and dry basis.
- (b) The hourly average concentrations for the monitoring period are presented in *Annex G*.
- (c) The VOCs emission limit include methane as biogas is adopted as fuel in the combustion process.
- (d) Dates with exceedances on SO₂ (number of exceedances on the day) were identified on 11 (3), 15 (1), 16 (2), 28 (5), 29 (1) and 31 (5) March 2019.
- (e) Technical issue related to monitoring range of VOCs and methane sensors and the Contractor is solving the problem together with the equipment suppliers.

Table 4.3 *Hourly Average of Parameters Recorded for CHP 2*

Parameter	Range of Hourly Average Conc. (mg/Nm ³) ^(a) (b)	Max. Emission Limit (mg/Nm ³)	Exceedance Identified	Remarks
Dust (or TSP)	0 – 8	15	Nil	Nil
Carbon Monoxide	0 – 340	650	Nil	Nil
NO _x	0 – 271	300	Nil	Nil
SO ₂	0 – 156	50	Identified ^(d)	Desulphurisation system interruption.
NMVOCs	Not Available	150	Not Available ^(e)	Nil
VOCs (including methane) ^(c)	Not Available	1,500	Not Available ^(e)	Nil
HCl	0	10	Nil	Nil
HF	0	1	Nil	Nil

Notes:

- (a) All values refer to an oxygen content in the exhaust gas of 6% and dry basis.
- (b) The hourly average concentrations for the monitoring period are presented in *Annex G*.
- (c) The VOCs emission limit include methane as biogas is adopted as fuel in the combustion process.
- (d) Dates with exceedances on SO₂ (number of exceedances on the day) were identified on 1 (4), 2 (1), 3 (2), 4 (1), 5 (6), 6 (2), 9 (4), 12 (2), 13 (1), 14 (1), 16 (1), 17 (1), 18 (2), 19 (4), 20 (3), 23 (5), 25 (3) and 26 (4) March 2019.
- (e) Technical issue related to monitoring range of VOCs and methane sensors and the Contractor is solving the problem together with the equipment suppliers.

Table 4.4 *Hourly Average of Parameters Recorded for CHP 3*

Parameter	Range of Hourly Average Conc. (mg/Nm ³) ^(a) (b)	Max. Emission Limit (mg/Nm ³)	Exceedances Identified	Remarks
Dust (or TSP)	0 – 3	15	Nil	Nil
Carbon Monoxide	0 – 351	650	Nil	Nil
NO _x	0 – 292	300	Nil	Nil
SO ₂	0 – 129	50	Identified ^(d)	Desulphurisation system interruption.
NMVOCs	Not Available	150	Not Available ^(e)	Nil
VOCs (including methane) ^(c)	Not Available	1,500	Not Available ^(e)	Nil
HCl	0	10	Nil	Nil
HF	0 – 1	1	Nil	Nil

Notes:

- (a) All values refer to an oxygen content in the exhaust gas of 6% and dry basis.
- (b) The hourly average concentrations for the monitoring period are presented in *Annex G*.
- (c) The VOCs emission limit include methane as biogas is adopted as fuel in the combustion process.

Parameter	Range of Hourly Average Conc. (mg/Nm ³) ^(a) (b)	Max. Emission Limit (mg/Nm ³)	Exceedances Identified	Remarks
(d)	Dates with exceedances on SO ₂ (number of exceedances on the day) were identified on 10 (2), 13 (2), 14 (1), 15 (1), 27 (2), 29 (3) and 30 (1) March 2019.			
(e)	Technical issue related to monitoring range of VOCs and methane sensors and the Contractor is solving the problem together with the equipment suppliers.			

Table 4.5 *Hourly Average of Parameters Recorded for ASP*

Parameter	Range of Hourly Average Conc. (mg/Nm ³) ^(a) (b)	Max. Emission Limit (mg/Nm ³)	Exceedances Identified	Remarks
Dust (or TSP)	0 - 5	5	Nil	Nil
Carbon Monoxide	0 - 1,860	100	Identified ^(d)	Parameter emissions from ASP were affected by process optimisation.
NOx	0 - 1,159	200	Identified ^(e)	Parameter emissions from ASP were affected by process optimisation.
SO ₂	0 - 135	50	Identified ^(f)	Desulphurisation system interruption.
VOCs (including methane) ^(c)	0 - 2,908	20	Identified ^(g)	Parameter emissions from ASP were affected by process optimisation.
NH ₃	0 - 3,653	35	Identified ^(h)	Parameter emissions from ASP were affected by process optimisation.
HCl	0 - 3.5	10	Nil	Nil
HF	0 - 1	1	Nil	Nil

Notes:

- (a) All values refer to an oxygen content in the exhaust gas of 11% and dry basis.
- (b) The hourly average concentrations for the monitoring period are presented in *Annex G*.
- (c) The VOCs emission limit include methane as biogas is adopted as fuel in the combustion process.
- (d) Dates with exceedances on CO (number of exceedances on the day) were identified on 12 (3), 13 (3), 16 (22), 17 (7), 18 (8), 19 (22), 20 (11), 21 (15), 22 (1), 24 (11), 25 (5), 26 (5) and 29 (1) March 2019.
- (e) Dates with exceedances on NOx (number of exceedances on the day) were identified on 11 (6), 12 (2), 13 (1), 14 (2), 16 (1), 17 (2), 18 (5), 19 (4), 20 (1), 22 (4), 24 (4), 25 (1), 27 (7), 28 (5), 29 (3) and 31 (8) March 2019.
- (f) Dates with exceedances on SO₂ (number of exceedances on the day) were identified on 9 (3), 14 (1), 16 (1), 19 (3), 20 (4), 25 (91), 26 (4), 28 (2), 29 (1) and 31 (2) March 2019.
- (g) Dates with exceedances on VOCs (including methane) (number of exceedances on the day) were identified on 16 (2), 18 (1), 19 (9), 20 (7), 21 (12), 22 (3), 24 (17), 25 (4), 26 (8), 28 (1) and 29 (15) March 2019.
- (h) Dates with exceedances on NH₃ (number of exceedances on the day) were identified on 9 (15), 10 (12), 11 (8), 12 (4), 13 (4), 14 (13), 15 (2), 16 (24), 17 (20), 18 (17), 19 (20), 20 (4), 21 (15), 22 (3), 24 (18), 25 (5), 26 (9), 28 (3) and 29 (1) March 2019.

4.2 ODOUR

4.2.1 Commissioning Phase Monitoring

Odour patrols were conducted by representatives of the Contractor, the ER and Employer (EPD Project Team) on 1, 4, 8, 11, 13, 15, 18, 20, 22, 25, 27 and 29 March 2019. The Independent Odour Patrol Team, ALS Technichem (HK) Pty Ltd (ALS), has also joined the odour patrol on 1 March 2019. According to the EM&A Manual and EP requirements, it is considered an exceedance if the odour intensity recorded by the panellists is Level 2 or above. During this reporting period, no Level 2 Odour Intensity was recorded. The odour patrol results are shown in *Annex J*.

4.2.2 Operation Phase Monitoring

No odour patrol was required to be conducted for this reporting period.

4.3 WATER QUALITY

4.3.1 Construction Phase Monitoring

No effluent was discharged from the construction activity in the reporting month, hence there was not necessary to carry out effluent discharge sampling for this reporting period.

4.3.2 Operation Phase Monitoring

Effluent discharge was sampled monthly from the Effluent Storage Tank as stipulated in the operation phase discharge licence. The results of the discharge sample is recorded in *Table 4.5*.

Table 4.6 Results of the Discharge Sample

Parameters	Discharged Effluent Concentration (mg/L)	Discharge Limit (mg/L)	Compliance with Discharge Limit
pH (pH units)	6.12 - 8.47	6-10 ^(a)	Yes
Suspended Solids ^(b)	34	800	Yes
Biochemical Oxygen Demand (5 days, 20°) ^(b)	35	800	Yes
Chemical Oxygen Demand ^(b)	888	2,000	Yes
Oil & Grease ^(b)	<5	40	Yes
Total Nitrogen ^(b)	76.5	200	Yes
Total Phosphorus ^(b)	25.1	50	Yes
Surfactants (total) ^(b)	<1.0	25	Yes

Notes:

(a) Daily Average.

(b) Effluent sample collected on 25 March 2019.

No exceedance of discharge limit was recorded during the reporting period.

4.4 WASTE MANAGEMENT

4.4.1 Construction Phase Monitoring

Wastes generated from this Project include inert construction and demolition (C&D) materials (public fill) and non-inert C&D materials (construction waste). Construction waste comprises general refuse, metals and paper/cardboard packaging materials. Metals generated from the construction of the Project are also grouped into construction waste as the materials were not disposed of with others at public fill. Reference has been made to the Monthly Summary Waste Flow Table prepared by the Contractor (see *Annex H*). With reference to the relevant handling records and trip tickets of this Project, the quantities of different types of waste generated in the reporting month are summarised in *Table 4.7*.

Table 4.7 Quantities of Waste Generated from the Construction of the Project

Month/Year	Quantity			
	Total Inert C&D Materials Generated ^(a)	Non-inert C&D Materials ^(b)		
		C&D Materials Recycled ^(c)	C&D Waste Disposed of at Landfill ^(d)	Chemical Waste
March 2019	190.40 tonnes	0.00 kg	16.45 tonnes	0.00 L

Notes:

- (a) Inert C&D materials (public fill) include bricks, concrete, building debris, rubble and excavated spoil. In total, 190.40 tonnes of inert C&D material were generated from the Project. The detailed waste flow is presented in *Annex H*.
- (b) Non-inert C&D materials (construction wastes) include metals, paper / cardboard packaging waste, plastics and other wastes such as general refuse. Metals generated from the Project were grouped into construction wastes as the materials were not disposed of with others at the public fill.
- (c) 0.00 kg of metals, 0.00 kg of papers/ cardboard packing and 0.00 kg of plastics were sent to recyclers for recycling during the reporting period.
- (d) Construction wastes other than metals, paper/cardboard packaging, plastics and chemicals were disposed of at NENT Landfill by subcontractors.

4.4.2 Operation Phase Monitoring

Wastes generated from the operation of the Project include chemical waste, wastes generated from pre-treatment process and general refuse ⁽¹⁾. Reference has been made to the Monthly Summary Waste Flow Table prepared by the Contractor (see *Annex H*). With reference to the relevant handling records and trip tickets of this Project, the quantities of different types of waste generated from the operation of the Project in the reporting month are summarised in *Table 4.8*.

(1) Public fill and construction waste may only be generated during maintenance works when there are civil or structural works.

Table 4.8 Quantities of Waste Generated from the Operation of the Project

Month/Year	Chemical Waste	Waste Generated from Pre-treatment Process		General Refuse	
		Disposed of at Landfill ^(a)	Recycled ^(b)	Disposed of at Landfill ^(a)	Recycled ^(c)
March 2019	1,200 L	477.08 tonnes	0.00 tonnes	1.50 tonnes ^(d)	0.00 kg

Notes:

- (a) Waste generated from pre-treatment process and general refuse other than chemical waste and recyclables were disposed of at NENT landfill by sub-contractors.
- (b) Among waste generated from pre-treatment process, 0.00 kg of metals, 0.00 kg of papers/ cardboard packing and 0.00 kg of plastics were sent to recyclers for recycling during the reporting period.
- (c) Among general refuse, 0.00 kg of metals, 0.00 kg of papers/ cardboard packing and 0.00 kg of plastics were sent to recyclers for recycling during the reporting period.
- (d) It was assumed that two 240-litre bins filled with 80% of general refuse were collected at each collection. The general refuse density was assumed to be around 0.15 kg/L.

5.1*WEEKLY ENVIRONMENTAL SITE AUDIT*

Joint site inspections were conducted by representatives of the Contractor and the ET on 8, 15, 22 and 28 March 2019 as required for the construction of the Project. The IEC was present at the joint inspection on 22 March 2019.

The audits checked the implementation of the recommended mitigation measures for air quality, landscape and visual, water quality, waste (land contamination) and hazard-to-life stated in the Implementation Schedule (see *Annex F*).

Follow-up actions resulting from the last site inspections were generally taken as reported by the Contractor.

Key observations during the reporting period are summarised as follows:

8 March 2019

- Chemical drums were observed near Building 2 and the contractor was advised to provide drip trays to the chemical drums or replace the drums to designed storage area according to the Code of Practice.

15 March 2019

- Chemical drums were observed near Building 2 and the contractor was advised to provide drip trays to the chemical drums or replace the drums to designed storage area according to the Code of Practice.

22 March 2019

- Chemical drums of less quantity were observed near Building 2 and the contractor was advised to provide drip trays to the remaining chemical drums or replace the remaining drums to designed storage area according to the Code of Practice.

28 March 2019

- Remaining chemical drums were observed near Building 2 and the contractor was advised to provide drip trays to the remaining chemical drums or replace the remaining drums to designed storage area according to the Code of Practice.

Other than the above observation, the Contractor has implemented environmental mitigation measures recommended in the approved EIA Report and EM&A Manual.

5.2*LANDSCAPE AND VISUAL AUDIT*

Bi-weekly inspections of the landscape and visual mitigation measures for the

construction phase of the Project were performed on 8 and 22 March 2019. The inspection on 22 March 2019 also covered the monthly inspection of the landscape and visual mitigation measures for the operation phase of the Project.

It was confirmed that the necessary landscape and visual mitigation measures during the construction and operation phase as summarised in *Annex F* were generally implemented by the Contractor. No specific observation was found during site inspections on 8 and 22 March 2019. No non-compliance in relation to the landscape and visual mitigation measures was identified during the site audits in this reporting period and therefore no further actions are required. The ET/MT will keep track of the EM&A programme to check compliance with environmental requirements and the proper implementation of all necessary mitigation measures.

6.1

SUMMARY OF ENVIRONMENTAL NON-COMPLIANCE

Non-compliance of emission limits for CAPCS, CHP and ASP were recorded during the reporting period, respectively.

The Contractor has reviewed the organic waste treatment processes (i.e. waste reception, waste pre-treatment, anaerobic digesters, and composting processes) and found that they were operated normally during the reporting period. The Contractor has investigated air pollution control systems of the CAPCS, CHP and ASP and the combustion system for the CHP and the ASP and identified the following potential causes for the exceedance.

- (a) There were breakdowns of the automatic chemical dosing system of the CAPCS. As a result, it could not effectively remove the odorous gases (e.g. NH₃ and H₂S) and caused exceedances of odour limits for the CAPCS;
- (b) Tripping of the circulation pump resulting in the incompleteness of desulphurisation of biogas resulting in exceedances of SO₂ limits for CHP and ASP stacks; and
- (c) The combustion efficiency of the thermal combustion unit of the ASP was affected during overall process fine tuning that causes exceedances of CO, NO_x, VOCs and NH₃.

For item (a), the Contractor has arranged manual dosing of the chemical to the system to minimise the exceedances in odour in the CAPCS.

For item (b), the Contractor has contacted the supplier of the chemical dosing system to carry out repairing works so that the system can function properly. Additional activated carbon filter was put on-line to minimise the incomplete desulphurisation of biogas.

For item (c), new settings on operational parameters were adjusted during this reporting period to adapt to the new packing media changed at the end of the last reporting period for better overall treatment performance. The Contractor will continue to tune the thermal combustion unit of the ASP in order to restore the combustion efficiency so that the concerned pollutants will be effectively destroyed.

The investigation report is presented in *Annex K*.

6.2

SUMMARY OF ENVIRONMENTAL COMPLAINT

No complaint was received during the reporting period.

6.3

SUMMARY OF ENVIRONMENTAL SUMMON AND SUCCESSFUL PROSECUTION

No summon/prosecution was received during the reporting period. The cumulative summons/prosecution log is shown in *Annex I*.

7 *FUTURE KEY ISSUES*

7.1 *KEY ISSUES FOR THE COMING MONTH*

Activities to be undertaken for the coming reporting period are:

- Operation of the Project.
- Contractor should resolve the technical issue related to the on-line monitoring of methane emission (hence the calculation of the NMVOC concentration) from the CHP stacks as soon as possible and undertake gas sampling and laboratory analysis of NMVOC at agreed interval when the on-line monitoring equipment for methane is not available.
- Implementation of further measures to control the air emission from the CAPCS, CHP and ASP.
- Continue construction of the Visitor Centre.

This EM&A Report presents the EM&A programme undertaken during the reporting period from **1 to 31 March 2019** in accordance with EM&A Manual (Version E) and requirements of EP (FEP-01/395/2010/C).

No air quality, noise and water quality monitoring is required under the construction EM&A requirements.

For the operation phase, a number of exceedances of the emission limits for stack monitoring (including CAPCS, CHP and ASP stacks) were recorded during the reporting period (see *Table 8.1*).

Table 8.1 *Exceedances for Stack Emissions*

Stack	Exceedances During the Reporting Period
Centralised Air Pollution Control Unit (CAPCS)	<ul style="list-style-type: none"> Exceeded emission limit of Odour for most of the days (including 2, 8 to 22, 25 and 27 to 31 March 2019) in March
Cogeneration Unit (CHP)	<ul style="list-style-type: none"> Exceeded emission limit of SO₂ on most of the days (including 1 to 6, 9 to 20, 23 and 25 to 31 March 2019) in March
Ammonia Stripping Plant (ASP)	<ul style="list-style-type: none"> Exceeded emission limit of CO on most of the days (including 12, 13, 16 to 22, 24 to 27 and 29 March 2019) in March Exceeded emission limit of NO_x most of the days (including 11 to 14, 17 to 20, 22, 24, 24 27 to 29 and 31 March 2019) in March Exceeded emission limit of SO₂ on 9, 14, 16, 19, 20, 24 to 26, 28, 29 and 31 March 2019 Exceeded emission limit of VOCs (including methane) on 16, 18, 19 to 22, 24 to 26, 28 and 29 March 2019 Exceeded emission limit of NH₃ on 9 to 22, 24 to 26, 28 and 29 March 2019
Standby Flare Gas Unit	<ul style="list-style-type: none"> NA (Not operated during the reporting period)

Exceedances in emission parameters of CAPCS, CHP and ASP were found to be a result of problems with the chemical dosing system of the air pollution control systems of the CAPCS, incomplete desulphurisation of biogas which fed to the CHPs, and the incomplete thermal combustion of the thermal combustion unit of the ASP.

The Contractor has implemented mitigation measures to control the exceedance (including the arrangement of supplier of the dosing system for the CAPCS to repair the dosing system and manual dosing of chemical to the CAPCS until the problems of the automatic dosing system is fixed; adding additional activated carbon filters to the biogas desulphurisation system to control the H₂S level in the biogas which fed to the CHP and the ASP; and tuning the thermal combustion unit of the ASP to optimise combustion efficiency and overall performance).

Odour patrols and monitoring were conducted in accordance to the EM&A requirements. No exceedance of odour intensity limit for all odour patrol events. Air samples were collected at the CAPCS for olfactometry analysis at the laboratory on 10, 11, 19 and 27 December 2018 and 16 and 29 January 2019. The odour level of the samples collected on 10, 11, 19 and 27 December 2018 and 16 January 2019 have exceeded the odour limit. An investigation of the cause of the exceedance has been carried out. The investigation report is shown in *Annex K*.

No non-compliance to the effluent discharge limit was recorded during this reporting period.

The environmental control /mitigation measures related to air quality, water quality, waste (including land contamination prevention), hazard-to-life and landscape and visual recommended in the approved EIA Report and the EM&A Manual were properly implemented by the Contractor during the reporting month.

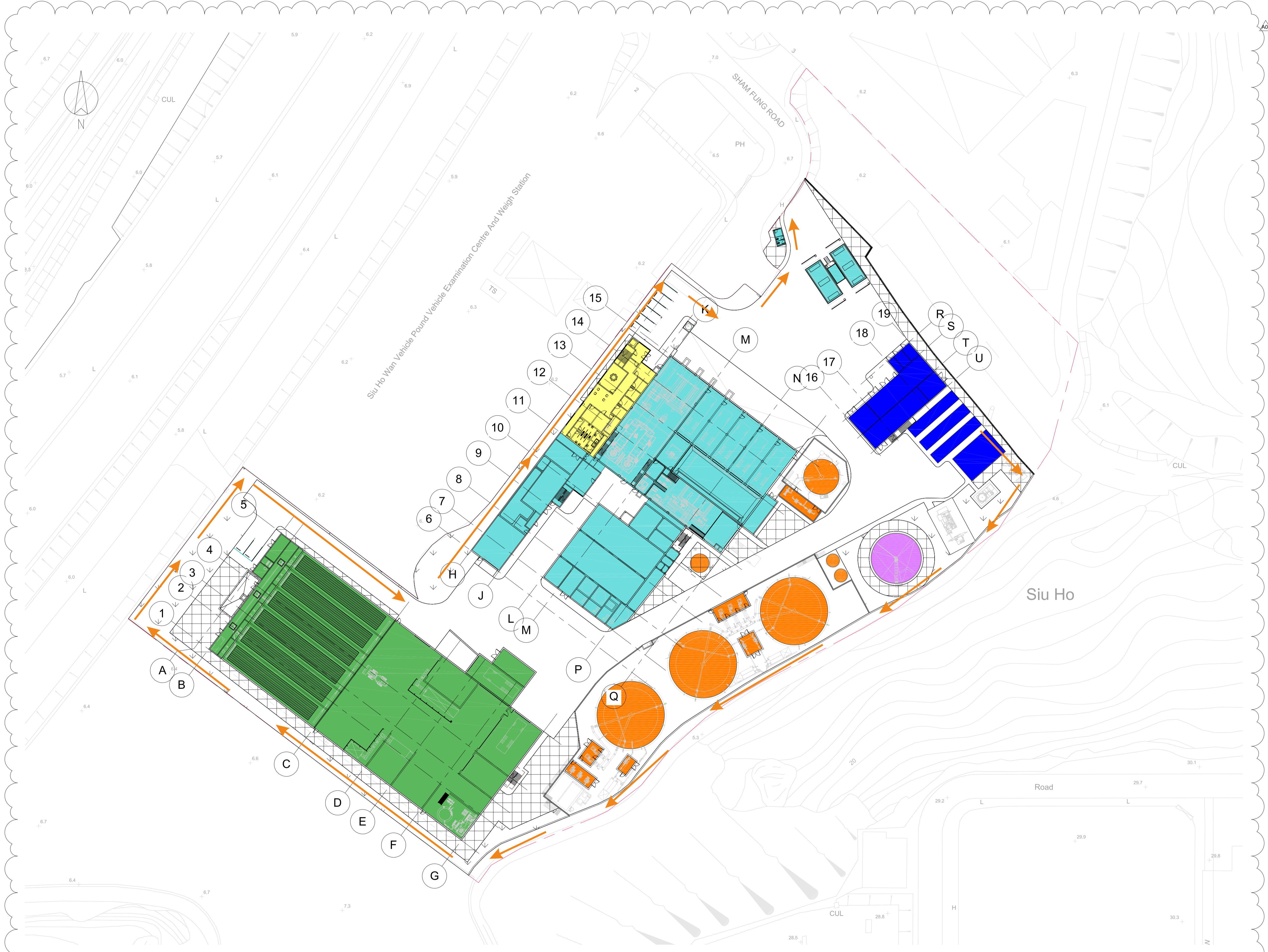
Bi-weekly landscape and visual monitoring was conducted in the reporting period. The necessary landscape and visual mitigation measures recommended in the approved EIA Report were generally implemented by the Contractor.

No incident occurred during reporting period.

No complaint/summon/prosecution was received.

Annex A

Project Layout



Key
 Patrol Route

A01	05/03/15	CW	MB	IMTECH BACKGROUNDS UPDATED
A00	18/02/15	CW	MB	DRAFT ISSUE
REV	DATE	BY	APP	DESCRIPTION

CLIENT
 ENVIRONMENTAL PROTECTION DEPARTMENT
 GOVERNMENT OF THE HKSAR

CLIENT'S CONSULTANT

 AECOM ASIA CO. LTD.

CONTRACTOR
  
 OSCAR BIOENERGY JV

LEAD DESIGNER

 Ove Arup & Partners Hong Kong Limited

ENVIRONMENTAL TEAM

 ERM HONG KONG LIMITED

INDEPENDENT CONSULTANTS

 Meinhardt Infrastructure and Environment Limited
 邁達基建築環保工程顧問有限公司

PROJECT
 ORGANIC WASTE TREATMENT FACILITIES
 PHASE 1
 EP/SP/61/10

STATUS
 DRAFT ISSUE

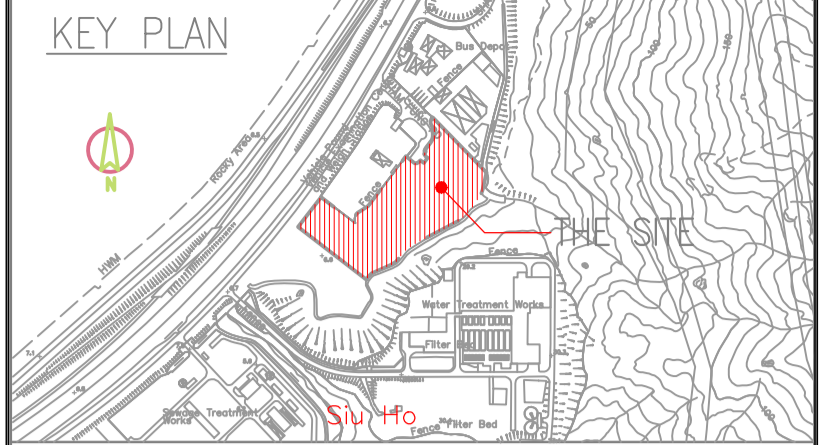
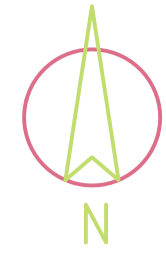
DRAWING TITLE
 SITE LAYOUT

DRAWN CW	CHECKED RS	APPROVED DP
SCALE 1:500@A1 / 1:1000@A3	DATE 12/02/15	
JOB NO. 239956	DRAWING NO. DR-OAP-20-0-CA-1001	REV. A01

Plot Time: 05/03/15 21:20:07
 Plot Location: C:\Users\mathew.brown\Documents\QWTF_Architectural Working Model (Combined) - CEH_mathew.brown.rvt

Annex B

Works Location



LEGEND

- SITE BOUNDARY
- T T T T T PROPOSED HOARDING TYPE 1
- +++++ EXISTING CHAIN-LINK FENCE
- ~~~~~ PROPOSED 6 m TYPE II SHEET PILE PLANKING WALL WITH 3 m EXTRUDED ABOVE GROUND
- XXXXX EXISTING FENCE WALL
- - - - DISCHARGE DRAINAGE
- 300mm(W) PROPOSED TEMP. CHANNEL
- 300mm(W) EXISTING U-CHANNEL
- 50/75mm FLEXIBLE DRAIN
- PROPOSED TEMP. CATCH PIT
- PORTABLE WATER PIPE
- TRAFFIC DIRECTION
- REBAR STORAGE AREA AND BENDING YARD
- GENERAL MATERIAL STORAGE AREA
- C & D MATERIAL STORAGE AREA
- VEHICLE WHEEL WASH
- WATER TREATMENT PLANT

REV	DATE	BY	APP	DESCRIPTION
J	01 SEP 2016	LL	JC	REVISED LAYOUT
I	27 APR 2016	LL	JC	REVISED LAYOUT
H	30 DEC 2015	LL	JC	REVISED LAYOUT
G	30 MAY 2015	LL	CL	REVISED LAYOUT

CLIENT
 ENVIRONMENTAL PROTECTION DEPARTMENT
 GOVERNMENT OF THE HKSAR

CLIENT'S CONSULTANT
AECOM
 AECOM ASIA CO. LTD.

CONTRACTOR
SUEZ ATAL RosRoca
 OSCAR Bioenergy Joint Venture

LEAD DESIGNER
ARUP
 Ove Arup & Partners Hong Kong Limited

ENVIRONMENTAL TEAM
ERM HONG KONG LIMITED

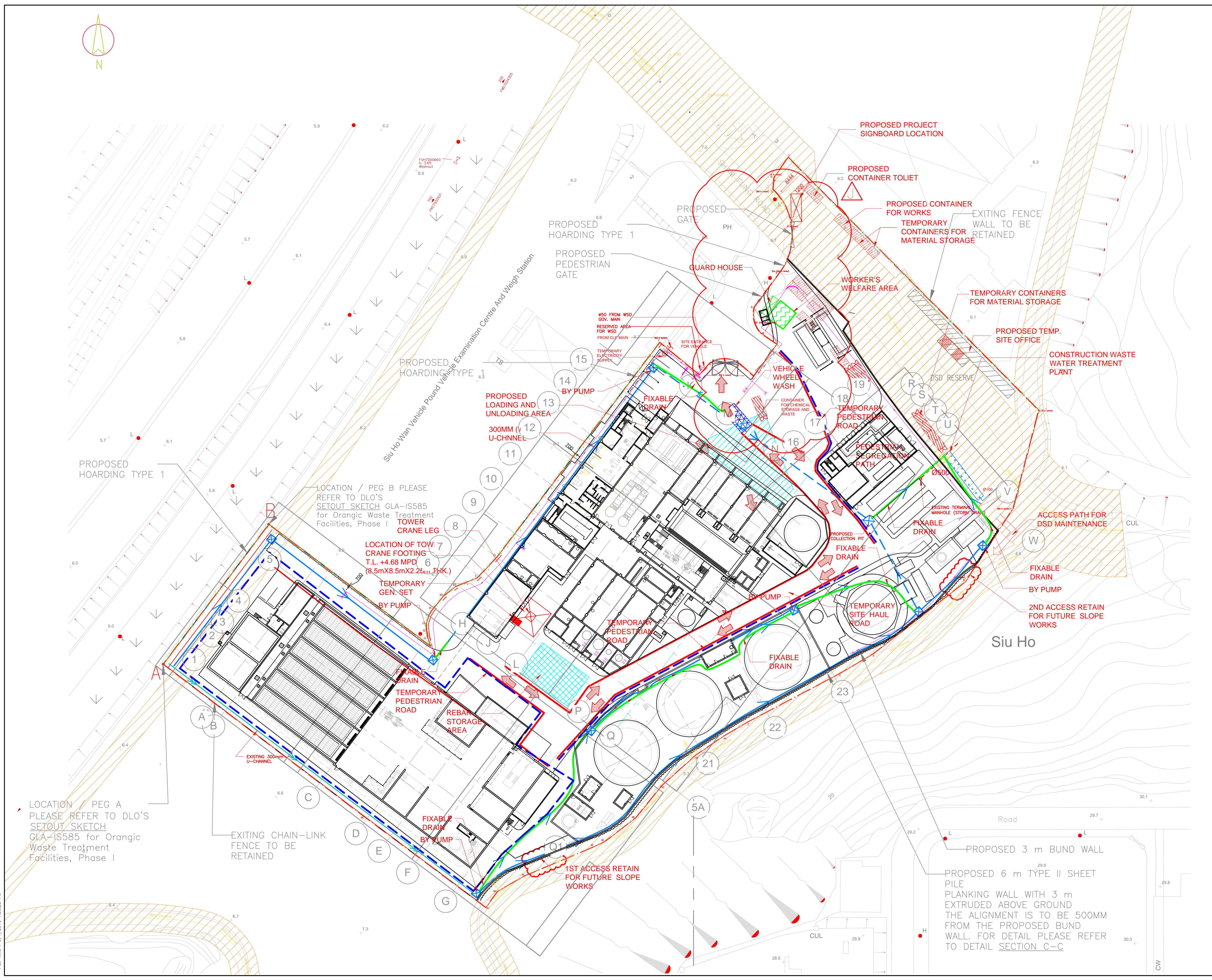
INDEPENDENT CONSULTANTS
MEINHARDT
 Meinhardt Infrastructure and Environment Limited
 邁達基達環境工程顧問有限公司

PROJECT
 ORGANIC WASTE TREATMENT FACILITIES
 PHASE I
 EP/SP/61/10

STATUS
 ISSUED FOR COMMENT

DRAWING TITLE
**GENERAL SITE LAYOUT PLAN
 AT PORTION 1**

DRAWN LL	CHECKED JC	APPROVED JC
SCALE 1:500@A1; 1:1000@A3	DATE 01 SEP 2016	
JOB NO. P00424	DRAWING NO. DR-PSC-00-0-CN-1002	REV. J



Plot By: LeoAM
 Plot Time: 9/7/2016 7:26:29 PM

DR-PSC-00-0-CN-1002

Annex C

Construction Programme of the Project

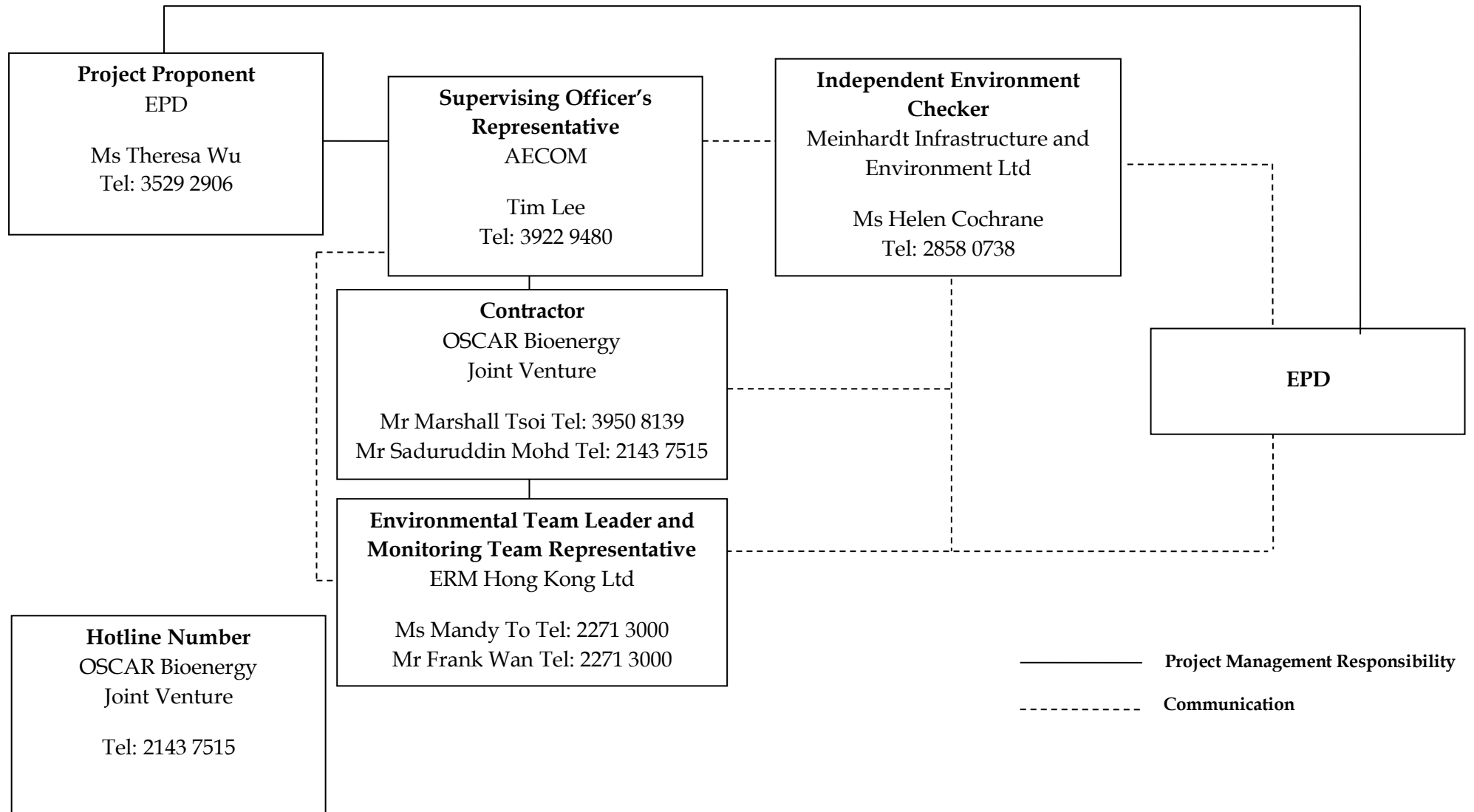
#	Activity ID	Activity Name	BL Project Duration	BL Project Start	BL Project Finish	Remaining Duration	Start	Finish	% Complete	Variance - BL Project Finish Date	2015												2016												2017												2018											
											N	D	J	F	M	A	M	J	Jul	A	S	O	N	D	J	F	M	A	M	J	Jul	A	S	O	N	D	J	F	M	A	M	J	Jul	A	S	O	N	D	J	F	M	A	M	J	Jul	A	S	O
1	Contract No. EP/SP/61/10 - The Design & Construction Works		688	20-Nov-14	17-Mar-17	159	20-Nov-14 A	27-Oct-18		-476																																																
2	Preliminary and Site Establishment		217	20-Nov-14	15-Aug-15	0	20-Nov-14 A	19-Oct-16 A		-349																																																
3	ESum110	Preliminary and Site Establishment	217	20-Nov-14	15-Aug-15	0	20-Nov-14 A	19-Oct-16 A	100%	-349																																																
4	Design		372	20-Nov-14	23-Feb-16	0	20-Nov-14 A	05-Mar-18 A		-601																																																
5	ESum120	Design Criteria and Design Preparation	80	20-Nov-14	27-Feb-15	0	20-Nov-14 A	01-Sep-15 A	100%	-151																																																
6	ESum130	Detailed Design Submission (DDS) - General, Civil, ABWF and Landscape	289	19-Dec-14	23-Feb-16	0	18-Dec-14 A	27-Nov-17 A	100%	-437																																																
7	ESum132	Detailed Design Submission (DDS) - Building 1	151	21-Apr-15	25-Nov-15	0	13-Apr-15 A	27-Jul-16 A	100%	-164																																																
8	ESum134	Detailed Design Submission (DDS) - Building 2	158	12-Mar-15	30-Oct-15	0	12-Mar-15 A	07-Apr-16 A	100%	-106																																																
9	ESum136	Detailed Design Submission (DDS) - Building 3	103	03-Jun-15	29-Oct-15	0	20-Jul-15 A	30-Mar-16 A	100%	-102																																																
10	ESum138	Detailed Design Submission (DDS) - Auxilliary Buildings & Facilities	177	10-Feb-15	29-Oct-15	0	11-Feb-15 A	08-Aug-16 A	100%	-191																																																
11	ESum140	Detailed Design Submission (DDS) - E&M and BS	216	18-Dec-14	04-Nov-15	0	18-Dec-14 A	05-Mar-18 A	100%	-577																																																
12	Procurement		507	12-Feb-15	02-Jul-16	25	01-Mar-15 A	11-May-18		-678																																																
13	ESum150	Procurement, Manufacturing, F.A.T., Shipment & Delivery of E&M Systems Equipment	507	12-Feb-15	02-Jul-16	25	01-Mar-15 A	11-May-18	99.94%	-678																																																
14	Construction		489	13-May-15	31-Dec-16	135	04-May-15 A	26-Sep-18		-513																																																
15	ESum160	Construction of Building #1 (Waste Receiving, Pre-treatment & Administration)	178	19-Aug-15	23-Mar-16	0	02-Sep-15 A	06-Sep-17 A	100%	-431																																																
16	ESum170	Construction of Building #2 (Composting & Maturation, and Link Bridge)	262	23-May-15	11-Apr-16	0	16-Jun-15 A	24-Mar-17 A	100%	-285																																																
17	ESum175	Construction of Building #3 (Energy Centre)	87	30-Oct-15	15-Feb-16	0	24-Mar-16 A	24-Oct-16 A	100%	-205																																																
18	ESum180	Construction of Auxilliary Buildings & Facilities	263	13-May-15	31-Mar-16	0	04-May-15 A	02-Sep-17 A	100%	-424																																																
19	ESum190	ABWF, Finishing and Fitting-out Works to Building #1, #2, #3 and Auxilliary Buildings & Facilities (excl. EEC)	259	23-Dec-15	08-Nov-16	21	21-Mar-16 A	11-May-18	97.1%	-443																																																
20	ESum200	Sitewide, Boundary Wall and Roadworks	326	02-Sep-15	07-Oct-16	34	13-Nov-15 A	28-May-18	98.5%	-482																																																
21	ESum210	Statutory and Utilities Works (excl. Lifting Platform)	148	04-Mar-16	06-Oct-16	102	02-Nov-16 A	17-Aug-18	99.4%	-551																																																
22	ESum215	Green Roof and Landscaping	129	29-Jul-16	31-Dec-16	135	20-Jan-18 A	26-Sep-18	3%	-513																																																
23	E&M and Building Services Installation		229	04-Feb-16	12-Nov-16	59	11-May-16 A	27-Jun-18		-477																																																
24	ESum220	E&M Installation - Mechanical	164	04-Feb-16	25-Aug-16	50	11-May-16 A	15-Jun-18	99.6%	-533																																																
25	ESum222	E&M Installation - Piping	144	24-May-16	12-Nov-16	0	28-Nov-16 A	30-Nov-17 A	100%	-311																																																
26	ESum224	E&M Installation - Electrical, Instrumentation & Control	181	02-Apr-16	08-Nov-16	23	28-Sep-16 A	14-May-18	99.9%	-445																																																
27	ESum226	Building Services Installation (excl. EEC)	125	18-Apr-16	14-Sep-16	59	24-Jun-16 A	27-Jun-18	86.9%	-525																																																
28	ESum230	Energisation of Switchboards / MCC with SAT	1	28-Jul-16	28-Jul-16	0	02-Feb-17 A	26-May-17 A	100%	-244																																																
29	Testing & Commissioning and Completion *Note		232	29-Jul-16	17-Mar-17	193	24-Apr-17 A	30-Dec-18		-588																																																
30	ESum240	Pre-Commissioning	144	29-Jul-16	19-Jan-17	81	24-Apr-17 A	06-Jul-18	61.2%	-533																																																
31	ESum241	System Commissioning	0			50	11-May-18	29-Jun-18	0%																																																	
32	ESum250	Process Commissioning, Performance & Acceptance Testing	119	22-Oct-16	16-Mar-17	127	23-May-18	26-Sep-18	0%	-559																																																
33	KD100360	Completion of the Design and the Works including Testing and Commissioning (Extended Completion Date: 10-Jun-2017 noon)	0		16-Mar-17	0	1-May-18	15-Mar-19 ^a	0%	-589																																																
34	KD100380	Commencement of the Operation	0	17-Mar-17		0	4-Dec-18 ^b		0%	-588																																																

a: The T&C is in progress.
b: The confirmation for substantial completion has been dated to 3 December 2018.

Annex D

Project Organisation Chart with Contact Details

Project Organization (with contact details)



Annex E

Calibration Certification for
the On-line Stack
Monitoring System

Annex E1

Calibration Certification for the CEMS

(1)

Commissioning Check List 试运行检查项目表 MCS100FT

Customer data 客户资料	
Customer: <u>OSCAR</u>	Plant: <u>OWTF</u>
Location: <u>SHW</u>	

1. Device data 设备资料
Device type 设备类型: <u>MCS100FT (1)</u>
Serial no. 序列号: <u>1607 0493</u>
Sample probe type 取样探头类型: <u>SFU</u>

2. Plant data 电厂资料			
Location 标签编号	Outside 室外 <input type="checkbox"/>	Under cover 有保护罩 <input type="checkbox"/>	Inside 室内 <input checked="" type="checkbox"/>
Orientation of the stack 取样点方向	Horizontal 水平 <input type="checkbox"/>	Vertical 垂直 <input checked="" type="checkbox"/>	
	Horizontal 水平 <input checked="" type="checkbox"/>	Vertical 垂直 <input type="checkbox"/>	
Orientation of sample gas probe 取样探头方向	Horizontal 水平 <input checked="" type="checkbox"/>	Vertical 垂直 <input type="checkbox"/>	
Pressure 压力 <u>1010</u> hpa	Gas temperature 烟气温度 <u>410</u> °C		
Plant operating status 电厂运行情况 <u>Normal</u>			

3. Prerequisite 系统运行条件	Y	N	Remarks 备注
3.1. Documentation + Delivery complete 文件+货物是否齐全	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
3.2. Platform at measurement spot has suitable dimension? 测量点平台的尺寸是否合适?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
3.3. If this measurement location is under legal regulation, has it been acknowledged by an official body? 如果安装位置需要符合法律法规, 此安装位置是否被官方认可?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
3.4. Customer specific data for parameterization available? 用户对系统参数的特殊要求是否可行?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
3.5. Cables, tubes and sample line installed but not connected? 电缆、管线和取样管线安装但没有连接?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
3.6. Compressed air station installed and compressed air available? 压缩空气站已安装并且压缩空气可以使用?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

4. Preliminary work 预备工作		Y	N	Remarks 备注
4.1. Mounting of flanges like described in the Operating Instruction? 法兰安装是否按照图纸?	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
4.2. Check for damage 检查外部损伤	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
4.3. Check ambient conditions 检查环境条件	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
4.4. Check mounting conditions 检查安装条件	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
4.5. Check cables / wires for correct installation 检查电缆/电线及其连接状况	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
4.6. Check main power supply voltage 检查总供电电压	<input checked="" type="checkbox"/>	<input type="checkbox"/>		


5. Periphery 外部设备		Y	N	Remarks 备注
5.1. Check compressed air supply 检查压缩空气供应	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
Inlet 入口(5 bar): 6 Bar				

6. Sample probe 取样探头		Y	N	Remarks 备注
6.1. Connect bundle of tubes and cables 管线和电缆的连接	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
6.2. Install probe 探头安装	<input checked="" type="checkbox"/>	<input type="checkbox"/>		

7. MCS100FT		Y	N	Remarks 备注
7.1. Switch on analyzer and wait for warm up 打开分析仪并等待预热	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
7.2. Check sample conditions 检查样气情况	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
Flow rate 流量: 230 l/h				
7.3. Check zero conditions 检查零点情况	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
Flow rate 流量: 160 l/h				
7.4. Perform zero point setting 零点设置	<input checked="" type="checkbox"/>	<input type="checkbox"/>		Test results within specification.
7.5. Perform span test 量程测试	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
7.6. Parameterize the I/O Module 设置 I/O 模块参数	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
7.7. Measured values are plausible 测量值是否合理	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
7.8. Save device data 储存设备数据	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
7.9. Complete Commissioning Sign-Off Sheet 完成试运行签署表	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
7.10. Instruct the operator personnel 操作员培训 Hand over the maintenance manual and check lists 移交维护手册和检查表 - Measurement reading 读取测量值 - Perform customer maintenance 演示维护方法 - Read messages 读取信息	<input checked="" type="checkbox"/>	<input type="checkbox"/>		

8. Measured value

Index 编号	Source 信号源	Unit 单位	Range 范围		Reading (actual) 实际读数	Output value 产值
			Start 开始	End 结束		
1	HCL	mg/Nm ³	0	120	60.22 ppm	60.22 ppm
2	HF	mg/Nm ³	0	5	4.34 ppm	4.34 ppm
3	CO	mg/Nm ³	0	1000	128.21 ppm	128.20 ppm
4	NO	mg/Nm ³	0	500	122.01 ppm	122.00 ppm
5	NO ₂	mg/Nm ³	0	200	98.81 ppm	98.80 ppm
6	NO _x	mg/Nm ³	0	500	412.11 mg/m ³	412.12 mg/m ³
7	SO ₂	mg/Nm ³	0	300	83.21 ppm	83.21 ppm
8	CO ₂	Vol o/o	0	25	20.01 o/o	20.01 o/o
9	H ₂ O	Vol o/o	0	40	32.02 o/o	32.01 o/o
10	O ₂	Vol o/o	0	21	20.95 o/o	20.95 o/o
11	TOC	mg/Nm ³	0	300	122.01 ppm	122.01 ppm
12	NH ₃	mg/Nm ³	0	100	53.30 ppm	53.31 ppm
13	CH ₄	mg/Nm ³	0	100	112.01 ppm	112.01 ppm
14						
15						

Remarks 备注	
<p>Date 日期: <u>25/7/2018</u></p> <p>Engineer 工程师: <u></u> </p>	<p>Name 签名</p> <p>Plant personnel 用户代表: <u></u></p>

(2)

Commissioning Check List 试运行检查项目表

MCS100FT

Customer data 客户资料	
Customer: <u>Oscar</u>	Plant: <u>OWTF</u>
Location: <u>SHW</u>	

1. Device data 设备资料
Device type 设备类型: <u>MCS100FT (2)</u>
Serial no. 序列号: <u>1607 0494</u>
Sample probe type 取样探头类型: <u>SFU</u>

2. Plant data 电厂资料			
Location 标签编号	Outside 室外 <input type="checkbox"/>	Under cover 有保护罩 <input type="checkbox"/>	Inside 室内 <input checked="" type="checkbox"/>
Orientation of the stack 取样点方向	Horizontal 水平 <input type="checkbox"/>	Vertical 垂直 <input checked="" type="checkbox"/>	
Orientation of sample gas probe 取样探头方向	Horizontal 水平 <input checked="" type="checkbox"/>	Vertical 垂直 <input type="checkbox"/>	
Pressure 压力 <u>1010</u> hpa	Gas temperature 烟气温度 <u>410</u> °C		
Plant operating status 电厂运行情况 <u>Normal</u>			

3. Prerequisite 系统运行条件			
	Y	N	Remarks 备注
3.1. Documentation + Delivery complete 文件+货物是否齐全	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
3.2. Platform at measurement spot has suitable dimension? 测量点平台的尺寸是否合适?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
3.3. If this measurement location is under legal regulation, has it been acknowledged by an official body? 如果安装位置需要符合法律法规, 此安装位置是否被官方认可?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
3.4. Customer specific data for parameterization available? 用户对系统参数的特殊要求是否可行?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
3.5. Cables, tubes and sample line installed but not connected? 电缆、管线和取样管线安装但没有连接?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
3.6. Compressed air station installed and compressed air available? 压缩空气站已安装并且压缩空气可以使用?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

4. Preliminary work 预备工作		Y	N	Remarks 备注
4.1. Mounting of flanges like described in the Operating Instruction? 法兰安装是否按照图纸?	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
4.2. Check for damage 检查外部损伤	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
4.3. Check ambient conditions 检查环境条件	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
4.4. Check mounting conditions 检查安装条件	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
4.5. Check cables / wires for correct installation 检查电缆/电线及其连接状况	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
4.6. Check main power supply voltage 检查总供电电压	<input checked="" type="checkbox"/>	<input type="checkbox"/>		




5. Periphery 外部设备		Y	N	Remarks 备注
5.1. Check compressed air supply 检查压缩空气供应	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
Inlet 入口(5 bar): 6 Bar				

6. Sample probe 取样探头		Y	N	Remarks 备注
6.1. Connect bundle of tubes and cables 管线和电缆的连接	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
6.2. Install probe 探头安装	<input checked="" type="checkbox"/>	<input type="checkbox"/>		

7. MCS100FT		Y	N	Remarks 备注
7.1. Switch on analyzer and wait for warm up 打开分析仪并等待预热	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
7.2. Check sample conditions 检查样气情况	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
Flow rate 流量: 240 l/h				
7.3. Check zero conditions 检查零点情况	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
Flow rate 流量: 150 l/h				
7.4. Perform zero point setting 零点设置	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
7.5. Perform span test 量程测试	<input checked="" type="checkbox"/>	<input type="checkbox"/>		<i>Test results within specification.</i>
7.6. Parameterize the I/O Module 设置 I/O 模块参数	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
7.7. Measured values are plausible 测量值是否合理	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
7.8. Save device data 储存设备数据	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
7.9. Complete Commissioning Sign-Off Sheet 完成试运行签署表	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
7.10. Instruct the operator personnel 操作员培训 Hand over the maintenance manual and check lists 移交维护手册和检查表 - Measurement reading 读取测量值 - Perform customer maintenance 演示维护方法 - Read messages 读取信息	<input checked="" type="checkbox"/>	<input type="checkbox"/>		

8. Measured value

Index 编号	Source 信号源	Unit 单位	Range 范围		Reading (actual) 实际读数	Output value 产值
			Start 开始	End 结束		
1	HCL	mg/Nm ³	0	120	60.21 ppm	60.21 ppm
2	HF	mg/Nm ³	0	5	4.32 ppm	4.32 ppm
3	CO	mg/Nm ³	0	1000	128.20 ppm	128.20 ppm
4	NO	mg/Nm ³	0	500	122.00 ppm	122.00 ppm
5	NO ₂	mg/Nm ³	0	200	98.80 ppm	98.81 ppm
6	NO _x	mg/Nm ³	0	500	412.22 mg/m ³	412.21 mg/m ³
7	SO ₂	mg/Nm ³	0	300	83.21 ppm	83.21 ppm
8	CO ₂	Vol o/o	0	25	20.00 o/o	20.00 o/o
9	H ₂ O	Vol o/o	0	40	32.01 o/o	32.01 o/o
10	O ₂	Vol o/o	0	21	20.95 o/o	20.95 o/o
11	TOC	mg/Nm ³	0	300	122.01 ppm	122.01 ppm
12	NH ₃	mg/Nm ³	0	100	53.30 ppm	53.30 ppm
13	CH ₄	mg/Nm ³	0	100	112.02 ppm	112.02 ppm
14						
15						

Remarks 备注	
<p>Date 日期: <u>25/7/2018</u></p> <p>Engineer 工程师: <u></u> </p>	<p>Name 签名</p> <p>Plant personnel 用户代表: <u></u></p>

Annex E2

Calibration Certification for the CAPCS

Annex F

Implementation Schedule of Mitigation Measures

Annex F1

Implementation Schedule of Mitigation Measures for Construction Phase

Annex F1 Summary of Mitigation Measures Implementation Schedule for Construction Phase

EIA Ref.	EM&A Log Ref.	Environmental Protection Measures	Location/ Timing	Status
<i>Summary of Environmental Mitigation Measures in the EIA and EM&A Manual</i>				
A. Air Quality				
3.73	2.5	<p><u>Air Pollution Control (Construction Dust) Regulation & Good Site Practices</u></p> <ul style="list-style-type: none"> • Use of regular watering, with complete coverage, to reduce dust emissions from exposed site surfaces and unpaved roads, particularly during dry weather. • Use of frequent watering for particularly dusty construction areas and areas close to ASRs. • Side enclosure and covering of any aggregate or dusty material storage piles to reduce emissions. Where this is not practicable owing to frequent usage, watering should be applied to aggregate fines. • Open stockpiles should be avoided or covered. Where possible, prevent placing dusty material storage piles near ASRs. • Tarpaulin covering of all dusty vehicle loads transported to, from and between site locations. • Establishment and use of vehicle wheel and body washing facilities at the exit points of the site. • Provision of wind shield and dust extraction units or similar dust mitigation measures at the loading points, and use of water sprinklers at the loading area where dust generation is likely during the loading process of loose material, particularly in dry seasons/ periods. • Imposition of speed controls for vehicles on unpaved site roads. 8 kilometers per hour is the recommended limit. • Where possible, routing of vehicles and positioning of construction plant should be at the maximum possible distance from ASRs. • Every stock of more than 20 bags of cement or dry pulverised fuel ash (PFA) should be covered entirely by impervious sheeting or placed in an area sheltered on the top and the 3 sides. • Cement or dry PFA delivered in bulk should be stored in a closed silo fitted with an audible high level alarm which is interlocked with the material filling line and no overfilling is allowed. • Loading, unloading, transfer, handling or storage of bulk cement or dry PFA should be carried out in a totally enclosed system or facility, and any vent or exhaust should be fitted with an effective fabric filter or equivalent air pollution control system. 	Construction Site / During Construction Period	√
B. Hazard to Life				
4.102	3.3	<p><u>Construction Phase</u></p> <ul style="list-style-type: none"> • The number of workers on site during construction stage should be kept at the same level as 	Construction Site / During Construction Period	√

EIA Ref.	EM&A Log Ref.	Environmental Protection Measures	Location/ Timing	Status
		<p>the assessment.</p> <ul style="list-style-type: none"> • Construction works should be suspended when delivery of chlorine takes place. • 3m high fence should be constructed along the boundary facing the SHWWTW. • Emergency evacuation procedures should be formulated and the Contractor should ensure all workers on site should be familiar with these procedures as well as the route to escape in case of gas release incident. Relevant Departments, such as Fire Services Department (FSD), should be consulted during the development of Emergency procedures. Diagram showing the escape routes to a safe place should be posted in the site notice boards and at the entrance/exit of site. A copy of the latest version emergency procedures should be dispatched to Tung Chung Fire Station for reference once available. • The emergency procedures should specify means of providing a rapid and direct warning (e.g. Siren and Flashing Light) to construction workers in the event of chlorine gas release in the SHWWTW. • The Contractor should establish a communication channel with the SHWWTW operation personnel and FSD during construction stage. In case of any hazardous incidents in the treatment works, operation personnel of SHWWTW should advise the Contractor to inform construction workers to proceed with emergency procedure. The Contractor should appoint a Liaison Officer to communicate with FSD Incident Commander on site in case of emergency. • Introduction training should be provided to any staff before carryout construction works at the Project site. • Periodic drills should be coordinated and conducted to ensure all construction personnel are familiar with the emergency procedures. Upon completion of the drills, a review on every step taken should be conducted to identify area of improvement. Prior notice of periodic drills should be given to Station Commander of Tung Chung Fire Station. Joint operational exercise with FSD and SHWWTW is recommended. 		
<i>C. Water Quality</i>				
5.44	4.5	<p><u>Construction site run-off and general construction activities:</u> The mitigation measures as outlined in the ProPECC PN 1/94 Construction Site Drainage should be adopted where applicable.</p>	Construction Site / During Construction Period	√
5.45	4.5	<p><u>Excavation of Soil Materials</u> The construction programme should be properly planned to minimise soil excavation, if any, in rainy seasons. This prevents soil erosion from exposed soil surfaces. Any exposed soil surfaces should also be properly protected to minimise dust emission. In areas where a large amount of exposed soils exist, earth bunds or sand bags should be provided. Exposed stockpiles should be covered with tarpaulin or impervious sheets at all times. The stockpiles of materials should be</p>	Construction Site / During Construction Period	√

EIA Ref.	EM&A Log Ref.	Environmental Protection Measures	Location/ Timing	Status
		placed at locations away from any stream courses so as to avoid releasing materials into the water bodies. Final surfaces of earthworks should be compacted and protected by permanent work.		
5.46	4.5	<u>Accidental spillage of chemicals:</u> Contractor must register as a chemical waste producer if chemical wastes would be produced from the construction activities. The Waste Disposal Ordinance (Cap 354) and its subsidiary regulations in particular the Waste Disposal (Chemical Waste) (General) Regulation should be observed and complied with for control of chemical wastes.	Construction Site / During Construction Period	√
5.47	4.5	Maintenance of vehicles and equipments involving activities with potential for leakage and spillage should only be undertaken within the areas which appropriately equipped to control these discharges.	Construction Site / During Construction Period	√
5.48	4.5	Oils and fuels should only be used and stored in designated areas which have pollution prevention facilities. All fuel tanks and storage areas should be sited on sealed areas in order to prevent spillage of fuels and solvents to the nearby watercourses. All waste oils and fuels should be collected in designated tanks prior to disposal.	Construction Site / During Construction Period	√
5.49	4.5	Disposal of chemical wastes should be carried out in compliance with the Waste Disposal Ordinance. The Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes published under the Waste Disposal Ordinance details the requirements to deal with chemical wastes. General requirements are given as follows: <ul style="list-style-type: none"> • Suitable containers should be used to hold the chemical wastes to avoid leakage or spillage during storage, handling and transport. • Chemical waste containers should be suitably labeled, to notify and warn the personnel who are handling the wastes, to avoid accidents. • Storage area should be selected at a safe location on site and adequate space should be allocated to the storage area. 	Construction Site / During Construction Period	<>
5.50	4.5	Construction solid waste, debris and rubbish on site should be collected, handled and disposed of properly to avoid entering to the nearby watercourses. Stockpiles of cement and other construction materials should be kept covered when not being used. Rubbish and litter from construction sites should also be collected to prevent spreading of rubbish and litter from the site area. It is recommended to clean the construction sites on a regular basis.	Construction Site / During Construction Period	√
5.51	4.5	<u>Sewage Effluent</u>	Work site/During the	√

EIA Ref.	EM&A Log Ref.	Environmental Protection Measures	Location/ Timing	Status
		The presence of construction workers generates sewage. It is recommended to provide sufficient chemical toilets in the works areas. The toilet facilities should be more than 30m from any watercourse. A licensed waste collector should be deployed to clean the chemical toilets on a regular basis.	construction period	
5.52	4.5	Notices should be posted at conspicuous locations to remind the workers not to discharge any sewage or wastewater into the nearby environment during the construction phase of the project. Regular environmental audit on the construction site can provide an effective control of any malpractices and can achieve continual improvement of environmental performance on site.	Work Site / During Construction Period	√
5.53	4.5	<p><u>Nullah Decking</u></p> <p>To minimize the potential water quality impacts from the nullah reconstruction works, the practices outlined below should be adopted where applicable:</p> <ul style="list-style-type: none"> • The proposed works should be carried out within the dry season between October and March when the flow in the open nullah is low. • The use of less or smaller construction plants may be specified to reduce the disturbance to the nullah bed. • Temporary storage of materials (e.g. equipment, filling materials, chemicals and fuel) and temporary stockpile of construction materials should be located well away from the nullah and any water courses during carrying out of the construction works. • Stockpiling of construction materials and dusty materials should be covered and located away from the nullah any water courses. • Construction debris and spoil should be covered up and/or disposed of as soon as possible to avoid being washed into the nullah and nearby water receivers. • Construction activities, which generate large amount of wastewater, should be carried out in a distance away from the nullah, where practicable. • Construction effluent, site run-off and sewage should be properly collected and/or treated. • Any works site inside the nullah should be temporarily isolated, such as by placing of sandbags or silt curtains with lead edge at bottom and properly supported props to prevent adverse impact on the water quality. • Proper shoring may need to be erected in order to prevent soil/mud from slipping into the nullah and nearby watercourse. • Supervisory staff should be assigned to station 	Work Site / During Construction Period	N/A
<i>D. Waste Management</i>				
6.41	5.4	<u>Good Site Practices</u>	Work Site / During	<>

EIA Ref.	EM&A Log Ref.	Environmental Protection Measures	Location/ Timing	Status
		<p>Recommendations for good site practices during the construction phase would include:</p> <ul style="list-style-type: none"> • Obtain relevant waste disposal permits from appropriate authorities, in accordance with the Waste Disposal Ordinance (Cap. 354) and subsidiary Regulations and the Land (Miscellaneous Provisions) Ordinance (Cap. 28); • Provide staff training for proper waste management and chemical handling procedures; • Provide sufficient waste disposal points and regular waste collection; • Provide appropriate measures to minimize windblown litter and dust during transportation of waste by either covering trucks or by transporting wastes in enclosed containers; • Carry out regular cleaning and maintenance programme for drainage systems, sumps and oil interceptors; • Separate chemical wastes for special handling and disposed of to licensed facility for treatment; and • Employ licensed waste collector to collect waste. 	Construction Period	
6.42	5.5	<p><u>Waste Reduction Measures</u></p> <p>Waste reduction is best achieved at the planning and design stage, as well as by ensuring the implementation of good site practices. Recommendations to achieve waste reduction include:</p> <ul style="list-style-type: none"> • Design foundation works that could minimise the amount of excavated material to be generated; • Provide training to workers on the importance of site cleanliness and appropriate waste management procedures, including waste reduction, reuse and recycling; • Sort out demolition debris and excavated materials from demolition works to recover reusable/ recyclable portions (i.e. soil, broken concrete, metal etc.); • Segregate and store different types of waste in different containers, skips or stockpiles to enhance reuse or recycling of materials and their proper disposal; • Encourage the collection of aluminium cans by providing separate labelled bins to enable this waste to be segregated from other general refuse generated by the workforce; and • Plan and stock construction materials carefully to minimize the amount of waste to be generated and to avoid unnecessary generation of waste. 	Work Site/ During Design & Construction Period	√
6.44	5.7	<p><u>Excavated and C&D Materials</u></p> <p>In order to minimise the impact resulting from collection and transportation of C&D material for off-site disposal, the excavated material arising from site formation and foundation works should be reused on-site as backfilling material and for landscaping works as far as practicable. Other mitigation requirements are listed below:</p> <ul style="list-style-type: none"> • A WMP, which becomes part of the Environmental Management Plan (EMP), should be prepared in accordance with ETWB TCW No.19/2005; 	Work Site/ During Design & Construction Period	√

EIA Ref.	EM&A Log Ref.	Environmental Protection Measures	Location/ Timing	Status
		<ul style="list-style-type: none"> • A recording system for the amount of wastes generated, recycled and disposed of (including the disposal sites) should be adopted for easy tracking; and • In order to monitor the disposal of excavated and C&D material at public filling facilities and landfills and to control fly-tipping, a trip-ticket system should be adopted (refer to ETWB TCW No. 31/2004). 		
6.45 – 6.46	5.8 – 5.9	<p>An EMP should be prepared and implemented in accordance with ETWB TCW No. 19/2005 which describes the arrangements for avoidance, reuse, recovery, recycling, storage, collection, treatment and disposal of different categories of waste to be generated from construction activities. The EMP should be submitted to the Supervising Officer (SO) and Supervising Officer's Representative (SOR) for approval. The EMP should be reviewed regularly and updated, preferably on a monthly basis.</p> <p>A system should be devised to work for on-site sorting of excavated and C&D materials and promptly removing all sorted and process materials arising from the construction activities to minimize temporary stockpiling on-site. The system should be included in the EMP identifying the source of generation, estimated quantity, arrangement for on-site sorting, collection, temporary storage areas and frequency of collection by recycling Contractors or frequency of removal off-site.</p>	Work Site/ During Design & Construction Period	√
6.47	5.10	<p><u>Chemical Waste</u> Should chemical wastes be produced at the construction site, the Contractor would be required to register with EPD as a Chemical Waste Producer and to follow the guidelines stated in the Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes. Good quality containers compatible with the chemical wastes should be used, and incompatible chemicals should be stored separately. Appropriate labels should be securely attached on each chemical waste container indicating the corresponding chemical characteristics of the chemical waste (such as explosive, flammable, oxidizing, irritant, toxic, harmful, or corrosive). The Contractor should employ a licensed collector to transport and dispose of the chemical wastes, to either the CWTC in Tsing Yi, or any other licensed facilities, in accordance with the Waste Disposal (Chemical Waste) General Regulation.</p>	Work Site / During Construction Period	√
6.48	5.11	<p><u>General Refuse</u> General refuse should be stored in enclosed bins or compaction units separated from C&D material. A licensed waste collector should be employed by the contractor to remove general refuse from the site, separately from C&D material. Preferably an enclosed and covered area should be provided to reduce the occurrence of 'wind blown' light material.</p>	Work Site / During Construction Period	√
<i>E. Landscape and Visual</i>				
7.99 & Table 7.7	Table 6.1	<p><u>Construction Phase</u> Topsoil, where identified, should be stripped and stored for re-use in the construction of the</p>	Work Site / During Construction Period	√

EIA Ref.	EM&A Log Ref.	Environmental Protection Measures	Location/ Timing	Status
		soft landscape works, where practical <ul style="list-style-type: none"> • Compensatory tree planting should be provided to compensate for felled trees. - Compensation tree species shall be chosen from both indigenous and ornamental species - Compensatory tree planting quantities shall be as per DLO approved requirement. • Control of night-time lighting • Erection of decorative screen hoarding compatible with the surrounding setting 		
<i>F. Noise</i>				
8.25	7.3	Good Site Practice: <ul style="list-style-type: none"> • Only well-maintained plant should be operated on-site and plant should be serviced regularly during the construction program; • Mobile plant, if any, should be sited as far from noise sensitive receivers (NSRs) as possible; • Machines and plant (such as trucks) that may be in intermittent use should be shut down between work periods or should be throttled down to a minimum; • Plant known to emit noise strongly in one direction should, wherever possible, be orientated so that the noise is directed away from the nearby NSRs; and • Material stockpiles and other structures should be effectively utilized, wherever practicable, in screening noise from on-site construction activities. 	Work site/ During Design & Construction Stages	√

Remark:

- √ Compliance of Mitigation Measures
- <> Compliance of Mitigation but need improvement
- x Non-compliance of Mitigation Measures
- ▲ Non-compliance of Mitigation Measures but rectified by OSCAR Bioenergy JV
- Δ Deficiency of Mitigation Measures but rectified by OSCAR Bioenergy JV
- N/A Not Applicable in Reporting Period

Annex F2

Implementation Schedule of Mitigation Measures for Operation Phase

Annex F2 Summary of Mitigation Measures Implementation Schedule for Operation Phase

EIA Ref.	EM&A Log Ref.	Environmental Protection Measures	Location/ Timing	Status
<i>Summary of Environmental Mitigation Measures in the EIA and EM&A Manual</i>				
<i>A. Air Quality</i>				
3.78	2.7 & 2.13 – 2.19	<u>Air Pollution Control (Construction Dust) Regulation & Good Site Practices</u> <ul style="list-style-type: none"> • Commissioning tests shall be conducted to confirm the centralized air pollution control unit, the cogen units, the standby flaring unit and ASP against the design emission levels as stated in Tables 2.2 - 2.5. • Odour monitoring shall be conducted at the stack exhaust of the centralized air pollution control unit weekly in the first month of the commissioning stage. 	OWTF Stacks/ During Commissioning Stage	√
3.78	2.7-2.12	<u>Air Pollution Control and Stack Monitoring</u> <ul style="list-style-type: none"> • Stack monitoring shall be installed for the centralized air pollution control unit, cogen units and ASP of OWTF to ensure that the air emissions from OWTF would meet the design emission limits as well as EPD criteria. 	During Operation	√
3.78	2.20- 2.28	<ul style="list-style-type: none"> • Odour Patrol at site boundary of OWTF 	OWTF Site Boundary/ During Operation (The need to continue the odour patrol after the end of the 2-year monitoring period would depend on the monitoring results and should be agreed with EPD)	N/A
<i>B. Hazard to Life</i>				
4.103	3.4	<u>Operation Phase</u> <ul style="list-style-type: none"> • 3m high fence should be constructed along the boundary facing the SHWWTW • Emergency evacuation procedures should be formulated and the Contractor should ensure on site staff should be familiar with these procedures. Diagram showing the escape routes to a safe place should be posted in the site notice boards and at the entrance/exit of site. A copy of the latest version emergency procedures should be dispatched to Tung Chung Fire Station for reference once available. • The emergency procedures should specify means of providing a rapid and direct warning (e.g. Siren and Flashing Light) to personnel on site in the event of chlorine gas release in the SHWWTW. • The Contractor should establish a communication channel with the SHWWTW operation personnel and FSD. In case of any hazardous incidents in the treatment works, operation personnel of SHWWTW should advise the Contractor to inform personnel on site to proceed 	Work Site / During Operation Period	√

EIA Ref.	EM&A Log Ref.	Environmental Protection Measures	Location/ Timing	Status
		<p>with emergency procedure. The Contractor should appoint a Liaison Officer to communicate with FSD Incident Commander on site in case of emergency.</p> <ul style="list-style-type: none"> • Periodic drills should be coordinated and conducted to ensure all on site personnel are familiar with the emergency procedures. Upon completion of the drills, a review on every step taken should be conducted to identify area of improvement. Prior notice of periodic drills should be given to Station Commander of Tung Chung Fire Station. Joint operational exercise with FSD and SHWWTW is recommended. 		
<i>C. Water Quality</i>				
5.44	4.5	<p><u>Wastewater from Organic Waste Treatment Process</u></p> <p>The Project site will be equipped with an adequately sized wastewater treatment plant. A high rate type of active sludge system specifically designed for the removal of nitrogen components from the wastewater in combination with conversion of residual BOD and COD would be deployed. The wastewater treatment plant would also be incorporated with SHARON or annamox technology or equivalent to achieve high total overall nitrogen removal. Wastewater generated from the OWTF (including wastewater from dewatering process, leachate from waste reception area, condensate from biogas handling, wastewater from scrubber of air treatment system and any surplus water from truck washing facility) will be diverted to the wastewater treatment plant. Treated effluent will then be stored temporarily in order to be used as process water within the plants. The storage volume would be around 20 m³. Overflow from the tank will be discharged to foul sewers. The polluting parameters in effluent shall be in compliance with the requirements specified in the TM- DSS. The design, installation and operation of the wastewater treatment plant shall be licensed under the Waste Disposal Ordinance and subject to the effluent monitoring as required under the WPCO which is under the ambit of regional office (RO) of EPD. To ensure that wastewater can be adequately treated and effluent from treatment plant can meet the standards listed in TM- DSS, the following mitigation measure should be conducted.</p> <ul style="list-style-type: none"> • Cleaning and maintenance of treatment facilities should be conducted on a regular basis to ensure that removal rate of each treatment facility would not be reduced. • Cleaning and maintenance of pipelines should be carried out on a regular basis to prevent block of pipeline and leaching of wastewater, and therefore prevent overflowed or leached wastewater discharging into nearby drainages and water streams. • Regular site inspection should be conducted to ensure that no wastewater can be directly discharged into nearby water streams. 	Work Site / During Design & Operation Period	√
5.55	4.5	<p>In the scrubber, spraying water should be re-circulated to minimize the need for external water. The spraying water would be collected at the bottom of the scrubber. Excess water would be discharged to the wastewater treatment plant as described in Section 5.54.</p>	Work Site / During Design & Operation Period	√
5.56	4.5	<p>The waste reception, treatment facilities and compost storages of OWTF should be located in</p>	Work Site / During Design &	√

EIA Ref.	EM&A Log Ref.	Environmental Protection Measures	Location/ Timing	Status
		enclosed buildings to prevent generation of contaminated rain runoff. All surface runoff such as washed water generated in the treatment processes areas should be properly collected and diverted to the on-site wastewater treatment plant as described in Section 5.54.	Operation Period	
5.57	4.5	All drainage system for collection and transferring wastewater generated in the OWTF to the on-site wastewater treatment plant as described in Section 5.54 should be capable of preventing clogging and easy maintenance and cleaning.	Work Site / During Design & Operation Period	√
<i>D. Waste Management</i>				
6.50	5.12	<p><u>Good Site Practices</u></p> <p>Good operational practices should be adopted to Minimize waste management impacts:</p> <ul style="list-style-type: none"> • Obtain the necessary waste disposal permits from the appropriate authorities, in accordance with the Waste Disposal Ordinance (Cap. 354), Waste Disposal (Chemical Waste) (General) Regulation and the Land (Miscellaneous Provision) Ordinance (Cap. 28); • Nomination of an approved person to be responsible for good site practice, arrangements for collection and effective disposal to an appropriate facility of all wastes generated at the site; • Use of a waste haulier licensed to collect specific category of waste; • A trip-ticket system should be included as one of the contractual requirements and implemented by the Environmental Team to monitor the disposal of solid wastes at public filling facilities and landfills, and to control fly tipping. Reference should be made to ETWB TCW No. 31/2004. • Training of site personnel in proper waste management and chemical waste handling procedures; • Separation of chemical wastes for special handling and appropriate treatment at a licensed facility; • Routine cleaning and maintenance programme for drainage systems, sumps and oil interceptors; • Provision of sufficient waste disposal points and regular collection for disposal; • Adoption of appropriate measures to minimize windblown litter and dust during transportation of waste, such as covering trucks or transporting wastes in enclosed containers; and • Implementation of a recording system for the amount of wastes generated, recycled and disposed of (including the disposal sites). 	During Operation Period	<>
6.51	5.13	<p><u>Waste Reduction Measures</u></p> <p>Good management and control can prevent the generation of significant amounts of waste. It is recommended that the following good operational practices should be adopted to ensure waste reduction:</p> <ul style="list-style-type: none"> • Segregation and storage of different types of waste in different containers, skips or stockpiles to enhance reuse or recycling of materials and their proper disposal; 	During Operation Period	<>

EIA Ref.	EM&A Log Ref.	Environmental Protection Measures	Location/ Timing	Status
		<ul style="list-style-type: none"> Encourage collection of aluminum cans, plastic bottles and packaging material (e.g. carton boxes) and office paper by individual collectors. Separate labelled bins should be provided to help segregate this waste from other general refuse generated by the work force; and Any unused chemicals or those with remaining functional capacity should be reused as far as practicable. 		
6.52	5.14	<p><u>Wastes Generated from Pre-Treatment Process</u></p> <p>Wastes generated from pre-treatment process should be recycled as far as possible. Wastes generated from pre-treatment process should also be separated from any chemical waste and stored in covered skips. The recyclables should be collected by licensed collectors, while the rest of the waste should be removed from the site on a daily basis to minimize odour, pest and litter impacts. Open burning must be strictly prohibited.</p>	Pre-Treatment Process/ During Operation Period	<>
6.53-6.56	5.15-5.18	<p><u>Chemical Wastes</u></p> <ul style="list-style-type: none"> Chemical waste generated from machinery maintenance and servicing should be managed in accordance with Code of Practice on the Packaging, Labelling and storage of Chemical Wastes under the provisions of Waste Disposal (Chemical Waste) (General) Regulation. The chemical waste should be collected by drum-type containers and removed by licensed chemical waste contractors. Plant / equipment maintenance schedules should be planned in order to minimize the generation of chemical waste. Non-recyclable chemical wastes and lubricants should be disposed of at appropriate facilities, such as CWTC. Copies or counterfoils from collection receipts issued by the licensed waste collector should be kept for recording purpose. Recyclable chemical waste will be transported off-site for treatment by a licensed collector. The Contractor will need to register with EPD as a chemical waste producer. Where possible, chemical wastes (e.g. waste lubricants) would be recycled at appropriate facilities, such as Dunwell's oil re-refinery. 	Whole Site / During Operation Period	√
6.57-6.58	5.19-5.20	<p><u>General Refuse</u></p> <ul style="list-style-type: none"> Waste generated in offices should be reduced through segregation and collection of recyclables. To promote the recycling of wastes such as used paper, aluminum cans and plastic bottles, it is recommended that recycling bins should be clearly labelled and placed at locations with easy access. For the collection of recyclable materials, they should be collected by licensed collectors. General refuse, other than segregated recyclable wastes, should be separated from any chemical waste and stored in covered skips. The general refuse should be removed from the site on a daily basis to minimize odour, pest and litter impacts. Also, open burning of refuse must be strictly prohibited. 	Whole Site / During Operation Period	<>
E. Proposed Land Contamination Preventive Measures				

EIA Ref.	EM&A Log Ref.	Environmental Protection Measures	Location/ Timing	Status
6.65	5.21 (i)	<p><u>Fuel Oil Containers</u></p> <ul style="list-style-type: none"> • Fuel oil should be stored in suitable containers. • All fuel oil containers should be securely closed. • Appropriate labels showing the name of fuel oil should be posted on the containers. • Drip trays should be provided for all containers. 	Fuel Oil Storage Containers /During Operation Period	√
6.65	5.21 (ii)	<p><u>Storage Area</u></p> <ul style="list-style-type: none"> • Distance between the fuel oil refuelling points and the fuel oil containers should be minimized. • The storage area should be used for fuel oil storage only. • No surface water drains or foul sewers should be connected to the storage area. • The storage area should be enclosed by three sides by a wall and have an impermeable floor or surface. 	Fuel Oil Storage Area /During Operation Period	√
6.65	5.21 (iii)	<p><u>Fuel Oil Spillage Response</u></p> <p>An Oil Spill Response Plan should be prepared by the operator to document the appropriate response procedures for oil spillage incident in detail. General procedures to be taken in case of fuel oil spillage are presented below.</p> <ul style="list-style-type: none"> • <u>Training</u> Training on oil spill response actions should be given to relevant staff. The training should cover the followings: <ul style="list-style-type: none"> - Tools & resources to combat oil spillage and fire, e.g. locations of oil spill handling equipment and firefighting equipment; - General methods to deal with oil spillage and fire incidents; - Procedures for emergency drills in the event of oil spills and fire; and - Regular drills should be carried out. • <u>Communication</u> Establish communication channel with the Fire Services Department (FSD) and EPD to report any oil spillage incident so that necessary assistance from relevant department could be quickly sought. • <u>Response Procedure</u> Any fuel oil spillage within the Project Site should be immediately reported to the Site Manager with necessary details including location, source, possible cause and extent of the spillage Site Manager should immediately attend to the spillage and initiate any appropriate action to confine and clean up the spillage. The response procedures should include the following: <ul style="list-style-type: none"> - Identify and isolate the source of spillage as soon as possible. - Contain the oil spillage and avoid infiltration into soil / groundwater and 	Whole Site / During Operation Phase	√

EIA Ref.	EM&A Log Ref.	Environmental Protection Measures	Location/ Timing	Status
		<p>discharge to storm water channels.</p> <ul style="list-style-type: none"> - Remove the oil spillage. - Clean up the contaminated area. - If the oil spillage occurs during refuelling, the refuelling operation should immediately be stopped. - Recovered contaminated fuel oil and the associated material to remove the spilled oil should be considered as chemical waste. The handling and disposal procedures for chemical wastes are discussed in the following paragraphs. 		
6.66	5.22 (i)	<p><u>Chemicals and Chemical Wastes Handling & Storage</u></p> <ul style="list-style-type: none"> • Chemicals and chemical wastes should only be stored in suitable containers in purpose-built areas. • The storage of chemical wastes should comply with the requirements of the Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes. • The storage areas for chemicals and chemical wastes should have an impermeable floor or surface. The impermeable floor I surface should possess the following properties: <ul style="list-style-type: none"> - Not liable to chemically react with the materials and their containers to be stored. - Able to withstand normal loading and physical damage caused by container handling - The integrity and condition of the impermeable floor or surface should be inspected at regular intervals to ensure that it is satisfactorily maintained • For liquid chemicals and chemical wastes storage, the storage area should be bonded to contain at least 110% of the storage capacity of the largest containers or 20% of the total quantity of the chemicals/chemical wastes stored, whichever is the greater. • Storage container should be checked at regular intervals for their structural integrity and to ensure that the caps or fill points are tightly closed. • Chemical handling should be conducted by trained workers under supervision. 	Whole Site / During Operation Period	<>
6.66	5.22 (ii)	<p><u>Chemicals and Chemical Wastes Spillage Response</u></p> <p>A Chemicals and / or Chemical Wastes Spillage Response Plan should be prepared by the operator to document in detail the appropriate response procedures for chemicals or chemical wastes spillage incidents. General procedures to be undertaken in case of chemicals I chemical waste spillages are presented below</p> <ul style="list-style-type: none"> • Training • Training on spill response actions should be given to relevant staff. The training should cover the followings: 	Whole Site / During Operation Period	√

EIA Ref.	EM&A Log Ref.	Environmental Protection Measures	Location/ Timing	Status
		<ul style="list-style-type: none"> - Tools & resources to handle spillage, e.g. locations of spill handling equipment; - General methods to deal with spillage; and - Procedures for emergency drills in the event of spills. <ul style="list-style-type: none"> • Communication Establish communication channel with Fire Services Department (FSD) and EPD to report the spillage incident so that necessary assistance from relevant department could be quickly sought. • Response Procedures Any spillage within OWTF site should be reported to the Site Manager. Site Manager shall attend to the spillage and initiate any appropriate actions needed to confine and clean up the spillage. The response procedures should include the followings: <ul style="list-style-type: none"> - Identify and isolate the source of spillage as soon as possible; - Contain the spillage and avoid infiltration into soil / groundwater and discharge to storm water channels (in case the spillage occurs at locations out of the designated storage areas); - Remove the spillage; the removal method / procedures documented in the Material Safety Data Sheet (MSDS) of the chemicals spilled should be observed; - Clean up the contaminated area (in case the spillage occurs at locations out of the designated storage areas); and - The waste arising from the cleanup operation should be considered as chemical wastes. 		
6.67 - 6.69	5.23- 5.25	<p><u>Incident Record</u></p> <ul style="list-style-type: none"> • After any spillage, an incident report should be prepared by the Site Manager. The incident report should contain details of the incident including the cause of the incident, the material spilled and estimated spillage amount, and also the response actions undertaken. The incident record should be kept carefully and able to be retrieved when necessary. • The incident report should provide sufficient details for the evaluation of any environmental impacts due to the spillage and assessment of the effectiveness of measures taken. • In case any spillage or accidents results in significant land contamination, EPD should be informed immediately and the Project operator should be responsible for the cleanup of the affected area. The responses procedures described in Sections 6.65 - 6.66 of the EIA Report should be followed accordingly together with the land contamination assessment and remediation guidelines stipulated in the <i>Guidance</i> 	Whole Site / During Operation Period	√

EIA Ref.	EM&A Log Ref.	Environmental Protection Measures	Location/ Timing	Status
		<i>Manual for Use of Risk-based Remediation Goals for Contaminated Land Management and the Guidance Note for Contaminated Land Assessment and Remediation.</i>		
<i>F. Landscape and Visual</i>				
7.98 & Table 7.8	Table 6.2	<u>Operation Phase</u> <ul style="list-style-type: none"> • Aesthetic design of the facade, including its colour theme, pattern, texture , materials, finishing and associated structures to harmonize with the surrounding settings • Grass / groundcover planting to soften the roof • Heavy standard tree planting to screen proposed associated structures • Grasscrete paving to soften the harshness of large paved surface areas wherever possible 	Within Project Area / During Design & Operation Stages	√

Remark:

- √ Compliance of Mitigation Measures
- <> Compliance of Mitigation but need improvement
- x Non-compliance of Mitigation Measures
- ▲ Non-compliance of Mitigation Measures but rectified by OSCAR Bioenergy JV
- Δ Deficiency of Mitigation Measures but rectified by OSCAR Bioenergy JV
- N/A Not Applicable in Reporting Period

Annex G

Hourly Average of Parameters Recorded for CAPCS, CHP and ASP

Annex G1

Hourly Average of Parameters Measured in CAPCS

Date	Hour	VOC (including methane) (mg/Nm ³)	Dust (mg/Nm ³)	Odour (OU/Nm ³) (including NH ₃ & H ₂ S)	Remarks <small>*empty cells denote non-operating hours</small>
01-03-2019	12 AM	NA	0.0	120	
01-03-2019	1 AM	NA	0.0	103	
01-03-2019	2 AM	NA	0.0	98	
01-03-2019	3 AM	NA	0.0	107	
01-03-2019	4 AM	NA	0.0	102	
01-03-2019	5 AM	NA	0.0	87	
01-03-2019	6 AM	NA	2.6	85	Dust: Self calibration/ Auto purge data
01-03-2019	7 AM	NA	0.0	93	
01-03-2019	8 AM	NA	0.0	142	
01-03-2019	9 AM	NA	0.0	81	
01-03-2019	10 AM	NA	0.0	76	
01-03-2019	11 AM	NA	0.0	86	
01-03-2019	12 PM	NA	0.0	96	
01-03-2019	1 PM	NA	0.0	88	
01-03-2019	2 PM	NA	2.9	70	Dust: Self calibration/ Auto purge data
01-03-2019	3 PM	NA	0.0	54	
01-03-2019	4 PM	NA	0.0	42	
01-03-2019	5 PM	NA	0.0	37	
01-03-2019	6 PM	NA	0.0	48	
01-03-2019	7 PM	NA	0.0	68	
01-03-2019	8 PM	NA	0.0	78	
01-03-2019	9 PM	NA	0.0	77	
01-03-2019	10 PM	NA	2.8	70	Dust: Self calibration/ Auto purge data
01-03-2019	11 PM	NA	0.0	77	
02-03-2019	12 AM	NA	0.0	76	
02-03-2019	1 AM	NA	0.0	76	
02-03-2019	2 AM	NA	0.0	76	
02-03-2019	3 AM	NA	0.0	75	
02-03-2019	4 AM	NA	0.0	74	
02-03-2019	5 AM	NA	0.0	132	

02-03-2019	6 AM	NA	2.9	269	Dust: Self calibration/ Auto purge data Odour: Manual Dosing of chemical / Dosing System under maintenance
02-03-2019	7 AM	NA	0.0	230	Odour: Manual Dosing of chemical / Dosing System under maintenance
02-03-2019	8 AM	NA	0.0	206	
02-03-2019	9 AM	NA	0.0	179	
02-03-2019	10 AM	NA	0.0	146	
02-03-2019	11 AM	NA	0.0	142	
02-03-2019	12 PM	NA	0.0	142	
02-03-2019	1 PM	NA	0.0	140	
02-03-2019	2 PM	NA	5.8	121	Dust: Self calibration/ Auto purge data
02-03-2019	3 PM	NA	0.0	95	
02-03-2019	4 PM	NA	0.0	83	
02-03-2019	5 PM	NA	0.0	73	
02-03-2019	6 PM	NA	0.0	71	
02-03-2019	7 PM	NA	0.0	71	
02-03-2019	8 PM	NA	0.0	74	
02-03-2019	9 PM	NA	0.0	77	
02-03-2019	10 PM	NA	2.8	82	Dust: Self calibration/ Auto purge data
02-03-2019	11 PM	NA	0.0	93	
03-03-2019	12 AM	NA	0.0	95	
03-03-2019	1 AM	NA	0.0	87	
03-03-2019	2 AM	NA	0.0	86	
03-03-2019	3 AM	NA	0.0	100	
03-03-2019	4 AM	NA	0.0	94	
03-03-2019	5 AM	NA	0.0	93	
03-03-2019	6 AM	NA	5.8	90	Dust: Self calibration/ Auto purge data
03-03-2019	7 AM	NA	0.0	82	
03-03-2019	8 AM	NA	0.0	73	
03-03-2019	9 AM	NA	0.0	78	
03-03-2019	10 AM	NA	0.0	76	

03-03-2019	11 AM	NA	0.0	67	
03-03-2019	12 PM	NA	0.0	71	
03-03-2019	1 PM	NA	0.0	79	
03-03-2019	2 PM	NA	2.6	70	Dust: Self calibration/ Auto purge data
03-03-2019	3 PM	NA	0.0	72	
03-03-2019	4 PM	NA	0.0	75	
03-03-2019	5 PM	NA	0.0	70	
03-03-2019	6 PM	NA	0.0	67	
03-03-2019	7 PM	NA	0.0	63	
03-03-2019	8 PM	NA	0.0	66	
03-03-2019	9 PM	NA	0.0	63	
03-03-2019	10 PM	NA	5.8	60	Dust: Self calibration/ Auto purge data
03-03-2019	11 PM	NA	0.0	64	
04-03-2019	12 AM	NA	0.0	62	
04-03-2019	1 AM	NA	0.0	71	
04-03-2019	2 AM	NA	0.0	72	
04-03-2019	3 AM	NA	0.0	67	
04-03-2019	4 AM	NA	0.0	75	
04-03-2019	5 AM	NA	0.0	77	
04-03-2019	6 AM	NA	2.6	74	Dust: Self calibration/ Auto purge data
04-03-2019	7 AM	NA	0.0	82	
04-03-2019	8 AM	NA	0.0	82	
04-03-2019	9 AM	NA	0.0	79	
04-03-2019	10 AM	NA	0.0	83	
04-03-2019	11 AM	NA	0.0	78	
04-03-2019	12 PM	NA	0.0	74	
04-03-2019	1 PM	NA	0.0	80	
04-03-2019	2 PM	NA	2.9	81	Dust: Self calibration/ Auto purge data
04-03-2019	3 PM	NA	0.0	73	
04-03-2019	4 PM	NA	0.0	72	
04-03-2019	5 PM	NA	0.0	77	
04-03-2019	6 PM	NA	0.0	78	

04-03-2019	7 PM	NA	0.0	76	
04-03-2019	8 PM	NA	0.0	78	
04-03-2019	9 PM	NA	0.0	75	
04-03-2019	10 PM	NA	2.6	76	Dust: Self calibration/ Auto purge data
04-03-2019	11 PM	NA	0.0	73	
05-03-2019	12 AM	NA	0.0	68	
05-03-2019	1 AM	NA	0.0	68	
05-03-2019	2 AM	NA	0.0	67	
05-03-2019	3 AM	NA	0.0	58	
05-03-2019	4 AM	NA	0.0	48	
05-03-2019	5 AM	NA	0.0	50	
05-03-2019	6 AM	NA	2.9	59	Dust: Self calibration/ Auto purge data
05-03-2019	7 AM	NA	0.0	57	
05-03-2019	8 AM	NA	0.0	47	
05-03-2019	9 AM	NA	0.0	60	
05-03-2019	10 AM	NA	0.0	75	
05-03-2019	11 AM	NA	0.0	58	
05-03-2019	12 PM	NA	0.0	45	
05-03-2019	1 PM	NA	0.0	37	
05-03-2019	2 PM	NA	2.6	7	Dust: Self calibration/ Auto purge data
05-03-2019	3 PM	NA	0.0	0	
05-03-2019	4 PM	NA	0.0	0	
05-03-2019	5 PM	NA	0.0	0	
05-03-2019	6 PM	NA	0.0	0	
05-03-2019	7 PM	NA	0.0	0	
05-03-2019	8 PM	NA	0.0	0	
05-03-2019	9 PM	NA	0.0	0	
05-03-2019	10 PM	NA	2.9	0	Dust: Self calibration/ Auto purge data
05-03-2019	11 PM	NA	0.0	0	
06-03-2019	12 AM	NA	0.0	0	
06-03-2019	1 AM	NA	0.0	0	
06-03-2019	2 AM	NA	0.0	0	

06-03-2019	3 AM	NA	0.0	0	
06-03-2019	4 AM	NA	0.0	0	
06-03-2019	5 AM	NA	0.0	0	
06-03-2019	6 AM	NA	2.6	0	Dust: Self calibration/ Auto purge data
06-03-2019	7 AM	NA	0.0	0	
06-03-2019	8 AM	NA	0.0	0	
06-03-2019	9 AM	NA	0.0	0	
06-03-2019	10 AM	NA	0.0	0	
06-03-2019	11 AM	NA	0.0	0	
06-03-2019	12 PM	NA	0.0	0	
06-03-2019	1 PM	NA	0.0	0	
06-03-2019	2 PM	NA	2.9	0	Dust: Self calibration/ Auto purge data
06-03-2019	3 PM	NA	0.0	0	
06-03-2019	4 PM	NA	0.0	0	
06-03-2019	5 PM	NA	0.0	0	
06-03-2019	6 PM	NA	0.0	0	
06-03-2019	7 PM	NA	0.0	0	
06-03-2019	8 PM	NA	0.0	0	
06-03-2019	9 PM	NA	0.0	0	
06-03-2019	10 PM	NA	5.2	0	Dust: Self calibration/ Auto purge data
06-03-2019	11 PM	NA	0.0	0	
07-03-2019	12 AM	NA	0.0	1	
07-03-2019	1 AM	NA	0.0	1	
07-03-2019	2 AM	NA	0.0	0	
07-03-2019	3 AM	NA	0.0	0	
07-03-2019	4 AM	NA	0.0	0	
07-03-2019	5 AM	NA	0.0	0	
07-03-2019	6 AM	NA	2.9	0	Dust: Self calibration/ Auto purge data
07-03-2019	7 AM	NA	0.0	0	
07-03-2019	8 AM	NA	0.0	0	
07-03-2019	9 AM	NA	0.0	0	
07-03-2019	10 AM	NA	0.0	0	

07-03-2019	11 AM	NA	0.0	0	
07-03-2019	12 PM	NA	0.0	0	
07-03-2019	1 PM	NA	0.0	0	
07-03-2019	2 PM	NA	5.2	0	Dust: Self calibration/ Auto purge data
07-03-2019	3 PM	NA	0.0	0	
07-03-2019	4 PM	NA	0.0	0	
07-03-2019	5 PM	NA	0.0	0	
07-03-2019	6 PM	NA	0.0	55	
07-03-2019	7 PM	NA	0.0	125	
07-03-2019	8 PM	NA	0.0	114	
07-03-2019	9 PM	NA	0.0	97	
07-03-2019	10 PM	NA	2.9	78	Dust: Self calibration/ Auto purge data
07-03-2019	11 PM	NA	0.0	63	
08-03-2019	12 AM	NA	0.0	45	
08-03-2019	1 AM	NA	0.0	29	
08-03-2019	2 AM	NA	0.0	25	
08-03-2019	3 AM	NA	0.0	19	
08-03-2019	4 AM	NA	0.0	13	
08-03-2019	5 AM	NA	0.0	12	
08-03-2019	6 AM	NA	2.6	10	Dust: Self calibration/ Auto purge data
08-03-2019	7 AM	NA	0.0	4	
08-03-2019	8 AM	NA	0.0	0	
08-03-2019	9 AM	NA	0.0	0	
08-03-2019	10 AM	NA	0.0	0	
08-03-2019	11 AM	NA	0.0	361	Odour: Manual Dosing of chemical / Dosing System under maintenance
08-03-2019	12 PM	NA	0.0	87	
08-03-2019	1 PM	NA	0.0	71	
08-03-2019	2 PM	NA	2.9	57	Dust: Self calibration/ Auto purge data
08-03-2019	3 PM	NA	0.0	51	
08-03-2019	4 PM	NA	0.0	51	
08-03-2019	5 PM	NA	0.0	46	

08-03-2019	6 PM	NA	0.0	42	
08-03-2019	7 PM	NA	0.0	46	
08-03-2019	8 PM	NA	0.0	41	
08-03-2019	9 PM	NA	0.0	44	
08-03-2019	10 PM	NA	2.9	44	Dust: Self calibration/ Auto purge data
08-03-2019	11 PM	NA	0.0	44	
09-03-2019	12 AM	NA	0.0	42	
09-03-2019	1 AM	NA	0.0	44	
09-03-2019	2 AM	NA	0.0	44	
09-03-2019	3 AM	NA	0.0	46	
09-03-2019	4 AM	NA	0.0	42	
09-03-2019	5 AM	NA	0.0	46	
09-03-2019	6 AM	NA	2.9	44	Dust: Self calibration/ Auto purge data
09-03-2019	7 AM	NA	0.0	56	
09-03-2019	8 AM	NA	0.0	68	
09-03-2019	9 AM	NA	0.0	56	
09-03-2019	10 AM	NA	0.0	52	
09-03-2019	11 AM	NA	0.0	48	
09-03-2019	12 PM	NA	0.0	71	
09-03-2019	1 PM	NA	0.0	75	
09-03-2019	2 PM	NA	2.9	81	Dust: Self calibration/ Auto purge data
09-03-2019	3 PM	NA	0.0	83	
09-03-2019	4 PM	NA	0.0	86	
09-03-2019	5 PM	NA	0.0	92	
09-03-2019	6 PM	NA	0.0	120	
09-03-2019	7 PM	NA	0.0	121	
09-03-2019	8 PM	NA	0.0	105	
09-03-2019	9 PM	NA	0.0	230	Odour: Manual Dosing of chemical / Dosing System under maintenance
09-03-2019	10 PM	NA	2.6	209	Dust: Self calibration/ Auto purge data
09-03-2019	11 PM	NA	0.0	185	

10-03-2019	12 AM	NA	0.0	251	Odour: Manual Dosing of chemical / Dosing System under maintenance
10-03-2019	1 AM	NA	0.0	233	Odour: Manual Dosing of chemical / Dosing System under maintenance
10-03-2019	2 AM	NA	0.0	209	
10-03-2019	3 AM	NA	0.0	219	
10-03-2019	4 AM	NA	0.0	240	Odour: Manual Dosing of chemical / Dosing System under maintenance
10-03-2019	5 AM	NA	0.0	213	
10-03-2019	6 AM	NA	2.9	294	Dust: Self calibration/ Auto purge data Odour: Manual Dosing of chemical / Dosing System under maintenance
10-03-2019	7 AM	NA	0.0	274	Odour: Manual Dosing of chemical / Dosing System under maintenance
10-03-2019	8 AM	NA	0.0	236	Odour: Manual Dosing of chemical / Dosing System under maintenance
10-03-2019	9 AM	NA	0.0	277	Odour: Manual Dosing of chemical / Dosing System under maintenance
10-03-2019	10 AM	NA	0.0	271	Odour: Manual Dosing of chemical / Dosing System under maintenance
10-03-2019	11 AM	NA	0.0	263	Odour: Manual Dosing of chemical / Dosing System under maintenance
10-03-2019	12 PM	NA	0.0	402	Odour: Manual Dosing of chemical / Dosing System under maintenance
10-03-2019	1 PM	NA	0.0	379	Odour: Manual Dosing of chemical / Dosing System under maintenance
10-03-2019	2 PM	NA	5.2	155	Dust: Self calibration/ Auto purge data
10-03-2019	3 PM	NA	0.0	135	
10-03-2019	4 PM	NA	0.0	132	
10-03-2019	5 PM	NA	0.0	108	
10-03-2019	6 PM	NA	0.0	111	
10-03-2019	7 PM	NA	0.0	112	

10-03-2019	8 PM	NA	0.0	117	
10-03-2019	9 PM	NA	0.0	141	
10-03-2019	10 PM	NA	2.9	98	Dust: Self calibration/ Auto purge data
10-03-2019	11 PM	NA	0.0	86	
11-03-2019	12 AM	NA	0.0	80	
11-03-2019	1 AM	NA	0.0	79	
11-03-2019	2 AM	NA	0.0	86	
11-03-2019	3 AM	NA	0.0	75	
11-03-2019	4 AM	NA	0.0	80	
11-03-2019	5 AM	NA	0.0	88	
11-03-2019	6 AM	NA	5.2	102	Dust: Self calibration/ Auto purge data
11-03-2019	7 AM	NA	0.0	108	
11-03-2019	8 AM	NA	0.0	108	
11-03-2019	9 AM	NA	0.0	108	
11-03-2019	10 AM	NA	0.0	104	
11-03-2019	11 AM	NA	0.0	86	
11-03-2019	12 PM	NA	0.0	86	
11-03-2019	1 PM	NA	0.0	64	
11-03-2019	2 PM	NA	2.9	76	Dust: Self calibration/ Auto purge data
11-03-2019	3 PM	NA	0.0	97	
11-03-2019	4 PM	NA	0.0	120	
11-03-2019	5 PM	NA	0.0	157	
11-03-2019	6 PM	NA	0.0	207	
11-03-2019	7 PM	NA	0.0	376	Odour: Manual Dosing of chemical / Dosing System under maintenance
11-03-2019	8 PM	NA	0.0	411	Odour: Manual Dosing of chemical / Dosing System under maintenance
11-03-2019	9 PM	NA	0.0	443	Odour: Manual Dosing of chemical / Dosing System under maintenance
11-03-2019	10 PM	NA	2.6	370	Dust: Self calibration/ Auto purge data Odour: Manual Dosing of chemical / Dosing System under maintenance

11-03-2019	11 PM	NA	0.0	430	Odour: Manual Dosing of chemical / Dosing System under maintenance
12-03-2019	12 AM	NA	0.0	534	Odour: Manual Dosing of chemical / Dosing System under maintenance
12-03-2019	1 AM	NA	0.0	495	Odour: Manual Dosing of chemical / Dosing System under maintenance
12-03-2019	2 AM	NA	0.0	543	Odour: Manual Dosing of chemical / Dosing System under maintenance
12-03-2019	3 AM	NA	0.0	600	Odour: Manual Dosing of chemical / Dosing System under maintenance
12-03-2019	4 AM	NA	0.0	497	Odour: Manual Dosing of chemical / Dosing System under maintenance
12-03-2019	5 AM	NA	0.0	476	Odour: Manual Dosing of chemical / Dosing System under maintenance
12-03-2019	6 AM	NA	2.9	530	Dust: Self calibration/ Auto purge data Odour: Manual Dosing of chemical / Dosing System under maintenance
12-03-2019	7 AM	NA	0.0	492	Odour: Manual Dosing of chemical / Dosing System under maintenance
12-03-2019	8 AM	NA	0.0	598	Odour: Manual Dosing of chemical / Dosing System under maintenance
12-03-2019	9 AM	NA	0.0	316	Odour: Manual Dosing of chemical / Dosing System under maintenance
12-03-2019	10 AM	NA	0.0	167	
12-03-2019	11 AM	NA	0.0	102	
12-03-2019	12 PM	NA	0.0	26	
12-03-2019	1 PM	NA	0.0	78	
12-03-2019	2 PM	NA	2.6	120	Dust: Self calibration/ Auto purge data
12-03-2019	3 PM	NA	0.0	152	
12-03-2019	4 PM	NA	0.0	141	
12-03-2019	5 PM	NA	0.0	157	
12-03-2019	6 PM	NA	0.0	152	

12-03-2019	7 PM	NA	0.0	288	Odour: Manual Dosing of chemical / Dosing System under maintenance
12-03-2019	8 PM	NA	0.0	309	Odour: Manual Dosing of chemical / Dosing System under maintenance
12-03-2019	9 PM	NA	0.0	390	Odour: Manual Dosing of chemical / Dosing System under maintenance
12-03-2019	10 PM	NA	2.9	416	Dust: Self calibration/ Auto purge data Odour: Manual Dosing of chemical / Dosing System under maintenance
12-03-2019	11 PM	NA	0.0	743	Odour: Manual Dosing of chemical / Dosing System under maintenance
13-03-2019	12 AM	NA	0.0	504	Odour: Manual Dosing of chemical / Dosing System under maintenance
13-03-2019	1 AM	NA	0.0	285	Odour: Manual Dosing of chemical / Dosing System under maintenance
13-03-2019	2 AM	NA	0.0	261	Odour: Manual Dosing of chemical / Dosing System under maintenance
13-03-2019	3 AM	NA	0.0	242	Odour: Manual Dosing of chemical / Dosing System under maintenance
13-03-2019	4 AM	NA	0.0	712	Odour: Manual Dosing of chemical / Dosing System under maintenance
13-03-2019	5 AM	NA	0.0	1665	Odour: Manual Dosing of chemical / Dosing System under maintenance
13-03-2019	6 AM	NA	2.6	1904	Dust: Self calibration/ Auto purge data Odour: Manual Dosing of chemical / Dosing System under maintenance
13-03-2019	7 AM	NA	0.0	1778	Odour: Manual Dosing of chemical / Dosing System under maintenance
13-03-2019	8 AM	NA	0.0	1953	Odour: Manual Dosing of chemical / Dosing System under maintenance
13-03-2019	9 AM	NA	0.0	2447	Odour: Manual Dosing of chemical / Dosing System under maintenance

13-03-2019	10 AM	NA	0.0	2004	Odour: Manual Dosing of chemical / Dosing System under maintenance
13-03-2019	11 AM	NA	0.0	2311	Odour: Manual Dosing of chemical / Dosing System under maintenance
13-03-2019	12 PM	NA	0.0	2539	Odour: Manual Dosing of chemical / Dosing System under maintenance
13-03-2019	1 PM	NA	0.0	2578	Odour: Manual Dosing of chemical / Dosing System under maintenance
13-03-2019	2 PM	NA	2.9	2107	Dust: Self calibration/ Auto purge data Odour: Manual Dosing of chemical / Dosing System under maintenance
13-03-2019	3 PM	NA	0.0	2156	Odour: Manual Dosing of chemical / Dosing System under maintenance
13-03-2019	4 PM	NA	0.0	1201	Odour: Manual Dosing of chemical / Dosing System under maintenance
13-03-2019	5 PM	NA	0.0	450	Odour: Manual Dosing of chemical / Dosing System under maintenance
13-03-2019	6 PM	NA	0.0	459	Odour: Manual Dosing of chemical / Dosing System under maintenance
13-03-2019	7 PM	NA	0.0	577	Odour: Manual Dosing of chemical / Dosing System under maintenance
13-03-2019	8 PM	NA	0.0	842	Odour: Manual Dosing of chemical / Dosing System under maintenance
13-03-2019	9 PM	NA	0.0	833	Odour: Manual Dosing of chemical / Dosing System under maintenance
13-03-2019	10 PM	NA	2.6	783	Dust: Self calibration/ Auto purge data Odour: Manual Dosing of chemical / Dosing System under maintenance
13-03-2019	11 PM	NA	0.0	460	Odour: Manual Dosing of chemical / Dosing System under maintenance
14-03-2019	12 AM	NA	0.0	328	Odour: Manual Dosing of chemical / Dosing System under maintenance

14-03-2019	1 AM	NA	0.0	369	Odour: Manual Dosing of chemical / Dosing System under maintenance
14-03-2019	2 AM	NA	0.0	309	Odour: Manual Dosing of chemical / Dosing System under maintenance
14-03-2019	3 AM	NA	0.0	334	Odour: Manual Dosing of chemical / Dosing System under maintenance
14-03-2019	4 AM	NA	0.0	292	Odour: Manual Dosing of chemical / Dosing System under maintenance
14-03-2019	5 AM	NA	0.0	282	Odour: Manual Dosing of chemical / Dosing System under maintenance
14-03-2019	6 AM	NA	2.9	369	Dust: Self calibration/ Auto purge data Odour: Manual Dosing of chemical / Dosing System under maintenance
14-03-2019	7 AM	NA	0.0	374	Odour: Manual Dosing of chemical / Dosing System under maintenance
14-03-2019	8 AM	NA	0.0	406	Odour: Manual Dosing of chemical / Dosing System under maintenance
14-03-2019	9 AM	NA	0.0	538	Odour: Manual Dosing of chemical / Dosing System under maintenance
14-03-2019	10 AM	NA	0.0	454	Odour: Manual Dosing of chemical / Dosing System under maintenance
14-03-2019	11 AM	NA	0.0	349	Odour: Manual Dosing of chemical / Dosing System under maintenance
14-03-2019	12 PM	NA	0.0	349	Odour: Manual Dosing of chemical / Dosing System under maintenance
14-03-2019	1 PM	NA	0.0	465	Odour: Manual Dosing of chemical / Dosing System under maintenance
14-03-2019	2 PM	NA	2.6	736	Dust: Self calibration/ Auto purge data Odour: Manual Dosing of chemical / Dosing System under maintenance
14-03-2019	3 PM	NA	0.0	721	Odour: Manual Dosing of chemical / Dosing System under maintenance

14-03-2019	4 PM	NA	0.0	604	Odour: Manual Dosing of chemical / Dosing System under maintenance
14-03-2019	5 PM	NA	0.0	489	Odour: Manual Dosing of chemical / Dosing System under maintenance
14-03-2019	6 PM	NA	0.0	458	Odour: Manual Dosing of chemical / Dosing System under maintenance
14-03-2019	7 PM	NA	0.0	412	Odour: Manual Dosing of chemical / Dosing System under maintenance
14-03-2019	8 PM	NA	0.0	423	Odour: Manual Dosing of chemical / Dosing System under maintenance
14-03-2019	9 PM	NA	0.0	352	Odour: Manual Dosing of chemical / Dosing System under maintenance
14-03-2019	10 PM	NA	5.8	296	Dust: Self calibration/ Auto purge data Odour: Manual Dosing of chemical / Dosing System under maintenance
14-03-2019	11 PM	NA	0.0	231	Odour: Manual Dosing of chemical / Dosing System under maintenance
15-03-2019	12 AM	NA	0.0	247	Odour: Manual Dosing of chemical / Dosing System under maintenance
15-03-2019	1 AM	NA	0.0	236	Odour: Manual Dosing of chemical / Dosing System under maintenance
15-03-2019	2 AM	NA	0.0	263	Odour: Manual Dosing of chemical / Dosing System under maintenance
15-03-2019	3 AM	NA	0.0	290	Odour: Manual Dosing of chemical / Dosing System under maintenance
15-03-2019	4 AM	NA	0.0	748	Odour: Manual Dosing of chemical / Dosing System under maintenance
15-03-2019	5 AM	NA	0.0	1816	Odour: Manual Dosing of chemical / Dosing System under maintenance
15-03-2019	6 AM	NA	2.6	2106	Dust: Self calibration/ Auto purge data Odour: Manual Dosing of chemical / Dosing System under maintenance

15-03-2019	7 AM	NA	0.0	1732	Odour: Manual Dosing of chemical / Dosing System under maintenance
15-03-2019	8 AM	NA	0.0	1395	Odour: Manual Dosing of chemical / Dosing System under maintenance
15-03-2019	9 AM	NA	0.0	1802	Odour: Manual Dosing of chemical / Dosing System under maintenance
15-03-2019	10 AM	NA	0.0	1422	Odour: Manual Dosing of chemical / Dosing System under maintenance
15-03-2019	11 AM	NA	0.0	1390	Odour: Manual Dosing of chemical / Dosing System under maintenance
15-03-2019	12 PM	NA	0.0	1203	Odour: Manual Dosing of chemical / Dosing System under maintenance
15-03-2019	1 PM	NA	0.0	668	Odour: Manual Dosing of chemical / Dosing System under maintenance
15-03-2019	2 PM	NA	5.8	257	Dust: Self calibration/ Auto purge data Odour: Manual Dosing of chemical / Dosing System under maintenance
15-03-2019	3 PM	NA	0.0	236	Odour: Manual Dosing of chemical / Dosing System under maintenance
15-03-2019	4 PM	NA	0.0	270	Odour: Manual Dosing of chemical / Dosing System under maintenance
15-03-2019	5 PM	NA	0.0	250	Odour: Manual Dosing of chemical / Dosing System under maintenance
15-03-2019	6 PM	NA	0.0	194	
15-03-2019	7 PM	NA	0.0	204	
15-03-2019	8 PM	NA	0.0	281	Odour: Manual Dosing of chemical / Dosing System under maintenance
15-03-2019	9 PM	NA	0.0	985	Odour: Manual Dosing of chemical / Dosing System under maintenance
15-03-2019	10 PM	NA	2.8	655	Dust: Self calibration/ Auto purge data Odour: Manual Dosing of chemical / Dosing System under maintenance

15-03-2019	11 PM	NA	0.0	488	Odour: Manual Dosing of chemical / Dosing System under maintenance
16-03-2019	12 AM	NA	0.0	360	Odour: Manual Dosing of chemical / Dosing System under maintenance
16-03-2019	1 AM	NA	0.0	416	Odour: Manual Dosing of chemical / Dosing System under maintenance
16-03-2019	2 AM	NA	0.0	447	Odour: Manual Dosing of chemical / Dosing System under maintenance
16-03-2019	3 AM	NA	0.0	500	Odour: Manual Dosing of chemical / Dosing System under maintenance
16-03-2019	4 AM	NA	0.0	485	Odour: Manual Dosing of chemical / Dosing System under maintenance
16-03-2019	5 AM	NA	0.0	317	Odour: Manual Dosing of chemical / Dosing System under maintenance
16-03-2019	6 AM	NA	2.9	272	Dust: Self calibration/ Auto purge data Odour: Manual Dosing of chemical / Dosing System under maintenance
16-03-2019	7 AM	NA	0.0	302	Odour: Manual Dosing of chemical / Dosing System under maintenance
16-03-2019	8 AM	NA	0.0	303	Odour: Manual Dosing of chemical / Dosing System under maintenance
16-03-2019	9 AM	NA	0.0	223	Odour: Manual Dosing of chemical / Dosing System under maintenance
16-03-2019	10 AM	NA	0.0	215	
16-03-2019	11 AM	NA	0.0	72	
16-03-2019	12 PM	NA	0.0	181	
16-03-2019	1 PM	NA	0.0	332	Odour: Manual Dosing of chemical / Dosing System under maintenance
16-03-2019	2 PM	NA	2.9	251	Dust: Self calibration/ Auto purge data Odour: Manual Dosing of chemical / Dosing System under maintenance

16-03-2019	3 PM	NA	0.0	258	Odour: Manual Dosing of chemical / Dosing System under maintenance
16-03-2019	4 PM	NA	0.0	434	Odour: Manual Dosing of chemical / Dosing System under maintenance
16-03-2019	5 PM	NA	0.0	355	Odour: Manual Dosing of chemical / Dosing System under maintenance
16-03-2019	6 PM	NA	0.0	319	Odour: Manual Dosing of chemical / Dosing System under maintenance
16-03-2019	7 PM	NA	0.0	329	Odour: Manual Dosing of chemical / Dosing System under maintenance
16-03-2019	8 PM	NA	0.0	751	Odour: Manual Dosing of chemical / Dosing System under maintenance
16-03-2019	9 PM	NA	0.0	708	Odour: Manual Dosing of chemical / Dosing System under maintenance
16-03-2019	10 PM	NA	2.6	699	Dust: Self calibration/ Auto purge data Odour: Manual Dosing of chemical / Dosing System under maintenance
16-03-2019	11 PM	NA	0.0	1276	Odour: Manual Dosing of chemical / Dosing System under maintenance
17-03-2019	12 AM	NA	0.0	1593	Odour: Manual Dosing of chemical / Dosing System under maintenance
17-03-2019	1 AM	NA	0.0	768	Odour: Manual Dosing of chemical / Dosing System under maintenance
17-03-2019	2 AM	NA	0.0	910	Odour: Manual Dosing of chemical / Dosing System under maintenance
17-03-2019	3 AM	NA	0.0	2417	Odour: Manual Dosing of chemical / Dosing System under maintenance
17-03-2019	4 AM	NA	0.0	2325	Odour: Manual Dosing of chemical / Dosing System under maintenance
17-03-2019	5 AM	NA	0.0	2828	Odour: Manual Dosing of chemical / Dosing System under maintenance
17-03-2019	6 AM	NA	2.9	2247	Dust: Self calibration/ Auto purge data

					Odour: Manual Dosing of chemical / Dosing System under maintenance
17-03-2019	7 AM	NA	0.0	2043	Odour: Manual Dosing of chemical / Dosing System under maintenance
17-03-2019	8 AM	NA	0.0	1720	Odour: Manual Dosing of chemical / Dosing System under maintenance
17-03-2019	9 AM	NA	0.0	2118	Odour: Manual Dosing of chemical / Dosing System under maintenance
17-03-2019	10 AM	NA	0.0	1780	Odour: Manual Dosing of chemical / Dosing System under maintenance
17-03-2019	11 AM	NA	0.0	1299	Odour: Manual Dosing of chemical / Dosing System under maintenance
17-03-2019	12 PM	NA	0.0	453	Odour: Manual Dosing of chemical / Dosing System under maintenance
17-03-2019	1 PM	NA	0.0	521	Odour: Manual Dosing of chemical / Dosing System under maintenance
17-03-2019	2 PM	NA	2.6	793	Dust: Self calibration/ Auto purge data Odour: Manual Dosing of chemical / Dosing System under maintenance
17-03-2019	3 PM	NA	0.0	1052	Odour: Manual Dosing of chemical / Dosing System under maintenance
17-03-2019	4 PM	NA	0.0	798	Odour: Manual Dosing of chemical / Dosing System under maintenance
17-03-2019	5 PM	NA	0.0	2655	Odour: Manual Dosing of chemical / Dosing System under maintenance
17-03-2019	6 PM	NA	0.0	2894	Odour: Manual Dosing of chemical / Dosing System under maintenance
17-03-2019	7 PM	NA	0.0	2850	Odour: Manual Dosing of chemical / Dosing System under maintenance
17-03-2019	8 PM	NA	0.0	3182	Odour: Manual Dosing of chemical / Dosing System under maintenance

17-03-2019	9 PM	NA	0.0	2475	Odour: Manual Dosing of chemical / Dosing System under maintenance
17-03-2019	10 PM	NA	2.9	2678	Dust: Self calibration/ Auto purge data Odour: Manual Dosing of chemical / Dosing System under maintenance
17-03-2019	11 PM	NA	0.0	2750	Odour: Manual Dosing of chemical / Dosing System under maintenance
18-03-2019	12 AM	NA	0.0	3229	Odour: Manual Dosing of chemical / Dosing System under maintenance
18-03-2019	1 AM	NA	0.0	2552	Odour: Manual Dosing of chemical / Dosing System under maintenance
18-03-2019	2 AM	NA	0.0	1526	Odour: Manual Dosing of chemical / Dosing System under maintenance
18-03-2019	3 AM	NA	0.0	746	Odour: Manual Dosing of chemical / Dosing System under maintenance
18-03-2019	4 AM	NA	0.0	499	Odour: Manual Dosing of chemical / Dosing System under maintenance
18-03-2019	5 AM	NA	0.0	552	Odour: Manual Dosing of chemical / Dosing System under maintenance
18-03-2019	6 AM	NA	2.6	454	Dust: Self calibration/ Auto purge data Odour: Manual Dosing of chemical / Dosing System under maintenance
18-03-2019	7 AM	NA	0.0	278	Odour: Manual Dosing of chemical / Dosing System under maintenance
18-03-2019	8 AM	NA	0.0	318	Odour: Manual Dosing of chemical / Dosing System under maintenance
18-03-2019	9 AM	NA	0.0	320	Odour: Manual Dosing of chemical / Dosing System under maintenance
18-03-2019	10 AM	NA	0.0	232	Odour: Manual Dosing of chemical / Dosing System under maintenance
18-03-2019	11 AM	NA	0.0	195	
18-03-2019	12 PM	NA	0.0	175	

18-03-2019	1 PM	NA	0.0	436	Odour: Manual Dosing of chemical / Dosing System under maintenance
18-03-2019	2 PM	NA	5.8	1237	Dust: Self calibration/ Auto purge data Odour: Manual Dosing of chemical / Dosing System under maintenance
18-03-2019	3 PM	NA	0.0	700	Odour: Manual Dosing of chemical / Dosing System under maintenance
18-03-2019	4 PM	NA	0.0	471	Odour: Manual Dosing of chemical / Dosing System under maintenance
18-03-2019	5 PM	NA	0.0	363	Odour: Manual Dosing of chemical / Dosing System under maintenance
18-03-2019	6 PM	NA	0.0	432	Odour: Manual Dosing of chemical / Dosing System under maintenance
18-03-2019	7 PM	NA	0.0	357	Odour: Manual Dosing of chemical / Dosing System under maintenance
18-03-2019	8 PM	NA	0.0	357	Odour: Manual Dosing of chemical / Dosing System under maintenance
18-03-2019	9 PM	NA	0.0	365	Odour: Manual Dosing of chemical / Dosing System under maintenance
18-03-2019	10 PM	NA	2.6	783	Dust: Self calibration/ Auto purge data Odour: Manual Dosing of chemical / Dosing System under maintenance
18-03-2019	11 PM	NA	0.0	2335	Odour: Manual Dosing of chemical / Dosing System under maintenance
19-03-2019	12 AM	NA	0.0	1661	Odour: Manual Dosing of chemical / Dosing System under maintenance
19-03-2019	1 AM	NA	0.0	257	Odour: Manual Dosing of chemical / Dosing System under maintenance
19-03-2019	2 AM	NA	0.0	1442	Odour: Manual Dosing of chemical / Dosing System under maintenance
19-03-2019	3 AM	NA	0.0	2021	Odour: Manual Dosing of chemical / Dosing System under maintenance

19-03-2019	4 AM	NA	0.0	1890	Odour: Manual Dosing of chemical / Dosing System under maintenance
19-03-2019	5 AM	NA	0.0	2154	Odour: Manual Dosing of chemical / Dosing System under maintenance
19-03-2019	6 AM	NA	5.8	1685	Dust: Self calibration/ Auto purge data Odour: Manual Dosing of chemical / Dosing System under maintenance
19-03-2019	7 AM	NA	0.0	1901	Odour: Manual Dosing of chemical / Dosing System under maintenance
19-03-2019	8 AM	NA	0.0	1646	Odour: Manual Dosing of chemical / Dosing System under maintenance
19-03-2019	9 AM	NA	0.0	969	Odour: Manual Dosing of chemical / Dosing System under maintenance
19-03-2019	10 AM	NA	0.0	1103	Odour: Manual Dosing of chemical / Dosing System under maintenance
19-03-2019	11 AM	NA	0.0	353	Odour: Manual Dosing of chemical / Dosing System under maintenance
19-03-2019	12 PM	NA	0.0	306	Odour: Manual Dosing of chemical / Dosing System under maintenance
19-03-2019	1 PM	NA	0.0	323	Odour: Manual Dosing of chemical / Dosing System under maintenance
19-03-2019	2 PM	NA	2.6	653	Dust: Self calibration/ Auto purge data Odour: Manual Dosing of chemical / Dosing System under maintenance
19-03-2019	3 PM	NA	0.0	518	Odour: Manual Dosing of chemical / Dosing System under maintenance
19-03-2019	4 PM	NA	0.0	437	Odour: Manual Dosing of chemical / Dosing System under maintenance
19-03-2019	5 PM	NA	0.0	404	Odour: Manual Dosing of chemical / Dosing System under maintenance
19-03-2019	6 PM	NA	0.0	441	Odour: Manual Dosing of chemical / Dosing System under maintenance

19-03-2019	7 PM	NA	0.0	351	Odour: Manual Dosing of chemical / Dosing System under maintenance
19-03-2019	8 PM	NA	0.0	391	Odour: Manual Dosing of chemical / Dosing System under maintenance
19-03-2019	9 PM	NA	0.0	271	Odour: Manual Dosing of chemical / Dosing System under maintenance
19-03-2019	10 PM	NA	5.8	280	Dust: Self calibration/ Auto purge data Odour: Manual Dosing of chemical / Dosing System under maintenance
19-03-2019	11 PM	NA	0.0	1048	Odour: Manual Dosing of chemical / Dosing System under maintenance
20-03-2019	12 AM	NA	0.0	693	Odour: Manual Dosing of chemical / Dosing System under maintenance
20-03-2019	1 AM	NA	0.0	274	Odour: Manual Dosing of chemical / Dosing System under maintenance
20-03-2019	2 AM	NA	0.0	220	Odour: Manual Dosing of chemical / Dosing System under maintenance
20-03-2019	3 AM	NA	0.0	697	Odour: Manual Dosing of chemical / Dosing System under maintenance
20-03-2019	4 AM	NA	0.0	1108	Odour: Manual Dosing of chemical / Dosing System under maintenance
20-03-2019	5 AM	NA	0.0	349	Odour: Manual Dosing of chemical / Dosing System under maintenance
20-03-2019	6 AM	NA	2.6	1550	Dust: Self calibration/ Auto purge data Odour: Manual Dosing of chemical / Dosing System under maintenance
20-03-2019	7 AM	NA	0.0	1804	Odour: Manual Dosing of chemical / Dosing System under maintenance
20-03-2019	8 AM	NA	0.0	1662	Odour: Manual Dosing of chemical / Dosing System under maintenance
20-03-2019	9 AM	NA	0.0	1629	Odour: Manual Dosing of chemical / Dosing System under maintenance

20-03-2019	10 AM	NA	0.0	2039	Odour: Manual Dosing of chemical / Dosing System under maintenance
20-03-2019	11 AM	NA	0.0	2005	Odour: Manual Dosing of chemical / Dosing System under maintenance
20-03-2019	12 PM	NA	0.0	585	Odour: Manual Dosing of chemical / Dosing System under maintenance
20-03-2019	1 PM	NA	0.0	16	
20-03-2019	2 PM	NA	5.8	174	Dust: Self calibration/ Auto purge data
20-03-2019	3 PM	NA	0.0	280	Odour: Manual Dosing of chemical / Dosing System under maintenance
20-03-2019	4 PM	NA	0.0	151	
20-03-2019	5 PM	NA	0.0	123	
20-03-2019	6 PM	NA	0.0	270	Odour: Manual Dosing of chemical / Dosing System under maintenance
20-03-2019	7 PM	NA	0.0	395	Odour: Manual Dosing of chemical / Dosing System under maintenance
20-03-2019	8 PM	NA	0.0	225	Odour: Manual Dosing of chemical / Dosing System under maintenance
20-03-2019	9 PM	NA	0.0	94	
20-03-2019	10 PM	NA	2.6	275	Dust: Self calibration/ Auto purge data Odour: Manual Dosing of chemical / Dosing System under maintenance
20-03-2019	11 PM	NA	0.0	217	
21-03-2019	12 AM	NA	0.0	157	
21-03-2019	1 AM	NA	0.0	5	
21-03-2019	2 AM	NA	0.0	70	
21-03-2019	3 AM	NA	0.0	107	
21-03-2019	4 AM	NA	0.0	406	Odour: Manual Dosing of chemical / Dosing System under maintenance
21-03-2019	5 AM	NA	0.0	194	
21-03-2019	6 AM	NA	5.8	1193	Dust: Self calibration/ Auto purge data

					Odour: Manual Dosing of chemical / Dosing System under maintenance
21-03-2019	7 AM	NA	0.0	1086	Odour: Manual Dosing of chemical / Dosing System under maintenance
21-03-2019	8 AM	NA	0.0	1217	Odour: Manual Dosing of chemical / Dosing System under maintenance
21-03-2019	9 AM	NA	0.0	1088	Odour: Manual Dosing of chemical / Dosing System under maintenance
21-03-2019	10 AM	NA	0.0	1197	Odour: Manual Dosing of chemical / Dosing System under maintenance
21-03-2019	11 AM	NA	0.0	1296	Odour: Manual Dosing of chemical / Dosing System under maintenance
21-03-2019	12 PM	NA	0.0	961	Odour: Manual Dosing of chemical / Dosing System under maintenance
21-03-2019	1 PM	NA	0.0	1201	Odour: Manual Dosing of chemical / Dosing System under maintenance
21-03-2019	2 PM	NA	2.6	536	Dust: Self calibration/ Auto purge data Odour: Manual Dosing of chemical / Dosing System under maintenance
21-03-2019	3 PM	NA	0.0	691	Odour: Manual Dosing of chemical / Dosing System under maintenance
21-03-2019	4 PM	NA	0.0	1138	Odour: Manual Dosing of chemical / Dosing System under maintenance
21-03-2019	5 PM	NA	0.0	386	Odour: Manual Dosing of chemical / Dosing System under maintenance
21-03-2019	6 PM	NA	0.0	347	Odour: Manual Dosing of chemical / Dosing System under maintenance
21-03-2019	7 PM	NA	0.0	698	Odour: Manual Dosing of chemical / Dosing System under maintenance
21-03-2019	8 PM	NA	0.0	803	Odour: Manual Dosing of chemical / Dosing System under maintenance

21-03-2019	9 PM	NA	0.0	1019	Odour: Manual Dosing of chemical / Dosing System under maintenance
21-03-2019	10 PM	NA	2.9	1387	Dust: Self calibration/ Auto purge data Odour: Manual Dosing of chemical / Dosing System under maintenance
21-03-2019	11 PM	NA	0.0	1950	Odour: Manual Dosing of chemical / Dosing System under maintenance
22-03-2019	12 AM	NA	0.0	1240	Odour: Manual Dosing of chemical / Dosing System under maintenance
22-03-2019	1 AM	NA	0.0	1086	Odour: Manual Dosing of chemical / Dosing System under maintenance
22-03-2019	2 AM	NA	0.0	1633	Odour: Manual Dosing of chemical / Dosing System under maintenance
22-03-2019	3 AM	NA	0.0	2587	Odour: Manual Dosing of chemical / Dosing System under maintenance
22-03-2019	4 AM	NA	0.0	2659	Odour: Manual Dosing of chemical / Dosing System under maintenance
22-03-2019	5 AM	NA	0.0	2502	Odour: Manual Dosing of chemical / Dosing System under maintenance
22-03-2019	6 AM	NA	2.6	1680	Dust: Self calibration/ Auto purge data Odour: Manual Dosing of chemical / Dosing System under maintenance
22-03-2019	7 AM	NA	0.0	461	Odour: Manual Dosing of chemical / Dosing System under maintenance
22-03-2019	8 AM	NA	0.0	279	Odour: Manual Dosing of chemical / Dosing System under maintenance
22-03-2019	9 AM	NA	0.0	262	Odour: Manual Dosing of chemical / Dosing System under maintenance
22-03-2019	10 AM	NA	0.0	263	Odour: Manual Dosing of chemical / Dosing System under maintenance
22-03-2019	11 AM	NA	0.0	318	Odour: Manual Dosing of chemical / Dosing System under maintenance

22-03-2019	12 PM	NA	0.0	0	
22-03-2019	1 PM	NA	0.0	0	
22-03-2019	2 PM	NA	2.9	0	Dust: Self calibration/ Auto purge data
22-03-2019	3 PM	NA	0.0	0	
22-03-2019	4 PM	NA	0.0	0	
22-03-2019	5 PM	NA	0.0	0	
22-03-2019	6 PM	NA	0.0	0	
22-03-2019	7 PM	NA	0.0	0	
22-03-2019	8 PM	NA	0.0	0	
22-03-2019	9 PM	NA	0.0	0	
22-03-2019	10 PM	NA	2.8	0	Dust: Self calibration/ Auto purge data
22-03-2019	11 PM	NA	0.0	0	
23-03-2019	12 AM	NA	0.0	0	
23-03-2019	1 AM	NA	0.0	0	
23-03-2019	2 AM	NA	0.0	0	
23-03-2019	3 AM	NA	0.0	0	
23-03-2019	4 AM	NA	0.0	0	
23-03-2019	5 AM	NA	0.0	0	
23-03-2019	6 AM	NA	2.9	0	Dust: Self calibration/ Auto purge data
23-03-2019	7 AM	NA	0.0	0	
23-03-2019	8 AM	NA	0.0	0	
23-03-2019	9 AM	NA	0.0	0	
23-03-2019	10 AM	NA	0.0	0	
23-03-2019	11 AM	NA	0.0	0	
23-03-2019	12 PM	NA	0.0	0	
23-03-2019	1 PM	NA	0.0	0	
23-03-2019	2 PM	NA	2.9	0	Dust: Self calibration/ Auto purge data
23-03-2019	3 PM	NA	0.0	0	
23-03-2019	4 PM	NA	0.0	0	
23-03-2019	5 PM	NA	0.0	0	
23-03-2019	6 PM	NA	0.0	0	
23-03-2019	7 PM	NA	0.0	0	

23-03-2019	8 PM	NA	0.0	0	
23-03-2019	9 PM	NA	0.0	0	
23-03-2019	10 PM	NA	2.8	0	Dust: Self calibration/ Auto purge data
23-03-2019	11 PM	NA	0.0	0	
24-03-2019	12 AM	NA	0.0	0	
24-03-2019	1 AM	NA	0.0	0	
24-03-2019	2 AM	NA	0.0	0	
24-03-2019	3 AM	NA	0.0	0	
24-03-2019	4 AM	NA	0.0	0	
24-03-2019	5 AM	NA	0.0	0	
24-03-2019	6 AM	NA	5.8	0	Dust: Self calibration/ Auto purge data
24-03-2019	7 AM	NA	0.0	0	
24-03-2019	8 AM	NA	0.0	0	
24-03-2019	9 AM	NA	0.0	0	
24-03-2019	10 AM	NA	0.0	0	
24-03-2019	11 AM	NA	0.0	0	
24-03-2019	12 PM	NA	0.0	0	
24-03-2019	1 PM	NA	0.0	0	
24-03-2019	2 PM	NA	2.6	0	Dust: Self calibration/ Auto purge data
24-03-2019	3 PM	NA	0.0	0	
24-03-2019	4 PM	NA	0.0	0	
24-03-2019	5 PM	NA	0.0	0	
24-03-2019	6 PM	NA	0.0	0	
24-03-2019	7 PM	NA	0.0	0	
24-03-2019	8 PM	NA	0.0	0	
24-03-2019	9 PM	NA	0.0	0	
24-03-2019	10 PM	NA	5.8	0	Dust: Self calibration/ Auto purge data
24-03-2019	11 PM	NA	0.0	0	
25-03-2019	12 AM	NA	0.0	0	
25-03-2019	1 AM	NA	0.0	0	
25-03-2019	2 AM	NA	0.0	0	
25-03-2019	3 AM	NA	0.0	0	

25-03-2019	4 AM	NA	0.0	0	
25-03-2019	5 AM	NA	0.0	0	
25-03-2019	6 AM	NA	2.6	0	Dust: Self calibration/ Auto purge data
25-03-2019	7 AM	NA	0.0	0	
25-03-2019	8 AM	NA	0.0	0	
25-03-2019	9 AM	NA	0.0	0	
25-03-2019	10 AM	NA	0.0	0	
25-03-2019	11 AM	NA	0.0	0	
25-03-2019	12 PM	NA	0.0	86	
25-03-2019	1 PM	NA	0.0	423	Odour: Manual Dosing of chemical / Dosing System under maintenance
25-03-2019	2 PM	NA	2.9	438	Dust: Self calibration/ Auto purge data Odour: Manual Dosing of chemical / Dosing System under maintenance
25-03-2019	3 PM	NA	0.0	611	Odour: Manual Dosing of chemical / Dosing System under maintenance
25-03-2019	4 PM	NA	0.0	416	Odour: Manual Dosing of chemical / Dosing System under maintenance
25-03-2019	5 PM	NA	0.0	313	Odour: Manual Dosing of chemical / Dosing System under maintenance
25-03-2019	6 PM	NA	0.0	164	
25-03-2019	7 PM	NA	0.0	2	
25-03-2019	8 PM	NA	0.0	0	
25-03-2019	9 PM	NA	0.0	0	
25-03-2019	10 PM	NA	2.6	0	Dust: Self calibration/ Auto purge data
25-03-2019	11 PM	NA	0.0	0	
26-03-2019	12 AM	NA	0.0	0	
26-03-2019	1 AM	NA	0.0	0	
26-03-2019	2 AM	NA	0.0	0	
26-03-2019	3 AM	NA	0.0	0	
26-03-2019	4 AM	NA	0.0	0	
26-03-2019	5 AM	NA	0.0	0	

26-03-2019	6 AM	NA	2.9	0	Dust: Self calibration/ Auto purge data
26-03-2019	7 AM	NA	0.0	0	
26-03-2019	8 AM	NA	0.0	0	
26-03-2019	9 AM	NA	0.0	0	
26-03-2019	10 AM	NA	0.0	0	
26-03-2019	11 AM	NA	0.0	0	
26-03-2019	12 PM	NA	0.0	0	
26-03-2019	1 PM	NA	0.0	0	
26-03-2019	2 PM	NA	2.6	0	Dust: Self calibration/ Auto purge data
26-03-2019	3 PM	NA	0.0	0	
26-03-2019	4 PM	NA	0.0	0	
26-03-2019	5 PM	NA	0.0	0	
26-03-2019	6 PM	NA	0.0	0	
26-03-2019	7 PM	NA	0.0	0	
26-03-2019	8 PM	NA	0.0	0	
26-03-2019	9 PM	NA	0.0	0	
26-03-2019	10 PM	NA	2.9	0	Dust: Self calibration/ Auto purge data
26-03-2019	11 PM	NA	0.0	0	
27-03-2019	12 AM	NA	0.0	0	
27-03-2019	1 AM	NA	0.0	0	
27-03-2019	2 AM	NA	0.0	0	
27-03-2019	3 AM	NA	0.0	0	
27-03-2019	4 AM	NA	0.0	0	
27-03-2019	5 AM	NA	0.0	0	
27-03-2019	6 AM	NA	2.6	0	Dust: Self calibration/ Auto purge data
27-03-2019	7 AM	NA	0.0	0	
27-03-2019	8 AM	NA	0.0	0	
27-03-2019	9 AM	NA	0.0	0	
27-03-2019	10 AM	NA	0.0	0	
27-03-2019	11 AM	NA	0.0	0	
27-03-2019	12 PM	NA	0.0	39	
27-03-2019	1 PM	NA	0.0	60	

27-03-2019	2 PM	NA	2.9	94	Dust: Self calibration/ Auto purge data
27-03-2019	3 PM	NA	0.0	110	
27-03-2019	4 PM	NA	0.0	384	Odour: Manual Dosing of chemical / Dosing System under maintenance
27-03-2019	5 PM	NA	0.0	709	Odour: Manual Dosing of chemical / Dosing System under maintenance
27-03-2019	6 PM	NA	0.0	135	
27-03-2019	7 PM	NA	0.0	0	
27-03-2019	8 PM	NA	0.0	0	
27-03-2019	9 PM	NA	0.0	0	
27-03-2019	10 PM	NA	5.2	0	Dust: Self calibration/ Auto purge data
27-03-2019	11 PM	NA	0.0	0	
28-03-2019	12 AM	NA	0.0	404	Odour: Manual Dosing of chemical / Dosing System under maintenance
28-03-2019	1 AM	NA	0.0	199	
28-03-2019	2 AM	NA	0.0	0	
28-03-2019	3 AM	NA	0.0	0	
28-03-2019	4 AM	NA	0.0	0	
28-03-2019	5 AM	NA	0.0	0	
28-03-2019	6 AM	NA	2.9	0	Dust: Self calibration/ Auto purge data
28-03-2019	7 AM	NA	0.0	0	
28-03-2019	8 AM	NA	0.0	0	
28-03-2019	9 AM	NA	0.0	0	
28-03-2019	10 AM	NA	0.0	0	
28-03-2019	11 AM	NA	0.0	0	
28-03-2019	12 PM	NA	0.0	0	
28-03-2019	1 PM	NA	0.0	0	
28-03-2019	2 PM	NA	5.2	0	Dust: Self calibration/ Auto purge data
28-03-2019	3 PM	NA	0.0	0	
28-03-2019	4 PM	NA	0.0	0	
28-03-2019	5 PM	NA	0.0	0	
28-03-2019	6 PM	NA	0.0	0	

28-03-2019	7 PM	NA	0.0	0	
28-03-2019	8 PM	NA	0.0	0	
28-03-2019	9 PM	NA	0.0	0	
28-03-2019	10 PM	NA	2.9	3	Dust: Self calibration/ Auto purge data
28-03-2019	11 PM	NA	0.0	0	
29-03-2019	12 AM	NA	0.0	0	
29-03-2019	1 AM	NA	0.0	13	
29-03-2019	2 AM	NA	0.0	10	
29-03-2019	3 AM	NA	0.0	72	
29-03-2019	4 AM	NA	0.0	621	Odour: Manual Dosing of chemical / Dosing System under maintenance
29-03-2019	5 AM	NA	0.0	629	Odour: Manual Dosing of chemical / Dosing System under maintenance
29-03-2019	6 AM	NA	5.2	709	Dust: Self calibration/ Auto purge data Odour: Manual Dosing of chemical / Dosing System under maintenance
29-03-2019	7 AM	NA	0.0	769	Odour: Manual Dosing of chemical / Dosing System under maintenance
29-03-2019	8 AM	NA	0.0	629	Odour: Manual Dosing of chemical / Dosing System under maintenance
29-03-2019	9 AM	NA	0.0	1000	Odour: Manual Dosing of chemical / Dosing System under maintenance
29-03-2019	10 AM	NA	0.0	567	Odour: Manual Dosing of chemical / Dosing System under maintenance
29-03-2019	11 AM	NA	0.0	21	
29-03-2019	12 PM	NA	0.0	202	
29-03-2019	1 PM	NA	0.0	13	
29-03-2019	2 PM	NA	2.9	179	Dust: Self calibration/ Auto purge data
29-03-2019	3 PM	NA	0.0	232	Odour: Manual Dosing of chemical / Dosing System under maintenance
29-03-2019	4 PM	NA	0.0	230	Odour: Manual Dosing of chemical / Dosing System under maintenance

29-03-2019	5 PM	NA	0.0	288	Odour: Manual Dosing of chemical / Dosing System under maintenance
29-03-2019	6 PM	NA	0.0	132	
29-03-2019	7 PM	NA	0.0	10	
29-03-2019	8 PM	NA	0.0	86	
29-03-2019	9 PM	NA	0.0	183	
29-03-2019	10 PM	NA	2.8	49	Dust: Self calibration/ Auto purge data
29-03-2019	11 PM	NA	0.0	0	
30-03-2019	12 AM	NA	0.0	0	
30-03-2019	1 AM	NA	0.0	0	
30-03-2019	2 AM	NA	0.0	0	
30-03-2019	3 AM	NA	0.0	0	
30-03-2019	4 AM	NA	0.0	0	
30-03-2019	5 AM	NA	0.0	0	
30-03-2019	6 AM	NA	2.9	0	Dust: Self calibration/ Auto purge data
30-03-2019	7 AM	NA	0.0	0	
30-03-2019	8 AM	NA	0.0	0	
30-03-2019	9 AM	NA	0.0	12	
30-03-2019	10 AM	NA	0.0	45	
30-03-2019	11 AM	NA	0.0	172	
30-03-2019	12 PM	NA	0.0	279	Odour: Manual Dosing of chemical / Dosing System under maintenance
30-03-2019	1 PM	NA	0.0	93	
30-03-2019	2 PM	NA	2.9	213	Dust: Self calibration/ Auto purge data
30-03-2019	3 PM	NA	0.0	242	Odour: Manual Dosing of chemical / Dosing System under maintenance
30-03-2019	4 PM	NA	0.0	83	
30-03-2019	5 PM	NA	0.0	89	
30-03-2019	6 PM	NA	0.0	429	Odour: Manual Dosing of chemical / Dosing System under maintenance
30-03-2019	7 PM	NA	0.0	249	Odour: Manual Dosing of chemical / Dosing System under maintenance

30-03-2019	8 PM	NA	0.0	74	
30-03-2019	9 PM	NA	0.0	81	
30-03-2019	10 PM	NA	2.8	97	Dust: Self calibration/ Auto purge data
30-03-2019	11 PM	NA	0.0	88	
31-03-2019	12 AM	NA	0.0	157	
31-03-2019	1 AM	NA	0.0	648	Odour: Manual Dosing of chemical / Dosing System under maintenance
31-03-2019	2 AM	NA	0.0	902	Odour: Manual Dosing of chemical / Dosing System under maintenance
31-03-2019	3 AM	NA	0.0	9	
31-03-2019	4 AM	NA	0.0	0	
31-03-2019	5 AM	NA	0.0	0	
31-03-2019	6 AM	NA	2.9	0	Dust: Self calibration/ Auto purge data
31-03-2019	7 AM	NA	0.0	0	
31-03-2019	8 AM	NA	0.0	0	
31-03-2019	9 AM	NA	0.0	0	
31-03-2019	10 AM	NA	0.0	0	
31-03-2019	11 AM	NA	0.0	0	
31-03-2019	12 PM	NA	0.0	0	
31-03-2019	1 PM	NA	0.0	0	
31-03-2019	2 PM	NA	2.6	0	Dust: Self calibration/ Auto purge data
31-03-2019	3 PM	NA	0.0	0	
31-03-2019	4 PM	NA	0.0	0	
31-03-2019	5 PM	NA	0.0	0	
31-03-2019	6 PM	NA	0.0	0	
31-03-2019	7 PM	NA	0.0	0	
31-03-2019	8 PM	NA	0.0	0	
31-03-2019	9 PM	NA	0.0	0	
31-03-2019	10 PM	NA	2.9	0	Dust: Self calibration/ Auto purge data
31-03-2019	11 PM	NA	0.0	0	

Annex G2

Hourly Average of Parameters Measured in CHP 1

Date	Hour	CHP 1 Hourly Average (mg/Nm ³)								Remarks	
		Dust	CO	NOx	SO ₂	NMVOCs	VOC (including methane)	HCl	HF		
Note: "-" represents non-operating hour											
01-03-2019	12 AM	-	-	-	-	-	-	-	-	-	
01-03-2019	1 AM	-	-	-	-	-	-	-	-	-	
01-03-2019	2 AM	-	-	-	-	-	-	-	-	-	
01-03-2019	3 AM	-	-	-	-	-	-	-	-	-	
01-03-2019	4 AM	-	-	-	-	-	-	-	-	-	
01-03-2019	5 AM	0	357	251	34	NA	NA	0	0		
01-03-2019	6 AM	-	-	-	-	-	-	-	-	-	
01-03-2019	7 AM	-	-	-	-	-	-	-	-	-	
01-03-2019	8 AM	0	334	351	25	NA	NA	0	0.5	Start up	
01-03-2019	9 AM	-	-	-	-	-	-	-	-	-	
01-03-2019	10 AM	-	-	-	-	-	-	-	-	-	
01-03-2019	11 AM	-	-	-	-	-	-	-	-	-	
01-03-2019	12 PM	-	-	-	-	-	-	-	-	-	
01-03-2019	1 PM	-	-	-	-	-	-	-	-	-	
01-03-2019	2 PM	-	-	-	-	-	-	-	-	-	
01-03-2019	3 PM	-	-	-	-	-	-	-	-	-	
01-03-2019	4 PM	-	-	-	-	-	-	-	-	-	
01-03-2019	5 PM	-	-	-	-	-	-	-	-	-	
01-03-2019	6 PM	-	-	-	-	-	-	-	-	-	
01-03-2019	7 PM	-	-	-	-	-	-	-	-	-	
01-03-2019	8 PM	-	-	-	-	-	-	-	-	-	
01-03-2019	9 PM	-	-	-	-	-	-	-	-	-	
01-03-2019	10 PM	-	-	-	-	-	-	-	-	-	
01-03-2019	11 PM	-	-	-	-	-	-	-	-	-	
02-03-2019	12 AM	-	-	-	-	-	-	-	-	-	

02-03-2019	1 AM	-	-	-	-	-	-	-	-	-
02-03-2019	2 AM	-	-	-	-	-	-	-	-	-
02-03-2019	3 AM	-	-	-	-	-	-	-	-	-
02-03-2019	4 AM	-	-	-	-	-	-	-	-	-
02-03-2019	5 AM	-	-	-	-	-	-	-	-	-
02-03-2019	6 AM	-	-	-	-	-	-	-	-	-
02-03-2019	7 AM	-	-	-	-	-	-	-	-	-
02-03-2019	8 AM	-	-	-	-	-	-	-	-	-
02-03-2019	9 AM	-	-	-	-	-	-	-	-	-
02-03-2019	10 AM	-	-	-	-	-	-	-	-	-
02-03-2019	11 AM	-	-	-	-	-	-	-	-	-
02-03-2019	12 PM	-	-	-	-	-	-	-	-	-
02-03-2019	1 PM	-	-	-	-	-	-	-	-	-
02-03-2019	2 PM	-	-	-	-	-	-	-	-	-
02-03-2019	3 PM	-	-	-	-	-	-	-	-	-
02-03-2019	4 PM	-	-	-	-	-	-	-	-	-
02-03-2019	5 PM	-	-	-	-	-	-	-	-	-
02-03-2019	6 PM	-	-	-	-	-	-	-	-	-
02-03-2019	7 PM	-	-	-	-	-	-	-	-	-
02-03-2019	8 PM	-	-	-	-	-	-	-	-	-
02-03-2019	9 PM	-	-	-	-	-	-	-	-	-
02-03-2019	10 PM	-	-	-	-	-	-	-	-	-
02-03-2019	11 PM	-	-	-	-	-	-	-	-	-
03-03-2019	12 AM	-	-	-	-	-	-	-	-	-
03-03-2019	1 AM	-	-	-	-	-	-	-	-	-
03-03-2019	2 AM	-	-	-	-	-	-	-	-	-
03-03-2019	3 AM	-	-	-	-	-	-	-	-	-
03-03-2019	4 AM	-	-	-	-	-	-	-	-	-
03-03-2019	5 AM	-	-	-	-	-	-	-	-	-

03-03-2019	6 AM	-	-	-	-	-	-	-	-	
03-03-2019	7 AM	-	-	-	-	-	-	-	-	
03-03-2019	8 AM	-	-	-	-	-	-	-	-	
03-03-2019	9 AM	-	-	-	-	-	-	-	-	
03-03-2019	10 AM	-	-	-	-	-	-	-	-	
03-03-2019	11 AM	-	-	-	-	-	-	-	-	
03-03-2019	12 PM	-	-	-	-	-	-	-	-	
03-03-2019	1 PM	-	-	-	-	-	-	-	-	
03-03-2019	2 PM	-	-	-	-	-	-	-	-	
03-03-2019	3 PM	-	-	-	-	-	-	-	-	
03-03-2019	4 PM	-	-	-	-	-	-	-	-	
03-03-2019	5 PM	-	-	-	-	-	-	-	-	
03-03-2019	6 PM	-	-	-	-	-	-	-	-	
03-03-2019	7 PM	-	-	-	-	-	-	-	-	
03-03-2019	8 PM	-	-	-	-	-	-	-	-	
03-03-2019	9 PM	-	-	-	-	-	-	-	-	
03-03-2019	10 PM	-	-	-	-	-	-	-	-	
03-03-2019	11 PM	-	-	-	-	-	-	-	-	
04-03-2019	12 AM	-	-	-	-	-	-	-	-	
04-03-2019	1 AM	-	-	-	-	-	-	-	-	
04-03-2019	2 AM	-	-	-	-	-	-	-	-	
04-03-2019	3 AM	-	-	-	-	-	-	-	-	
04-03-2019	4 AM	-	-	-	-	-	-	-	-	
04-03-2019	5 AM	-	-	-	-	-	-	-	-	
04-03-2019	6 AM	-	-	-	-	-	-	-	-	
04-03-2019	7 AM	-	-	-	-	-	-	-	-	
04-03-2019	8 AM	-	-	-	-	-	-	-	-	
04-03-2019	9 AM	0	172	413	7	NA	NA	0	0.5	Start up
04-03-2019	10 AM	0	184	120	6	NA	NA	0	0	Start up

04-03-2019	11 AM	-	-	-	-	-	-	-	-	-
04-03-2019	12 PM	-	-	-	-	-	-	-	-	-
04-03-2019	1 PM	-	-	-	-	-	-	-	-	-
04-03-2019	2 PM	-	-	-	-	-	-	-	-	-
04-03-2019	3 PM	-	-	-	-	-	-	-	-	-
04-03-2019	4 PM	-	-	-	-	-	-	-	-	-
04-03-2019	5 PM	-	-	-	-	-	-	-	-	-
04-03-2019	6 PM	-	-	-	-	-	-	-	-	-
04-03-2019	7 PM	-	-	-	-	-	-	-	-	-
04-03-2019	8 PM	-	-	-	-	-	-	-	-	-
04-03-2019	9 PM	-	-	-	-	-	-	-	-	-
04-03-2019	10 PM	-	-	-	-	-	-	-	-	-
04-03-2019	11 PM	-	-	-	-	-	-	-	-	-
05-03-2019	12 AM	-	-	-	-	-	-	-	-	-
05-03-2019	1 AM	-	-	-	-	-	-	-	-	-
05-03-2019	2 AM	-	-	-	-	-	-	-	-	-
05-03-2019	3 AM	-	-	-	-	-	-	-	-	-
05-03-2019	4 AM	-	-	-	-	-	-	-	-	-
05-03-2019	5 AM	-	-	-	-	-	-	-	-	-
05-03-2019	6 AM	-	-	-	-	-	-	-	-	-
05-03-2019	7 AM	-	-	-	-	-	-	-	-	-
05-03-2019	8 AM	-	-	-	-	-	-	-	-	-
05-03-2019	9 AM	-	-	-	-	-	-	-	-	-
05-03-2019	10 AM	-	-	-	-	-	-	-	-	-
05-03-2019	11 AM	-	-	-	-	-	-	-	-	-
05-03-2019	12 PM	-	-	-	-	-	-	-	-	-
05-03-2019	1 PM	-	-	-	-	-	-	-	-	-
05-03-2019	2 PM	-	-	-	-	-	-	-	-	-
05-03-2019	3 PM	-	-	-	-	-	-	-	-	-

05-03-2019	4 PM	-	-	-	-	-	-	-	-	
05-03-2019	5 PM	-	-	-	-	-	-	-	-	
05-03-2019	6 PM	-	-	-	-	-	-	-	-	
05-03-2019	7 PM	-	-	-	-	-	-	-	-	
05-03-2019	8 PM	-	-	-	-	-	-	-	-	
05-03-2019	9 PM	-	-	-	-	-	-	-	-	
05-03-2019	10 PM	-	-	-	-	-	-	-	-	
05-03-2019	11 PM	-	-	-	-	-	-	-	-	
06-03-2019	12 AM	-	-	-	-	-	-	-	-	
06-03-2019	1 AM	-	-	-	-	-	-	-	-	
06-03-2019	2 AM	-	-	-	-	-	-	-	-	
06-03-2019	3 AM	-	-	-	-	-	-	-	-	
06-03-2019	4 AM	-	-	-	-	-	-	-	-	
06-03-2019	5 AM	-	-	-	-	-	-	-	-	
06-03-2019	6 AM	-	-	-	-	-	-	-	-	
06-03-2019	7 AM	-	-	-	-	-	-	-	-	
06-03-2019	8 AM	-	-	-	-	-	-	-	-	
06-03-2019	9 AM	-	-	-	-	-	-	-	-	
06-03-2019	10 AM	-	-	-	-	-	-	-	-	
06-03-2019	11 AM	-	-	-	-	-	-	-	-	
06-03-2019	12 PM	-	-	-	-	-	-	-	-	
06-03-2019	1 PM	-	-	-	-	-	-	-	-	
06-03-2019	2 PM	-	-	-	-	-	-	-	-	
06-03-2019	3 PM	-	-	-	-	-	-	-	-	
06-03-2019	4 PM	-	-	-	-	-	-	-	-	
06-03-2019	5 PM	0	148	190	9	NA	NA	0	0	
06-03-2019	6 PM	0	332	167	19	NA	NA	0	0	
06-03-2019	7 PM	0	356	175	17	NA	NA	0	0	
06-03-2019	8 PM	0	176	88	9	NA	NA	0	0	

06-03-2019	9 PM	-	-	-	-	-	-	-	-	
06-03-2019	10 PM	-	-	-	-	-	-	-	-	
06-03-2019	11 PM	-	-	-	-	-	-	-	-	
07-03-2019	12 AM	-	-	-	-	-	-	-	-	
07-03-2019	1 AM	-	-	-	-	-	-	-	-	
07-03-2019	2 AM	-	-	-	-	-	-	-	-	
07-03-2019	3 AM	-	-	-	-	-	-	-	-	
07-03-2019	4 AM	-	-	-	-	-	-	-	-	
07-03-2019	5 AM	-	-	-	-	-	-	-	-	
07-03-2019	6 AM	-	-	-	-	-	-	-	-	
07-03-2019	7 AM	-	-	-	-	-	-	-	-	
07-03-2019	8 AM	-	-	-	-	-	-	-	-	
07-03-2019	9 AM	-	-	-	-	-	-	-	-	
07-03-2019	10 AM	-	-	-	-	-	-	-	-	
07-03-2019	11 AM	-	-	-	-	-	-	-	-	
07-03-2019	12 PM	-	-	-	-	-	-	-	-	
07-03-2019	1 PM	-	-	-	-	-	-	-	-	
07-03-2019	2 PM	-	-	-	-	-	-	-	-	
07-03-2019	3 PM	-	-	-	-	-	-	-	-	
07-03-2019	4 PM	-	-	-	-	-	-	-	-	
07-03-2019	5 PM	-	-	-	-	-	-	-	-	
07-03-2019	6 PM	-	-	-	-	-	-	-	-	
07-03-2019	7 PM	0	304	962	16	NA	NA	0	0.5	Start up
07-03-2019	8 PM	0	185	103	10	NA	NA	0	0	
07-03-2019	9 PM	-	-	-	-	-	-	-	-	
07-03-2019	10 PM	-	-	-	-	-	-	-	-	
07-03-2019	11 PM	-	-	-	-	-	-	-	-	
08-03-2019	12 AM	-	-	-	-	-	-	-	-	
08-03-2019	1 AM	-	-	-	-	-	-	-	-	

08-03-2019	2 AM	-	-	-	-	-	-	-	-	
08-03-2019	3 AM	-	-	-	-	-	-	-	-	
08-03-2019	4 AM	-	-	-	-	-	-	-	-	
08-03-2019	5 AM	0	318	580	16	NA	NA	0	0.5	Start up
08-03-2019	6 AM	-	-	-	-	-	-	-	-	
08-03-2019	7 AM	-	-	-	-	-	-	-	-	
08-03-2019	8 AM	-	-	-	-	-	-	-	-	
08-03-2019	9 AM	0	329	548	17	NA	NA	0	0.5	Start up
08-03-2019	10 AM	-	-	-	-	-	-	-	-	
08-03-2019	11 AM	0	342	341	20	NA	NA	0	0	Start up
08-03-2019	12 PM	0	348	206	20	NA	NA	0	0	
08-03-2019	1 PM	0	356	205	20	NA	NA	0	0	
08-03-2019	2 PM	0	361	198	22	NA	NA	0	0	
08-03-2019	3 PM	0	362	198	21	NA	NA	0	0	
08-03-2019	4 PM	0	365	205	19	NA	NA	0	0	
08-03-2019	5 PM	0	357	204	19	NA	NA	0	0	
08-03-2019	6 PM	0	361	201	19	NA	NA	0	0	
08-03-2019	7 PM	0	367	201	19	NA	NA	0	0	
08-03-2019	8 PM	0	367	198	20	NA	NA	0	0	
08-03-2019	9 PM	0	368	197	19	NA	NA	0	0	
08-03-2019	10 PM	0	362	202	19	NA	NA	0	0	
08-03-2019	11 PM	0	361	194	20	NA	NA	0	0	
09-03-2019	12 AM	-	-	-	-	-	-	-	-	
09-03-2019	1 AM	-	-	-	-	-	-	-	-	
09-03-2019	2 AM	-	-	-	-	-	-	-	-	
09-03-2019	3 AM	-	-	-	-	-	-	-	-	
09-03-2019	4 AM	-	-	-	-	-	-	-	-	
09-03-2019	5 AM	-	-	-	-	-	-	-	-	
09-03-2019	6 AM	-	-	-	-	-	-	-	-	

09-03-2019	7 AM	-	-	-	-	-	-	-	-	-
09-03-2019	8 AM	-	-	-	-	-	-	-	-	-
09-03-2019	9 AM	-	-	-	-	-	-	-	-	-
09-03-2019	10 AM	-	-	-	-	-	-	-	-	-
09-03-2019	11 AM	-	-	-	-	-	-	-	-	-
09-03-2019	12 PM	-	-	-	-	-	-	-	-	-
09-03-2019	1 PM	-	-	-	-	-	-	-	-	-
09-03-2019	2 PM	-	-	-	-	-	-	-	-	-
09-03-2019	3 PM	-	-	-	-	-	-	-	-	-
09-03-2019	4 PM	-	-	-	-	-	-	-	-	-
09-03-2019	5 PM	-	-	-	-	-	-	-	-	-
09-03-2019	6 PM	-	-	-	-	-	-	-	-	-
09-03-2019	7 PM	-	-	-	-	-	-	-	-	-
09-03-2019	8 PM	-	-	-	-	-	-	-	-	-
09-03-2019	9 PM	-	-	-	-	-	-	-	-	-
09-03-2019	10 PM	-	-	-	-	-	-	-	-	-
09-03-2019	11 PM	-	-	-	-	-	-	-	-	-
10-03-2019	12 AM	-	-	-	-	-	-	-	-	-
10-03-2019	1 AM	-	-	-	-	-	-	-	-	-
10-03-2019	2 AM	-	-	-	-	-	-	-	-	-
10-03-2019	3 AM	-	-	-	-	-	-	-	-	-
10-03-2019	4 AM	-	-	-	-	-	-	-	-	-
10-03-2019	5 AM	-	-	-	-	-	-	-	-	-
10-03-2019	6 AM	-	-	-	-	-	-	-	-	-
10-03-2019	7 AM	-	-	-	-	-	-	-	-	-
10-03-2019	8 AM	-	-	-	-	-	-	-	-	-
10-03-2019	9 AM	-	-	-	-	-	-	-	-	-
10-03-2019	10 AM	-	-	-	-	-	-	-	-	-
10-03-2019	11 AM	-	-	-	-	-	-	-	-	-

10-03-2019	12 PM	-	-	-	-	-	-	-	-	
10-03-2019	1 PM	-	-	-	-	-	-	-	-	
10-03-2019	2 PM	0	176	119	11	NA	NA	0	0	
10-03-2019	3 PM	0	367	190	23	NA	NA	0	0	
10-03-2019	4 PM	0	372	189	22	NA	NA	0	0	
10-03-2019	5 PM	0	373	188	23	NA	NA	0	0	
10-03-2019	6 PM	0	382	197	22	NA	NA	0	0	
10-03-2019	7 PM	0	382	208	27	NA	NA	0	0	
10-03-2019	8 PM	0	385	207	26	NA	NA	0	0	
10-03-2019	9 PM	0	386	208	22	NA	NA	0	0	
10-03-2019	10 PM	0	399	216	21	NA	NA	0	0	
10-03-2019	11 PM	0	388	211	22	NA	NA	0	0	
11-03-2019	12 AM	0	368	263	20	NA	NA	0	0	
11-03-2019	1 AM	0	383	212	21	NA	NA	0	0	
11-03-2019	2 AM	0	384	209	22	NA	NA	0	0	
11-03-2019	3 AM	0	385	205	23	NA	NA	0	0	
11-03-2019	4 AM	0	386	209	21	NA	NA	0	0	
11-03-2019	5 AM	0	386	211	21	NA	NA	0	0	
11-03-2019	6 AM	0	386	212	21	NA	NA	0	0	
11-03-2019	7 AM	0	393	218	20	NA	NA	0	0	
11-03-2019	8 AM	0	390	216	20	NA	NA	0	0	
11-03-2019	9 AM	0	387	212	20	NA	NA	0	0	
11-03-2019	10 AM	0	396	216	20	NA	NA	0	0	
11-03-2019	11 AM	0	391	210	20	NA	NA	0	0	
11-03-2019	12 PM	0	399	215	20	NA	NA	0	0	
11-03-2019	1 PM	0	403	217	20	NA	NA	0	0	
11-03-2019	2 PM	0	392	210	21	NA	NA	0	0	
11-03-2019	3 PM	0	400	207	52	NA	NA	0	0	
11-03-2019	4 PM	0	411	217	114	NA	NA	0	0	

11-03-2019	5 PM	0	418	221	58	NA	NA	0	0	
11-03-2019	6 PM	0	408	219	30	NA	NA	0	0	
11-03-2019	7 PM	0	398	216	22	NA	NA	0	0	
11-03-2019	8 PM	0	431	230	19	NA	NA	0	0	
11-03-2019	9 PM	0	397	220	18	NA	NA	0	0	
11-03-2019	10 PM	0	400	216	19	NA	NA	0	0	
11-03-2019	11 PM	0	392	208	19	NA	NA	0	0	
12-03-2019	12 AM	0	387	178	21	NA	NA	0	0	
12-03-2019	1 AM	0	393	191	28	NA	NA	0	0	
12-03-2019	2 AM	0	404	212	28	NA	NA	0	0	
12-03-2019	3 AM	0	397	213	21	NA	NA	0	0	
12-03-2019	4 AM	0	160	92	8	NA	NA	0	0	
12-03-2019	5 AM	-	-	-	-	-	-	-	-	
12-03-2019	6 AM	-	-	-	-	-	-	-	-	
12-03-2019	7 AM	-	-	-	-	-	-	-	-	
12-03-2019	8 AM	-	-	-	-	-	-	-	-	
12-03-2019	9 AM	-	-	-	-	-	-	-	-	
12-03-2019	10 AM	-	-	-	-	-	-	-	-	
12-03-2019	11 AM	-	-	-	-	-	-	-	-	
12-03-2019	12 PM	-	-	-	-	-	-	-	-	
12-03-2019	1 PM	-	-	-	-	-	-	-	-	
12-03-2019	2 PM	-	-	-	-	-	-	-	-	
12-03-2019	3 PM	-	-	-	-	-	-	-	-	
12-03-2019	4 PM	-	-	-	-	-	-	-	-	
12-03-2019	5 PM	-	-	-	-	-	-	-	-	
12-03-2019	6 PM	-	-	-	-	-	-	-	-	
12-03-2019	7 PM	-	-	-	-	-	-	-	-	
12-03-2019	8 PM	-	-	-	-	-	-	-	-	
12-03-2019	9 PM	-	-	-	-	-	-	-	-	

12-03-2019	10 PM	-	-	-	-	-	-	-	-	-
12-03-2019	11 PM	-	-	-	-	-	-	-	-	-
13-03-2019	12 AM	-	-	-	-	-	-	-	-	-
13-03-2019	1 AM	-	-	-	-	-	-	-	-	-
13-03-2019	2 AM	-	-	-	-	-	-	-	-	-
13-03-2019	3 AM	-	-	-	-	-	-	-	-	-
13-03-2019	4 AM	-	-	-	-	-	-	-	-	-
13-03-2019	5 AM	-	-	-	-	-	-	-	-	-
13-03-2019	6 AM	-	-	-	-	-	-	-	-	-
13-03-2019	7 AM	-	-	-	-	-	-	-	-	-
13-03-2019	8 AM	-	-	-	-	-	-	-	-	-
13-03-2019	9 AM	-	-	-	-	-	-	-	-	-
13-03-2019	10 AM	-	-	-	-	-	-	-	-	-
13-03-2019	11 AM	-	-	-	-	-	-	-	-	-
13-03-2019	12 PM	-	-	-	-	-	-	-	-	-
13-03-2019	1 PM	-	-	-	-	-	-	-	-	-
13-03-2019	2 PM	-	-	-	-	-	-	-	-	-
13-03-2019	3 PM	-	-	-	-	-	-	-	-	-
13-03-2019	4 PM	-	-	-	-	-	-	-	-	-
13-03-2019	5 PM	-	-	-	-	-	-	-	-	-
13-03-2019	6 PM	-	-	-	-	-	-	-	-	-
13-03-2019	7 PM	-	-	-	-	-	-	-	-	-
13-03-2019	8 PM	-	-	-	-	-	-	-	-	-
13-03-2019	9 PM	-	-	-	-	-	-	-	-	-
13-03-2019	10 PM	-	-	-	-	-	-	-	-	-
13-03-2019	11 PM	-	-	-	-	-	-	-	-	-
14-03-2019	12 AM	-	-	-	-	-	-	-	-	-
14-03-2019	1 AM	-	-	-	-	-	-	-	-	-
14-03-2019	2 AM	-	-	-	-	-	-	-	-	-

14-03-2019	3 AM	-	-	-	-	-	-	-	-	
14-03-2019	4 AM	-	-	-	-	-	-	-	-	
14-03-2019	5 AM	-	-	-	-	-	-	-	-	
14-03-2019	6 AM	-	-	-	-	-	-	-	-	
14-03-2019	7 AM	-	-	-	-	-	-	-	-	
14-03-2019	8 AM	-	-	-	-	-	-	-	-	
14-03-2019	9 AM	-	-	-	-	-	-	-	-	
14-03-2019	10 AM	0	0	0	0	NA	NA	0	0	
14-03-2019	11 AM	-	-	-	-	-	-	-	-	
14-03-2019	12 PM	-	-	-	-	-	-	-	-	
14-03-2019	1 PM	-	-	-	-	-	-	-	-	
14-03-2019	2 PM	-	-	-	-	-	-	-	-	
14-03-2019	3 PM	-	-	-	-	-	-	-	-	
14-03-2019	4 PM	-	-	-	-	-	-	-	-	
14-03-2019	5 PM	-	-	-	-	-	-	-	-	
14-03-2019	6 PM	-	-	-	-	-	-	-	-	
14-03-2019	7 PM	-	-	-	-	-	-	-	-	
14-03-2019	8 PM	-	-	-	-	-	-	-	-	
14-03-2019	9 PM	0	280	99	60	NA	NA	0	0	Start up
14-03-2019	10 PM	0	381	141	39	NA	NA	0	0	Start up
14-03-2019	11 PM	0	384	178	57	NA	NA	0	0	Start up
15-03-2019	12 AM	0	371	164	35	NA	NA	0	0	
15-03-2019	1 AM	0	396	179	20	NA	NA	0	0	
15-03-2019	2 AM	0	413	189	18	NA	NA	0	0	
15-03-2019	3 AM	0	170	76	9	NA	NA	0	0	
15-03-2019	4 AM	-	-	-	-	-	-	-	-	
15-03-2019	5 AM	-	-	-	-	-	-	-	-	
15-03-2019	6 AM	-	-	-	-	-	-	-	-	
15-03-2019	7 AM	-	-	-	-	-	-	-	-	

15-03-2019	8 AM	-	-	-	-	-	-	-	-	
15-03-2019	9 AM	0	360	238	17	NA	NA	0	0	
15-03-2019	10 AM	0	372	169	28	NA	NA	0	0	
15-03-2019	11 AM	0	375	171	24	NA	NA	0	0	
15-03-2019	12 PM	0	373	166	19	NA	NA	0	0	
15-03-2019	1 PM	0	375	165	18	NA	NA	0	0	
15-03-2019	2 PM	0	376	173	18	NA	NA	0	0	
15-03-2019	3 PM	0	379	179	18	NA	NA	0	0	
15-03-2019	4 PM	0	381	183	17	NA	NA	0	0	
15-03-2019	5 PM	0	378	181	39	NA	NA	0	0	
15-03-2019	6 PM	0	391	188	77	NA	NA	0	0	
15-03-2019	7 PM	0	405	201	33	NA	NA	0	0	
15-03-2019	8 PM	0	395	202	20	NA	NA	0	0	
15-03-2019	9 PM	0	399	206	17	NA	NA	0	0	
15-03-2019	10 PM	0	399	207	16	NA	NA	0	0	
15-03-2019	11 PM	0	391	197	17	NA	NA	0	0	
16-03-2019	12 AM	0	375	172	18	NA	NA	0	0	
16-03-2019	1 AM	0	383	185	17	NA	NA	0	0	
16-03-2019	2 AM	0	391	197	16	NA	NA	0	0	
16-03-2019	3 AM	0	388	196	43	NA	NA	0	0	
16-03-2019	4 AM	0	410	212	48	NA	NA	0	0	
16-03-2019	5 AM	0	413	216	26	NA	NA	0	0	
16-03-2019	6 AM	0	409	220	19	NA	NA	0	0	
16-03-2019	7 AM	0	428	235	17	NA	NA	0	0	
16-03-2019	8 AM	0	441	243	18	NA	NA	0	0	
16-03-2019	9 AM	0	447	247	17	NA	NA	0	0	
16-03-2019	10 AM	0	451	248	16	NA	NA	0	0	
16-03-2019	11 AM	0	438	247	20	NA	NA	0	0	
16-03-2019	12 PM	0	429	244	94	NA	NA	0	0	

16-03-2019	1 PM	0	228	122	55	NA	NA	0	0	
16-03-2019	2 PM	-	-	-	-	-	-	-	-	
16-03-2019	3 PM	-	-	-	-	-	-	-	-	
16-03-2019	4 PM	-	-	-	-	-	-	-	-	
16-03-2019	5 PM	-	-	-	-	-	-	-	-	
16-03-2019	6 PM	-	-	-	-	-	-	-	-	
16-03-2019	7 PM	-	-	-	-	-	-	-	-	
16-03-2019	8 PM	-	-	-	-	-	-	-	-	
16-03-2019	9 PM	-	-	-	-	-	-	-	-	
16-03-2019	10 PM	-	-	-	-	-	-	-	-	
16-03-2019	11 PM	-	-	-	-	-	-	-	-	
17-03-2019	12 AM	-	-	-	-	-	-	-	-	
17-03-2019	1 AM	-	-	-	-	-	-	-	-	
17-03-2019	2 AM	-	-	-	-	-	-	-	-	
17-03-2019	3 AM	-	-	-	-	-	-	-	-	
17-03-2019	4 AM	-	-	-	-	-	-	-	-	
17-03-2019	5 AM	-	-	-	-	-	-	-	-	
17-03-2019	6 AM	-	-	-	-	-	-	-	-	
17-03-2019	7 AM	-	-	-	-	-	-	-	-	
17-03-2019	8 AM	-	-	-	-	-	-	-	-	
17-03-2019	9 AM	-	-	-	-	-	-	-	-	
17-03-2019	10 AM	-	-	-	-	-	-	-	-	
17-03-2019	11 AM	-	-	-	-	-	-	-	-	
17-03-2019	12 PM	-	-	-	-	-	-	-	-	
17-03-2019	1 PM	-	-	-	-	-	-	-	-	
17-03-2019	2 PM	-	-	-	-	-	-	-	-	
17-03-2019	3 PM	-	-	-	-	-	-	-	-	
17-03-2019	4 PM	-	-	-	-	-	-	-	-	
17-03-2019	5 PM	-	-	-	-	-	-	-	-	

17-03-2019	6 PM	-	-	-	-	-	-	-	-	-
17-03-2019	7 PM	-	-	-	-	-	-	-	-	-
17-03-2019	8 PM	-	-	-	-	-	-	-	-	-
17-03-2019	9 PM	-	-	-	-	-	-	-	-	-
17-03-2019	10 PM	-	-	-	-	-	-	-	-	-
17-03-2019	11 PM	-	-	-	-	-	-	-	-	-
18-03-2019	12 AM	-	-	-	-	-	-	-	-	-
18-03-2019	1 AM	-	-	-	-	-	-	-	-	-
18-03-2019	2 AM	-	-	-	-	-	-	-	-	-
18-03-2019	3 AM	-	-	-	-	-	-	-	-	-
18-03-2019	4 AM	-	-	-	-	-	-	-	-	-
18-03-2019	5 AM	-	-	-	-	-	-	-	-	-
18-03-2019	6 AM	-	-	-	-	-	-	-	-	-
18-03-2019	7 AM	-	-	-	-	-	-	-	-	-
18-03-2019	8 AM	-	-	-	-	-	-	-	-	-
18-03-2019	9 AM	-	-	-	-	-	-	-	-	-
18-03-2019	10 AM	-	-	-	-	-	-	-	-	-
18-03-2019	11 AM	-	-	-	-	-	-	-	-	-
18-03-2019	12 PM	-	-	-	-	-	-	-	-	-
18-03-2019	1 PM	-	-	-	-	-	-	-	-	-
18-03-2019	2 PM	-	-	-	-	-	-	-	-	-
18-03-2019	3 PM	-	-	-	-	-	-	-	-	-
18-03-2019	4 PM	-	-	-	-	-	-	-	-	-
18-03-2019	5 PM	-	-	-	-	-	-	-	-	-
18-03-2019	6 PM	-	-	-	-	-	-	-	-	-
18-03-2019	7 PM	-	-	-	-	-	-	-	-	-
18-03-2019	8 PM	-	-	-	-	-	-	-	-	-
18-03-2019	9 PM	-	-	-	-	-	-	-	-	-
18-03-2019	10 PM	-	-	-	-	-	-	-	-	-

18-03-2019	11 PM	-	-	-	-	-	-	-	-	-
19-03-2019	12 AM	-	-	-	-	-	-	-	-	-
19-03-2019	1 AM	-	-	-	-	-	-	-	-	-
19-03-2019	2 AM	-	-	-	-	-	-	-	-	-
19-03-2019	3 AM	-	-	-	-	-	-	-	-	-
19-03-2019	4 AM	-	-	-	-	-	-	-	-	-
19-03-2019	5 AM	-	-	-	-	-	-	-	-	-
19-03-2019	6 AM	-	-	-	-	-	-	-	-	-
19-03-2019	7 AM	-	-	-	-	-	-	-	-	-
19-03-2019	8 AM	-	-	-	-	-	-	-	-	-
19-03-2019	9 AM	-	-	-	-	-	-	-	-	-
19-03-2019	10 AM	-	-	-	-	-	-	-	-	-
19-03-2019	11 AM	-	-	-	-	-	-	-	-	-
19-03-2019	12 PM	-	-	-	-	-	-	-	-	-
19-03-2019	1 PM	-	-	-	-	-	-	-	-	-
19-03-2019	2 PM	-	-	-	-	-	-	-	-	-
19-03-2019	3 PM	-	-	-	-	-	-	-	-	-
19-03-2019	4 PM	-	-	-	-	-	-	-	-	-
19-03-2019	5 PM	-	-	-	-	-	-	-	-	-
19-03-2019	6 PM	-	-	-	-	-	-	-	-	-
19-03-2019	7 PM	-	-	-	-	-	-	-	-	-
19-03-2019	8 PM	-	-	-	-	-	-	-	-	-
19-03-2019	9 PM	-	-	-	-	-	-	-	-	-
19-03-2019	10 PM	-	-	-	-	-	-	-	-	-
19-03-2019	11 PM	-	-	-	-	-	-	-	-	-
20-03-2019	12 AM	-	-	-	-	-	-	-	-	-
20-03-2019	1 AM	-	-	-	-	-	-	-	-	-
20-03-2019	2 AM	-	-	-	-	-	-	-	-	-
20-03-2019	3 AM	-	-	-	-	-	-	-	-	-

20-03-2019	4 AM	-	-	-	-	-	-	-	-	-
20-03-2019	5 AM	-	-	-	-	-	-	-	-	-
20-03-2019	6 AM	-	-	-	-	-	-	-	-	-
20-03-2019	7 AM	-	-	-	-	-	-	-	-	-
20-03-2019	8 AM	-	-	-	-	-	-	-	-	-
20-03-2019	9 AM	-	-	-	-	-	-	-	-	-
20-03-2019	10 AM	-	-	-	-	-	-	-	-	-
20-03-2019	11 AM	-	-	-	-	-	-	-	-	-
20-03-2019	12 PM	-	-	-	-	-	-	-	-	-
20-03-2019	1 PM	-	-	-	-	-	-	-	-	-
20-03-2019	2 PM	-	-	-	-	-	-	-	-	-
20-03-2019	3 PM	-	-	-	-	-	-	-	-	-
20-03-2019	4 PM	-	-	-	-	-	-	-	-	-
20-03-2019	5 PM	-	-	-	-	-	-	-	-	-
20-03-2019	6 PM	-	-	-	-	-	-	-	-	-
20-03-2019	7 PM	-	-	-	-	-	-	-	-	-
20-03-2019	8 PM	-	-	-	-	-	-	-	-	-
20-03-2019	9 PM	-	-	-	-	-	-	-	-	-
20-03-2019	10 PM	-	-	-	-	-	-	-	-	-
20-03-2019	11 PM	-	-	-	-	-	-	-	-	-
21-03-2019	12 AM	-	-	-	-	-	-	-	-	-
21-03-2019	1 AM	-	-	-	-	-	-	-	-	-
21-03-2019	2 AM	-	-	-	-	-	-	-	-	-
21-03-2019	3 AM	-	-	-	-	-	-	-	-	-
21-03-2019	4 AM	-	-	-	-	-	-	-	-	-
21-03-2019	5 AM	-	-	-	-	-	-	-	-	-
21-03-2019	6 AM	-	-	-	-	-	-	-	-	-
21-03-2019	7 AM	-	-	-	-	-	-	-	-	-
21-03-2019	8 AM	-	-	-	-	-	-	-	-	-

21-03-2019	9 AM	-	-	-	-	-	-	-	-	-
21-03-2019	10 AM	-	-	-	-	-	-	-	-	-
21-03-2019	11 AM	-	-	-	-	-	-	-	-	-
21-03-2019	12 PM	-	-	-	-	-	-	-	-	-
21-03-2019	1 PM	-	-	-	-	-	-	-	-	-
21-03-2019	2 PM	-	-	-	-	-	-	-	-	-
21-03-2019	3 PM	-	-	-	-	-	-	-	-	-
21-03-2019	4 PM	-	-	-	-	-	-	-	-	-
21-03-2019	5 PM	-	-	-	-	-	-	-	-	-
21-03-2019	6 PM	-	-	-	-	-	-	-	-	-
21-03-2019	7 PM	-	-	-	-	-	-	-	-	-
21-03-2019	8 PM	-	-	-	-	-	-	-	-	-
21-03-2019	9 PM	-	-	-	-	-	-	-	-	-
21-03-2019	10 PM	-	-	-	-	-	-	-	-	-
21-03-2019	11 PM	-	-	-	-	-	-	-	-	-
22-03-2019	12 AM	-	-	-	-	-	-	-	-	-
22-03-2019	1 AM	-	-	-	-	-	-	-	-	-
22-03-2019	2 AM	-	-	-	-	-	-	-	-	-
22-03-2019	3 AM	-	-	-	-	-	-	-	-	-
22-03-2019	4 AM	-	-	-	-	-	-	-	-	-
22-03-2019	5 AM	-	-	-	-	-	-	-	-	-
22-03-2019	6 AM	-	-	-	-	-	-	-	-	-
22-03-2019	7 AM	-	-	-	-	-	-	-	-	-
22-03-2019	8 AM	-	-	-	-	-	-	-	-	-
22-03-2019	9 AM	-	-	-	-	-	-	-	-	-
22-03-2019	10 AM	-	-	-	-	-	-	-	-	-
22-03-2019	11 AM	-	-	-	-	-	-	-	-	-
22-03-2019	12 PM	-	-	-	-	-	-	-	-	-
22-03-2019	1 PM	-	-	-	-	-	-	-	-	-

22-03-2019	2 PM	-	-	-	-	-	-	-	-	-
22-03-2019	3 PM	0	183	122	14	NA	NA	0	0	
22-03-2019	4 PM	-	-	-	-	-	-	-	-	
22-03-2019	5 PM	-	-	-	-	-	-	-	-	
22-03-2019	6 PM	-	-	-	-	-	-	-	-	
22-03-2019	7 PM	-	-	-	-	-	-	-	-	
22-03-2019	8 PM	-	-	-	-	-	-	-	-	
22-03-2019	9 PM	-	-	-	-	-	-	-	-	
22-03-2019	10 PM	-	-	-	-	-	-	-	-	
22-03-2019	11 PM	-	-	-	-	-	-	-	-	
23-03-2019	12 AM	-	-	-	-	-	-	-	-	
23-03-2019	1 AM	-	-	-	-	-	-	-	-	
23-03-2019	2 AM	-	-	-	-	-	-	-	-	
23-03-2019	3 AM	-	-	-	-	-	-	-	-	
23-03-2019	4 AM	-	-	-	-	-	-	-	-	
23-03-2019	5 AM	-	-	-	-	-	-	-	-	
23-03-2019	6 AM	-	-	-	-	-	-	-	-	
23-03-2019	7 AM	-	-	-	-	-	-	-	-	
23-03-2019	8 AM	-	-	-	-	-	-	-	-	
23-03-2019	9 AM	-	-	-	-	-	-	-	-	
23-03-2019	10 AM	-	-	-	-	-	-	-	-	
23-03-2019	11 AM	-	-	-	-	-	-	-	-	
23-03-2019	12 PM	-	-	-	-	-	-	-	-	
23-03-2019	1 PM	-	-	-	-	-	-	-	-	
23-03-2019	2 PM	-	-	-	-	-	-	-	-	
23-03-2019	3 PM	-	-	-	-	-	-	-	-	
23-03-2019	4 PM	-	-	-	-	-	-	-	-	
23-03-2019	5 PM	-	-	-	-	-	-	-	-	
23-03-2019	6 PM	-	-	-	-	-	-	-	-	

23-03-2019	7 PM	-	-	-	-	-	-	-	-	-
23-03-2019	8 PM	-	-	-	-	-	-	-	-	-
23-03-2019	9 PM	-	-	-	-	-	-	-	-	-
23-03-2019	10 PM	-	-	-	-	-	-	-	-	-
23-03-2019	11 PM	-	-	-	-	-	-	-	-	-
24-03-2019	12 AM	-	-	-	-	-	-	-	-	-
24-03-2019	1 AM	-	-	-	-	-	-	-	-	-
24-03-2019	2 AM	-	-	-	-	-	-	-	-	-
24-03-2019	3 AM	-	-	-	-	-	-	-	-	-
24-03-2019	4 AM	-	-	-	-	-	-	-	-	-
24-03-2019	5 AM	-	-	-	-	-	-	-	-	-
24-03-2019	6 AM	-	-	-	-	-	-	-	-	-
24-03-2019	7 AM	-	-	-	-	-	-	-	-	-
24-03-2019	8 AM	-	-	-	-	-	-	-	-	-
24-03-2019	9 AM	-	-	-	-	-	-	-	-	-
24-03-2019	10 AM	-	-	-	-	-	-	-	-	-
24-03-2019	11 AM	-	-	-	-	-	-	-	-	-
24-03-2019	12 PM	-	-	-	-	-	-	-	-	-
24-03-2019	1 PM	-	-	-	-	-	-	-	-	-
24-03-2019	2 PM	-	-	-	-	-	-	-	-	-
24-03-2019	3 PM	-	-	-	-	-	-	-	-	-
24-03-2019	4 PM	-	-	-	-	-	-	-	-	-
24-03-2019	5 PM	-	-	-	-	-	-	-	-	-
24-03-2019	6 PM	-	-	-	-	-	-	-	-	-
24-03-2019	7 PM	-	-	-	-	-	-	-	-	-
24-03-2019	8 PM	-	-	-	-	-	-	-	-	-
24-03-2019	9 PM	-	-	-	-	-	-	-	-	-
24-03-2019	10 PM	-	-	-	-	-	-	-	-	-
24-03-2019	11 PM	-	-	-	-	-	-	-	-	-

25-03-2019	12 AM	-	-	-	-	-	-	-	-	-
25-03-2019	1 AM	-	-	-	-	-	-	-	-	-
25-03-2019	2 AM	-	-	-	-	-	-	-	-	-
25-03-2019	3 AM	-	-	-	-	-	-	-	-	-
25-03-2019	4 AM	-	-	-	-	-	-	-	-	-
25-03-2019	5 AM	-	-	-	-	-	-	-	-	-
25-03-2019	6 AM	-	-	-	-	-	-	-	-	-
25-03-2019	7 AM	-	-	-	-	-	-	-	-	-
25-03-2019	8 AM	-	-	-	-	-	-	-	-	-
25-03-2019	9 AM	-	-	-	-	-	-	-	-	-
25-03-2019	10 AM	-	-	-	-	-	-	-	-	-
25-03-2019	11 AM	-	-	-	-	-	-	-	-	-
25-03-2019	12 PM	-	-	-	-	-	-	-	-	-
25-03-2019	1 PM	-	-	-	-	-	-	-	-	-
25-03-2019	2 PM	-	-	-	-	-	-	-	-	-
25-03-2019	3 PM	-	-	-	-	-	-	-	-	-
25-03-2019	4 PM	-	-	-	-	-	-	-	-	-
25-03-2019	5 PM	-	-	-	-	-	-	-	-	-
25-03-2019	6 PM	-	-	-	-	-	-	-	-	-
25-03-2019	7 PM	-	-	-	-	-	-	-	-	-
25-03-2019	8 PM	-	-	-	-	-	-	-	-	-
25-03-2019	9 PM	-	-	-	-	-	-	-	-	-
25-03-2019	10 PM	-	-	-	-	-	-	-	-	-
25-03-2019	11 PM	-	-	-	-	-	-	-	-	-
26-03-2019	12 AM	-	-	-	-	-	-	-	-	-
26-03-2019	1 AM	-	-	-	-	-	-	-	-	-
26-03-2019	2 AM	-	-	-	-	-	-	-	-	-
26-03-2019	3 AM	-	-	-	-	-	-	-	-	-
26-03-2019	4 AM	-	-	-	-	-	-	-	-	-

26-03-2019	5 AM	-	-	-	-	-	-	-	-	
26-03-2019	6 AM	-	-	-	-	-	-	-	-	
26-03-2019	7 AM	-	-	-	-	-	-	-	-	
26-03-2019	8 AM	-	-	-	-	-	-	-	-	
26-03-2019	9 AM	-	-	-	-	-	-	-	-	
26-03-2019	10 AM	-	-	-	-	-	-	-	-	
26-03-2019	11 AM	-	-	-	-	-	-	-	-	
26-03-2019	12 PM	-	-	-	-	-	-	-	-	
26-03-2019	1 PM	-	-	-	-	-	-	-	-	
26-03-2019	2 PM	-	-	-	-	-	-	-	-	
26-03-2019	3 PM	-	-	-	-	-	-	-	-	
26-03-2019	4 PM	-	-	-	-	-	-	-	-	
26-03-2019	5 PM	-	-	-	-	-	-	-	-	
26-03-2019	6 PM	-	-	-	-	-	-	-	-	
26-03-2019	7 PM	-	-	-	-	-	-	-	-	
26-03-2019	8 PM	-	-	-	-	-	-	-	-	
26-03-2019	9 PM	-	-	-	-	-	-	-	-	
26-03-2019	10 PM	-	-	-	-	-	-	-	-	
26-03-2019	11 PM	-	-	-	-	-	-	-	-	
27-03-2019	12 AM	2	0	0	0	NA	NA	0	0	
27-03-2019	1 AM	-	-	-	-	-	-	-	-	
27-03-2019	2 AM	-	-	-	-	-	-	-	-	
27-03-2019	3 AM	-	-	-	-	-	-	-	-	
27-03-2019	4 AM	-	-	-	-	-	-	-	-	
27-03-2019	5 AM	-	-	-	-	-	-	-	-	
27-03-2019	6 AM	-	-	-	-	-	-	-	-	
27-03-2019	7 AM	-	-	-	-	-	-	-	-	
27-03-2019	8 AM	-	-	-	-	-	-	-	-	
27-03-2019	9 AM	-	-	-	-	-	-	-	-	

27-03-2019	10 AM	-	-	-	-	-	-	-	-	
27-03-2019	11 AM	-	-	-	-	-	-	-	-	
27-03-2019	12 PM	-	-	-	-	-	-	-	-	
27-03-2019	1 PM	-	-	-	-	-	-	-	-	
27-03-2019	2 PM	-	-	-	-	-	-	-	-	
27-03-2019	3 PM	-	-	-	-	-	-	-	-	
27-03-2019	4 PM	-	-	-	-	-	-	-	-	
27-03-2019	5 PM	-	-	-	-	-	-	-	-	
27-03-2019	6 PM	-	-	-	-	-	-	-	-	
27-03-2019	7 PM	-	-	-	-	-	-	-	-	
27-03-2019	8 PM	-	-	-	-	-	-	-	-	
27-03-2019	9 PM	-	-	-	-	-	-	-	-	
27-03-2019	10 PM	-	-	-	-	-	-	-	-	
27-03-2019	11 PM	-	-	-	-	-	-	-	-	
28-03-2019	12 AM	0.5	166	136	14	NA	NA	0	0	
28-03-2019	1 AM	0	329	222	29	NA	NA	0	0	
28-03-2019	2 AM	0.5	341	231	28	NA	NA	0	0	
28-03-2019	3 AM	0.5	360	246	28	NA	NA	0	0	
28-03-2019	4 AM	0	365	252	27	NA	NA	0	0	
28-03-2019	5 AM	0	361	248	27	NA	NA	0	0	
28-03-2019	6 AM	0	363	245	27	NA	NA	0	0	
28-03-2019	7 AM	0	364	239	46	NA	NA	0	0	
28-03-2019	8 AM	0	379	239	130	NA	NA	0	0	
28-03-2019	9 AM	0	393	243	142	NA	NA	0	0	
28-03-2019	10 AM	0	402	247	76	NA	NA	0	0	
28-03-2019	11 AM	0	407	245	40	NA	NA	0	0	
28-03-2019	12 PM	0	384	223	35	NA	NA	0	0	
28-03-2019	1 PM	0	385	219	34	NA	NA	0	0	
28-03-2019	2 PM	0	398	224	34	NA	NA	0	0	

28-03-2019	3 PM	0	386	205	36	NA	NA	0	0	
28-03-2019	4 PM	0	403	207	36	NA	NA	0	0	
28-03-2019	5 PM	0	408	214	34	NA	NA	0	0	
28-03-2019	6 PM	0	376	204	32	NA	NA	0	0	
28-03-2019	7 PM	0	383	204	30	NA	NA	0	0	
28-03-2019	8 PM	0	381	208	31	NA	NA	0	0	
28-03-2019	9 PM	0	385	203	76	NA	NA	0	0	
28-03-2019	10 PM	0	390	218	69	NA	NA	0	0	
28-03-2019	11 PM	0	381	208	43	NA	NA	0	0	
29-03-2019	12 AM	0	388	176	39	NA	NA	0	0	
29-03-2019	1 AM	0	389	185	40	NA	NA	0	0	
29-03-2019	2 AM	0	381	189	39	NA	NA	0	0	
29-03-2019	3 AM	0	380	196	37	NA	NA	0	0	
29-03-2019	4 AM	0	382	199	41	NA	NA	0	0	
29-03-2019	5 AM	0	379	186	43	NA	NA	0	0	
29-03-2019	6 AM	0	385	176	40	NA	NA	0	0	
29-03-2019	7 AM	0	385	186	36	NA	NA	0	0	
29-03-2019	8 AM	0	388	193	36	NA	NA	0	0	
29-03-2019	9 AM	0	384	195	32	NA	NA	0	0	
29-03-2019	10 AM	2.5	0	0	0	NA	NA	0	0	
29-03-2019	11 AM	0	381	272	61	NA	NA	0	0	
29-03-2019	12 PM	-	-	-	-	-	-	-	-	
29-03-2019	1 PM	0	375	254	33	NA	NA	0	0	
29-03-2019	2 PM	-	-	-	-	-	-	-	-	
29-03-2019	3 PM	-	-	-	-	-	-	-	-	
29-03-2019	4 PM	-	-	-	-	-	-	-	-	
29-03-2019	5 PM	-	-	-	-	-	-	-	-	
29-03-2019	6 PM	0	0	0	0	NA	NA	0	0	
29-03-2019	7 PM	-	-	-	-	-	-	-	-	

29-03-2019	8 PM	-	-	-	-	-	-	-	-	
29-03-2019	9 PM	-	-	-	-	-	-	-	-	
29-03-2019	10 PM	-	-	-	-	-	-	-	-	
29-03-2019	11 PM	-	-	-	-	-	-	-	-	
30-03-2019	12 AM	-	-	-	-	-	-	-	-	
30-03-2019	1 AM	-	-	-	-	-	-	-	-	
30-03-2019	2 AM	-	-	-	-	-	-	-	-	
30-03-2019	3 AM	-	-	-	-	-	-	-	-	
30-03-2019	4 AM	-	-	-	-	-	-	-	-	
30-03-2019	5 AM	-	-	-	-	-	-	-	-	
30-03-2019	6 AM	-	-	-	-	-	-	-	-	
30-03-2019	7 AM	-	-	-	-	-	-	-	-	
30-03-2019	8 AM	-	-	-	-	-	-	-	-	
30-03-2019	9 AM	-	-	-	-	-	-	-	-	
30-03-2019	10 AM	-	-	-	-	-	-	-	-	
30-03-2019	11 AM	-	-	-	-	-	-	-	-	
30-03-2019	12 PM	-	-	-	-	-	-	-	-	
30-03-2019	1 PM	-	-	-	-	-	-	-	-	
30-03-2019	2 PM	-	-	-	-	-	-	-	-	
30-03-2019	3 PM	-	-	-	-	-	-	-	-	
30-03-2019	4 PM	-	-	-	-	-	-	-	-	
30-03-2019	5 PM	-	-	-	-	-	-	-	-	
30-03-2019	6 PM	-	-	-	-	-	-	-	-	
30-03-2019	7 PM	-	-	-	-	-	-	-	-	
30-03-2019	8 PM	-	-	-	-	-	-	-	-	
30-03-2019	9 PM	-	-	-	-	-	-	-	-	
30-03-2019	10 PM	0	134	96	5	NA	NA	0	0	
30-03-2019	11 PM	0	206	136	12	NA	NA	0	0	
31-03-2019	12 AM	0	418	263	33	NA	NA	0	0	

31-03-2019	1 AM	0	428	265	32	NA	NA	0	0	
31-03-2019	2 AM	0	446	269	33	NA	NA	0	0	
31-03-2019	3 AM	0	459	270	34	NA	NA	0	0	
31-03-2019	4 AM	0	417	257	33	NA	NA	0	0	
31-03-2019	5 AM	0	311	187	25	NA	NA	0	0	
31-03-2019	6 AM	0	172	117	11	NA	NA	0	0	
31-03-2019	7 AM	0	148	114	9	NA	NA	0	0	
31-03-2019	8 AM	0	150	199	10	NA	NA	0	0	
31-03-2019	9 AM	0	123	99	5	NA	NA	0	0	
31-03-2019	10 AM	0	69	41	4	NA	NA	0	0	
31-03-2019	11 AM	-	-	-	-	-	-	-	-	
31-03-2019	12 PM	0	55	50	3	NA	NA	0	0	
31-03-2019	1 PM	-	-	-	-	-	-	-	-	
31-03-2019	2 PM	0	77	94	4	NA	NA	0	0	
31-03-2019	3 PM	0	242	128	21	NA	NA	0	0	
31-03-2019	4 PM	0	420	212	70	NA	NA	0	0	
31-03-2019	5 PM	0	427	214	163	NA	NA	0	0	
31-03-2019	6 PM	0	436	215	202	NA	NA	0	0	
31-03-2019	7 PM	0	290	146	156	NA	NA	0	0	
31-03-2019	8 PM	0	185	130	76	NA	NA	0	0	
31-03-2019	9 PM	-	-	-	-	-	-	-	-	
31-03-2019	10 PM	-	-	-	-	-	-	-	-	
31-03-2019	11 PM	-	-	-	-	-	-	-	-	

Annex G3

Hourly Average of Parameters Measured in CHP 2

Date	Hour	CHP 2 Hourly Average (mg/Nm ³)								Remarks
		Dust	CO	NOx	SO ₂	NMVOCs	VOC (including methane)	HCl	HF	
01-03-2019	12 AM	0	245	167	25	NA	NA	0	0	
01-03-2019	1 AM	0	265	172	24	NA	NA	0	0	
01-03-2019	2 AM	0	276	182	21	NA	NA	0	0	
01-03-2019	3 AM	0	275	181	41	NA	NA	0	0	
01-03-2019	4 AM	0	274	181	37	NA	NA	0	0	
01-03-2019	5 AM	0	102	52	4	NA	NA	0	0	
01-03-2019	6 AM	0	302	180	21	NA	NA	0	0	
01-03-2019	7 AM	0	308	185	21	NA	NA	0	0	
01-03-2019	8 AM	0	121	63	5	NA	NA	0	0	
01-03-2019	9 AM	0	281	180	20	NA	NA	0	0	
01-03-2019	10 AM	0	301	182	20	NA	NA	0	0	
01-03-2019	11 AM	0	243	174	81	NA	NA	0	0	
01-03-2019	12 PM	0	239	178	97	NA	NA	0	0	
01-03-2019	1 PM	0	221	180	39	NA	NA	0	0	
01-03-2019	2 PM	0	238	184	20	NA	NA	0	0	
01-03-2019	3 PM	0	239	134	16	NA	NA	0	0	
01-03-2019	4 PM	0	235	133	15	NA	NA	0	0	
01-03-2019	5 PM	0	214	126	16	NA	NA	0	0	
01-03-2019	6 PM	0	219	130	15	NA	NA	0	0	
01-03-2019	7 PM	0	267	146	14	NA	NA	0	0	
01-03-2019	8 PM	0	206	126	50	NA	NA	0	0	
01-03-2019	9 PM	0	241	140	100	NA	NA	0	0	
01-03-2019	10 PM	0	254	142	52	NA	NA	0	0	
01-03-2019	11 PM	0	229	134	23	NA	NA	0	0	
02-03-2019	12 AM	0	170	96.5	18.5	NA	NA	0	0	

02-03-2019	1 AM	0	144	74	21	NA	NA	0	0	
02-03-2019	2 AM	0	137	69	22	NA	NA	0	0	
02-03-2019	3 AM	0	175	95	19	NA	NA	0	0	
02-03-2019	4 AM	0	202	118	16	NA	NA	0	0	
02-03-2019	5 AM	0	246	143	20	NA	NA	0	0	
02-03-2019	6 AM	0	282	165	14	NA	NA	0	0	
02-03-2019	7 AM	0	262	163	13	NA	NA	0	0	
02-03-2019	8 AM	0	241	156	12	NA	NA	0	0	
02-03-2019	9 AM	0	186	127	15	NA	NA	0	0	
02-03-2019	10 AM	0	175	120	41	NA	NA	0	0	
02-03-2019	11 AM	0	171	116	72	NA	NA	0	0	
02-03-2019	12 PM	0	200	139	34	NA	NA	0	0	
02-03-2019	1 PM	0	184	134	20	NA	NA	0	0	
02-03-2019	2 PM	0	230	162	12	NA	NA	0	0	
02-03-2019	3 PM	0	248	174	10	NA	NA	0	0	
02-03-2019	4 PM	0	214	159	13	NA	NA	0	0	
02-03-2019	5 PM	0	219	153	14	NA	NA	0	0	
02-03-2019	6 PM	0	218	143	12	NA	NA	0	0	
02-03-2019	7 PM	0	201	136	14	NA	NA	0	0	
02-03-2019	8 PM	0	213	147	12	NA	NA	0	0	
02-03-2019	9 PM	0	234	149	11	NA	NA	0	0	
02-03-2019	10 PM	0	241	154	13	NA	NA	0	0	
02-03-2019	11 PM	0	220	143	13	NA	NA	0	0	
03-03-2019	12 AM	0	235	148.5	49	NA	NA	0	0	
03-03-2019	1 AM	0	261	159	33	NA	NA	0	0	
03-03-2019	2 AM	0	235	144	19	NA	NA	0	0	
03-03-2019	3 AM	0	224	143	15	NA	NA	0	0	
03-03-2019	4 AM	0	226	142	16	NA	NA	0	0	
03-03-2019	5 AM	0	223	137	68	NA	NA	0	0	

03-03-2019	6 AM	0	251	144	64	NA	NA	0	0	
03-03-2019	7 AM	0	224	131	29	NA	NA	0	0	
03-03-2019	8 AM	0	217	127	18	NA	NA	0	0	
03-03-2019	9 AM	0	224	131	15	NA	NA	0	0	
03-03-2019	10 AM	0	228	133	15	NA	NA	0	0	
03-03-2019	11 AM	0	222	131	14	NA	NA	0	0	
03-03-2019	12 PM	0	215	122	15	NA	NA	0	0	
03-03-2019	1 PM	0	213	123	15	NA	NA	0	0	
03-03-2019	2 PM	0	209	126	15	NA	NA	0	0	
03-03-2019	3 PM	0	223	133	31	NA	NA	0	0	
03-03-2019	4 PM	0	221	133	23	NA	NA	0	0	
03-03-2019	5 PM	0	214	132	17	NA	NA	0	0	
03-03-2019	6 PM	0	213	132	15	NA	NA	0	0	
03-03-2019	7 PM	0	211	140	14	NA	NA	0	0	
03-03-2019	8 PM	0	204	141	13	NA	NA	0	0	
03-03-2019	9 PM	0	182	132	27	NA	NA	0	0	
03-03-2019	10 PM	0	185	130	35	NA	NA	0	0	
03-03-2019	11 PM	1	273	180	15	NA	NA	0	0	
04-03-2019	12 AM	0	273.5	187	14.5	NA	NA	0	0	
04-03-2019	1 AM	0	261	184	71	NA	NA	0	0	
04-03-2019	2 AM	0	258	183	46	NA	NA	0	0	
04-03-2019	3 AM	0	247	178	18	NA	NA	0	0	
04-03-2019	4 AM	0	263	181	11	NA	NA	0	0	
04-03-2019	5 AM	0	226	168	11	NA	NA	0	0	
04-03-2019	6 AM	0	224	170	11	NA	NA	0	0	
04-03-2019	7 AM	0	241	181	29	NA	NA	0	0	
04-03-2019	8 AM	0	284	201	16	NA	NA	0	0	
04-03-2019	9 AM	0	230	158	8	NA	NA	0	0	
04-03-2019	10 AM	0	164	139	4	NA	NA	0	0	

04-03-2019	11 AM	0	246	249	12	NA	NA	0	0	
04-03-2019	12 PM	0	204	236	30	NA	NA	0	0	
04-03-2019	1 PM	0	240	246	37	NA	NA	0	0	
04-03-2019	2 PM	0	233	243	18	NA	NA	0	0	
04-03-2019	3 PM	0	280	268	11	NA	NA	0	0	
04-03-2019	4 PM	0	245	252	13	NA	NA	0	0	
04-03-2019	5 PM	0	259	247	19	NA	NA	0	0	
04-03-2019	6 PM	0	254	239	15	NA	NA	0	0	
04-03-2019	7 PM	0	205	216	15	NA	NA	0	0	
04-03-2019	8 PM	0	149	185	17	NA	NA	0	0	
04-03-2019	9 PM	0	149	191	18	NA	NA	0	0	
04-03-2019	10 PM	0	162	225	16	NA	NA	0	0	
04-03-2019	11 PM	0	141	175	19	NA	NA	0	0	
05-03-2019	12 AM	0	92	122.5	6.5	NA	NA	0	0	
05-03-2019	1 AM	0	195	204	15	NA	NA	0	0	
05-03-2019	2 AM	0	174	202	18	NA	NA	0	0	
05-03-2019	3 AM	0	171	197	61	NA	NA	0	0	
05-03-2019	4 AM	0	194	210	99	NA	NA	0	0	
05-03-2019	5 AM	0	190	209	120	NA	NA	0	0	
05-03-2019	6 AM	0	219	220	99	NA	NA	0	0	
05-03-2019	7 AM	0	217	219	48	NA	NA	0	0	
05-03-2019	8 AM	0	204	212	23	NA	NA	0	0	
05-03-2019	9 AM	0	203	208	17	NA	NA	0	0	
05-03-2019	10 AM	0	215	208	15	NA	NA	0	0	
05-03-2019	11 AM	0	189	197	17	NA	NA	0	0	
05-03-2019	12 PM	0	204	199	19	NA	NA	0	0	
05-03-2019	1 PM	0	220	202	15	NA	NA	0	0	
05-03-2019	2 PM	0	228	201	16	NA	NA	0	0	
05-03-2019	3 PM	0	185	182	17	NA	NA	0	0	

05-03-2019	4 PM	0	186	184	18	NA	NA	0	0	
05-03-2019	5 PM	0	168	176	18	NA	NA	0	0	
05-03-2019	6 PM	0	168	174	43	NA	NA	0	0	
05-03-2019	7 PM	0	225	196	104	NA	NA	0	0	
05-03-2019	8 PM	2	294	216	79	NA	NA	0	0	
05-03-2019	9 PM	0	241	205	38	NA	NA	0	0	
05-03-2019	10 PM	0	186	189	20	NA	NA	0	0	
05-03-2019	11 PM	0	183	187	16	NA	NA	0	0	
06-03-2019	12 AM	0	75.5	82	9.5	NA	NA	0	0	
06-03-2019	1 AM	0	168	184	40	NA	NA	0	0	
06-03-2019	2 AM	0	214	196	28	NA	NA	0	0	
06-03-2019	3 AM	0	185	185	19	NA	NA	0	0	
06-03-2019	4 AM	0	191	184	16	NA	NA	0	0	
06-03-2019	5 AM	0	184	182	18	NA	NA	0	0	
06-03-2019	6 AM	0	183	178	67	NA	NA	0	0	
06-03-2019	7 AM	0	219	185	58	NA	NA	0	0	
06-03-2019	8 AM	0	215	187	26	NA	NA	0	0	
06-03-2019	9 AM	0	237	194	17	NA	NA	0	0	
06-03-2019	10 AM	0	252	199	15	NA	NA	0	0	
06-03-2019	11 AM	0	280	203	13	NA	NA	0	0	
06-03-2019	12 PM	0	288	204	11	NA	NA	0	0	
06-03-2019	1 PM	0	293	208	11	NA	NA	0	0	
06-03-2019	2 PM	0	266	204	14	NA	NA	0	0	
06-03-2019	3 PM	0	283	203	13	NA	NA	0	0	
06-03-2019	4 PM	0	278	202	13	NA	NA	0	0	
06-03-2019	5 PM	0	150	118	8	NA	NA	0	0	
06-03-2019	6 PM	0	14	12	0	NA	NA	0	0	
06-03-2019	7 PM	0	12	2	0	NA	NA	0	0	
06-03-2019	8 PM	0	193	136	12	NA	NA	0	0	

06-03-2019	9 PM	0	312	199	47	NA	NA	0	0	
06-03-2019	10 PM	0	321	204	24	NA	NA	0	0	
06-03-2019	11 PM	0	307	208	15	NA	NA	0	0	
07-03-2019	12 AM	0	220	181	13.5	NA	NA	0	0	
07-03-2019	1 AM	0	261	196	13	NA	NA	0	0	
07-03-2019	2 AM	0	282	214	13	NA	NA	0	0	
07-03-2019	3 AM	0	300	213	12	NA	NA	0	0	
07-03-2019	4 AM	0	299	217	11	NA	NA	0	0	
07-03-2019	5 AM	0	245	209	14	NA	NA	0	0	
07-03-2019	6 AM	0	197	198	15	NA	NA	0	0	
07-03-2019	7 AM	0	174	183	15	NA	NA	0	0	
07-03-2019	8 AM	0	210	189	13	NA	NA	0	0	
07-03-2019	9 AM	0	158	166	17	NA	NA	0	0	
07-03-2019	10 AM	0	164	179	15	NA	NA	0	0	
07-03-2019	11 AM	0	139	152	18	NA	NA	0	0	
07-03-2019	12 PM	0	158	165	17	NA	NA	0	0	
07-03-2019	1 PM	1	235	218	10	NA	NA	0	0	
07-03-2019	2 PM	1	255	230	0	NA	NA	0	0	
07-03-2019	3 PM	1	249	224	1	NA	NA	0	0	
07-03-2019	4 PM	41	25	10	0	NA	NA	0	0	Fault Signal
07-03-2019	5 PM	0	1	0	0	NA	NA	0	0	
07-03-2019	6 PM	2	278	165	12	NA	NA	0	0	
07-03-2019	7 PM	1	148	88	6	NA	NA	0	0	
07-03-2019	8 PM	1	223	155	8	NA	NA	0	0	
07-03-2019	9 PM	1	324	231	15	NA	NA	0	0	
07-03-2019	10 PM	1	327	230	16	NA	NA	0	0	
07-03-2019	11 PM	1	321	230	17	NA	NA	0	0	
08-03-2019	12 AM	1	265	209.5	28.5	NA	NA	0	0	
08-03-2019	1 AM	1	319	221	23	NA	NA	0	0	

08-03-2019	2 AM	1	331	226	18	NA	NA	0	0	
08-03-2019	3 AM	1	334	229	17	NA	NA	0	0	
08-03-2019	4 AM	1	335	235	16	NA	NA	0	0	
08-03-2019	5 AM	1	240	167	10	NA	NA	0	0	
08-03-2019	6 AM	1	336	236	15	NA	NA	0	0	
08-03-2019	7 AM	1	338	235	16	NA	NA	0	0	
08-03-2019	8 AM	1	340	236	16	NA	NA	0	0	
08-03-2019	9 AM	1	217	146	8	NA	NA	0	0	
08-03-2019	10 AM	1	336	230	17	NA	NA	0	0	
08-03-2019	11 AM	0	97	68	4	NA	NA	0	0	
08-03-2019	12 PM	0	19	17	0	NA	NA	0	0	
08-03-2019	1 PM	0	30	25	0	NA	NA	0	0	
08-03-2019	2 PM	0	21	16	0	NA	NA	0	0	
08-03-2019	3 PM	0	18	16	0	NA	NA	0	0	
08-03-2019	4 PM	0	17	8	0	NA	NA	0	0	
08-03-2019	5 PM	0	19	17	0	NA	NA	0	0	
08-03-2019	6 PM	0	30	24	0	NA	NA	0	0	
08-03-2019	7 PM	0	24	17	0	NA	NA	0	0	
08-03-2019	8 PM	0	18	16	0	NA	NA	0	0	
08-03-2019	9 PM	0	16	6	0	NA	NA	0	0	
08-03-2019	10 PM	0	20	17	0	NA	NA	0	0	
08-03-2019	11 PM	0	45	26	0	NA	NA	0	0	
09-03-2019	12 AM	1	256	148.5	17.5	NA	NA	0	0	
09-03-2019	1 AM	1	297	169	18	NA	NA	0	0	
09-03-2019	2 AM	1	315	170	19	NA	NA	0	0	
09-03-2019	3 AM	1	238	143	20	NA	NA	0	0	
09-03-2019	4 AM	1	207	135	21	NA	NA	0	0	
09-03-2019	5 AM	1	200	140	21	NA	NA	0	0	
09-03-2019	6 AM	1	188	128	21	NA	NA	0	0	

09-03-2019	7 AM	1	205	140	19	NA	NA	0	0	
09-03-2019	8 AM	1	210	144	19	NA	NA	0	0	
09-03-2019	9 AM	1	250	154	18	NA	NA	0	0	
09-03-2019	10 AM	1	234	146	19	NA	NA	0	0	
09-03-2019	11 AM	1	211	141	36	NA	NA	0	0	
09-03-2019	12 PM	1	233	147	68	NA	NA	0	0	
09-03-2019	1 PM	1	258	152	36	NA	NA	0	0	
09-03-2019	2 PM	1	241	145	22	NA	NA	0	0	
09-03-2019	3 PM	1	246	144	18	NA	NA	0	0	
09-03-2019	4 PM	1	244	139	18	NA	NA	0	0	
09-03-2019	5 PM	1	229	135	19	NA	NA	0	0	
09-03-2019	6 PM	1	225	137	19	NA	NA	0	0	
09-03-2019	7 PM	1	214	139	26	NA	NA	0	0	
09-03-2019	8 PM	1	215	135	63	NA	NA	0	0	
09-03-2019	9 PM	1	213	136	89	NA	NA	0	0	
09-03-2019	10 PM	1	235	147	70	NA	NA	0	0	
09-03-2019	11 PM	1	116	75	18	NA	NA	0	0	
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10-03-2019	2 AM	-	-	-	-	-	-	-	-	
10-03-2019	3 AM	-	-	-	-	-	-	-	-	
10-03-2019	4 AM	-	-	-	-	-	-	-	-	
10-03-2019	5 AM	-	-	-	-	-	-	-	-	
10-03-2019	6 AM	-	-	-	-	-	-	-	-	
10-03-2019	7 AM	-	-	-	-	-	-	-	-	
10-03-2019	8 AM	-	-	-	-	-	-	-	-	
10-03-2019	9 AM	-	-	-	-	-	-	-	-	
10-03-2019	10 AM	-	-	-	-	-	-	-	-	
10-03-2019	11 AM	-	-	-	-	-	-	-	-	

10-03-2019	12 PM	-	-	-	-	-	-	-	-	
10-03-2019	1 PM	-	-	-	-	-	-	-	-	
10-03-2019	2 PM	-	-	-	-	-	-	-	-	
10-03-2019	3 PM	-	-	-	-	-	-	-	-	
10-03-2019	4 PM	-	-	-	-	-	-	-	-	
10-03-2019	5 PM	-	-	-	-	-	-	-	-	
10-03-2019	6 PM	-	-	-	-	-	-	-	-	
10-03-2019	7 PM	-	-	-	-	-	-	-	-	
10-03-2019	8 PM	-	-	-	-	-	-	-	-	
10-03-2019	9 PM	-	-	-	-	-	-	-	-	
10-03-2019	10 PM	-	-	-	-	-	-	-	-	
10-03-2019	11 PM	-	-	-	-	-	-	-	-	
11-03-2019	12 AM	-	-	-	-	-	-	-	-	
11-03-2019	1 AM	-	-	-	-	-	-	-	-	
11-03-2019	2 AM	-	-	-	-	-	-	-	-	
11-03-2019	3 AM	-	-	-	-	-	-	-	-	
11-03-2019	4 AM	-	-	-	-	-	-	-	-	
11-03-2019	5 AM	-	-	-	-	-	-	-	-	
11-03-2019	6 AM	-	-	-	-	-	-	-	-	
11-03-2019	7 AM	-	-	-	-	-	-	-	-	
11-03-2019	8 AM	-	-	-	-	-	-	-	-	
11-03-2019	9 AM	-	-	-	-	-	-	-	-	
11-03-2019	10 AM	-	-	-	-	-	-	-	-	
11-03-2019	11 AM	-	-	-	-	-	-	-	-	
11-03-2019	12 PM	-	-	-	-	-	-	-	-	
11-03-2019	1 PM	-	-	-	-	-	-	-	-	
11-03-2019	2 PM	0	0	0	0	NA	NA	0	0	
11-03-2019	3 PM	-	-	-	-	-	-	-	-	
11-03-2019	4 PM	-	-	-	-	-	-	-	-	

11-03-2019	5 PM	-	-	-	-	-	-	-	-	
11-03-2019	6 PM	-	-	-	-	-	-	-	-	
11-03-2019	7 PM	-	-	-	-	-	-	-	-	
11-03-2019	8 PM	-	-	-	-	-	-	-	-	
11-03-2019	9 PM	-	-	-	-	-	-	-	-	
11-03-2019	10 PM	-	-	-	-	-	-	-	-	
11-03-2019	11 PM	-	-	-	-	-	-	-	-	
12-03-2019	12 AM	-	-	-	-	-	-	-	-	
12-03-2019	1 AM	-	-	-	-	-	-	-	-	
12-03-2019	2 AM	-	-	-	-	-	-	-	-	
12-03-2019	3 AM	-	-	-	-	-	-	-	-	
12-03-2019	4 AM	0	139	98	12	NA	NA	0	0	
12-03-2019	5 AM	0	196	141	20	NA	NA	0	0	
12-03-2019	6 AM	1	220	150	19	NA	NA	0	0	
12-03-2019	7 AM	0	203	146	19	NA	NA	0	0	
12-03-2019	8 AM	0	266	174	17	NA	NA	0	0	
12-03-2019	9 AM	0	259	168	30	NA	NA	0	0	
12-03-2019	10 AM	0	248	158	48	NA	NA	0	0	
12-03-2019	11 AM	0	206	139	28	NA	NA	0	0	
12-03-2019	12 PM	0	198	129	22	NA	NA	0	0	
12-03-2019	1 PM	0	225	145	19	NA	NA	0	0	
12-03-2019	2 PM	0	220	142	19	NA	NA	0	0	
12-03-2019	3 PM	0	206	138	21	NA	NA	0	0	
12-03-2019	4 PM	0	207	137	20	NA	NA	0	0	
12-03-2019	5 PM	0	204	135	49	NA	NA	0	0	
12-03-2019	6 PM	0	225	144	93	NA	NA	0	0	
12-03-2019	7 PM	0	261	163	58	NA	NA	0	0	
12-03-2019	8 PM	0	247	156	29	NA	NA	0	0	
12-03-2019	9 PM	0	240	155	20	NA	NA	0	0	

12-03-2019	10 PM	0	247	163	18	NA	NA	0	0	
12-03-2019	11 PM	0	84	63	5	NA	NA	0	0	
13-03-2019	12 AM	0	200	203	20	NA	NA	0	0	
13-03-2019	1 AM	0	230	215	17	NA	NA	0	0	
13-03-2019	2 AM	0	245	221	25	NA	NA	0	0	
13-03-2019	3 AM	0	256	227	24	NA	NA	0	0	
13-03-2019	4 AM	0	251	228	18	NA	NA	0	0	
13-03-2019	5 AM	0	255	231	18	NA	NA	0	0	
13-03-2019	6 AM	0	239	220	18	NA	NA	0	0	
13-03-2019	7 AM	0	240	217	17	NA	NA	0	0	
13-03-2019	8 AM	0	247	220	17	NA	NA	0	0	
13-03-2019	9 AM	0	248	218	16	NA	NA	0	0	
13-03-2019	10 AM	0	256	220	17	NA	NA	0	0	
13-03-2019	11 AM	0	240	210	18	NA	NA	0	0	
13-03-2019	12 PM	0	236	205	30	NA	NA	0	0	
13-03-2019	1 PM	0	253	212	23	NA	NA	0	0	
13-03-2019	2 PM	0	257	210	18	NA	NA	0	0	
13-03-2019	3 PM	0	238	198	17	NA	NA	0	0	
13-03-2019	4 PM	0	201	191	21	NA	NA	0	0	
13-03-2019	5 PM	0	201	193	20	NA	NA	0	0	
13-03-2019	6 PM	0	204	191	19	NA	NA	0	0	
13-03-2019	7 PM	0	201	185	19	NA	NA	0	0	
13-03-2019	8 PM	0	196	183	20	NA	NA	0	0	
13-03-2019	9 PM	0	191	178	49	NA	NA	0	0	
13-03-2019	10 PM	0	209	184	60	NA	NA	0	0	
13-03-2019	11 PM	0	193	181	28	NA	NA	0	0	
14-03-2019	12 AM	0	231.5	186	20.5	NA	NA	0	0	
14-03-2019	1 AM	0	191	182	20	NA	NA	0	0	
14-03-2019	2 AM	0	194	186	19	NA	NA	0	0	

14-03-2019	3 AM	0	198	185	19	NA	NA	0	0	
14-03-2019	4 AM	0	200	184	18	NA	NA	0	0	
14-03-2019	5 AM	0	253	203	16	NA	NA	0	0	
14-03-2019	6 AM	0	233	191	17	NA	NA	0	0	
14-03-2019	7 AM	0	230	190	17	NA	NA	0	0	
14-03-2019	8 AM	0	148	91	11	NA	NA	0	0	
14-03-2019	9 AM	0	227	124	64	NA	NA	0	0	
14-03-2019	10 AM	0	131	70	24	NA	NA	0	0	
14-03-2019	11 AM	-	-	-	-	-	-	-	-	
14-03-2019	12 PM	-	-	-	-	-	-	-	-	
14-03-2019	1 PM	-	-	-	-	-	-	-	-	
14-03-2019	2 PM	-	-	-	-	-	-	-	-	
14-03-2019	3 PM	-	-	-	-	-	-	-	-	
14-03-2019	4 PM	-	-	-	-	-	-	-	-	
14-03-2019	5 PM	-	-	-	-	-	-	-	-	
14-03-2019	6 PM	-	-	-	-	-	-	-	-	
14-03-2019	7 PM	-	-	-	-	-	-	-	-	
14-03-2019	8 PM	-	-	-	-	-	-	-	-	
14-03-2019	9 PM	8	52	41	14	NA	NA	0	0	
14-03-2019	10 PM	-	-	-	-	-	-	-	-	
14-03-2019	11 PM	-	-	-	-	-	-	-	-	
15-03-2019	12 AM	-	-	-	-	-	-	-	-	
15-03-2019	1 AM	-	-	-	-	-	-	-	-	
15-03-2019	2 AM	-	-	-	-	-	-	-	-	
15-03-2019	3 AM	-	-	-	-	-	-	-	-	
15-03-2019	4 AM	-	-	-	-	-	-	-	-	
15-03-2019	5 AM	-	-	-	-	-	-	-	-	
15-03-2019	6 AM	-	-	-	-	-	-	-	-	
15-03-2019	7 AM	-	-	-	-	-	-	-	-	

15-03-2019	8 AM	-	-	-	-	-	-	-	-	
15-03-2019	9 AM	1	41	45	9	NA	NA	0	0	
15-03-2019	10 AM	-	-	-	-	-	-	-	-	
15-03-2019	11 AM	-	-	-	-	-	-	-	-	
15-03-2019	12 PM	-	-	-	-	-	-	-	-	
15-03-2019	1 PM	-	-	-	-	-	-	-	-	
15-03-2019	2 PM	-	-	-	-	-	-	-	-	
15-03-2019	3 PM	-	-	-	-	-	-	-	-	
15-03-2019	4 PM	-	-	-	-	-	-	-	-	
15-03-2019	5 PM	-	-	-	-	-	-	-	-	
15-03-2019	6 PM	-	-	-	-	-	-	-	-	
15-03-2019	7 PM	-	-	-	-	-	-	-	-	
15-03-2019	8 PM	-	-	-	-	-	-	-	-	
15-03-2019	9 PM	-	-	-	-	-	-	-	-	
15-03-2019	10 PM	-	-	-	-	-	-	-	-	
15-03-2019	11 PM	-	-	-	-	-	-	-	-	
16-03-2019	12 AM	-	-	-	-	-	-	-	-	
16-03-2019	1 AM	-	-	-	-	-	-	-	-	
16-03-2019	2 AM	-	-	-	-	-	-	-	-	
16-03-2019	3 AM	-	-	-	-	-	-	-	-	
16-03-2019	4 AM	-	-	-	-	-	-	-	-	
16-03-2019	5 AM	-	-	-	-	-	-	-	-	
16-03-2019	6 AM	-	-	-	-	-	-	-	-	
16-03-2019	7 AM	-	-	-	-	-	-	-	-	
16-03-2019	8 AM	-	-	-	-	-	-	-	-	
16-03-2019	9 AM	-	-	-	-	-	-	-	-	
16-03-2019	10 AM	-	-	-	-	-	-	-	-	
16-03-2019	11 AM	-	-	-	-	-	-	-	-	
16-03-2019	12 PM	-	-	-	-	-	-	-	-	

16-03-2019	1 PM	0	96	101	22	NA	NA	0	0	
16-03-2019	2 PM	1	254	247	31	NA	NA	0	0	
16-03-2019	3 PM	0	238	238	57	NA	NA	0	0	
16-03-2019	4 PM	0	193	142	47	NA	NA	0	0	
16-03-2019	5 PM	0	273	173	29	NA	NA	0	0	
16-03-2019	6 PM	0	242	165	19	NA	NA	0	0	
16-03-2019	7 PM	0	236	171	16	NA	NA	0	0	
16-03-2019	8 PM	0	244	175	16	NA	NA	0	0	
16-03-2019	9 PM	0	240	173	17	NA	NA	0	0	
16-03-2019	10 PM	0	246	171	17	NA	NA	0	0	
16-03-2019	11 PM	0	224	158	17	NA	NA	0	0	
17-03-2019	12 AM	0	175.5	131	19.5	NA	NA	0	0	
17-03-2019	1 AM	0	205	148	18	NA	NA	0	0	
17-03-2019	2 AM	0	226	161	19	NA	NA	0	0	
17-03-2019	3 AM	0	240	166	25	NA	NA	0	0	
17-03-2019	4 AM	0	229	163	19	NA	NA	0	0	
17-03-2019	5 AM	0	240	168	17	NA	NA	0	0	
17-03-2019	6 AM	0	251	173	16	NA	NA	0	0	
17-03-2019	7 AM	0	257	180	17	NA	NA	0	0	
17-03-2019	8 AM	0	259	182	17	NA	NA	0	0	
17-03-2019	9 AM	0	257	183	17	NA	NA	0	0	
17-03-2019	10 AM	0	272	185	16	NA	NA	0	0	
17-03-2019	11 AM	0	175	114	9	NA	NA	0	0	
17-03-2019	12 PM	0	277	179	15	NA	NA	0	0	
17-03-2019	1 PM	0	112	64	13	NA	NA	0	0	
17-03-2019	2 PM	0	38	14	1	NA	NA	0	0	
17-03-2019	3 PM	0	36	13	0	NA	NA	0	0	
17-03-2019	4 PM	0	22	2	0	NA	NA	0	0	
17-03-2019	5 PM	0	33	12	0	NA	NA	0	0	

17-03-2019	6 PM	0	33	12	0	NA	NA	0	0	
17-03-2019	7 PM	0	21	2	0	NA	NA	0	0	
17-03-2019	8 PM	0	32	11	0	NA	NA	0	0	
17-03-2019	9 PM	0	33	11	0	NA	NA	0	0	
17-03-2019	10 PM	0	119	67	32	NA	NA	0	0	
17-03-2019	11 PM	0	179	99	80	NA	NA	0	0	
18-03-2019	12 AM	0	226	129	51	NA	NA	0	0	
18-03-2019	1 AM	0	216	130	26	NA	NA	0	0	
18-03-2019	2 AM	0	156	88	12	NA	NA	0	0	
18-03-2019	3 AM	0	145	87	13	NA	NA	0	0	
18-03-2019	4 AM	0	258	149	20	NA	NA	0	0	
18-03-2019	5 AM	0	256	148	20	NA	NA	0	0	
18-03-2019	6 AM	0	262	149	20	NA	NA	0	0	
18-03-2019	7 AM	0	268	152	21	NA	NA	0	0	
18-03-2019	8 AM	0	119	61	6	NA	NA	0	0	
18-03-2019	9 AM	0	267	152	20	NA	NA	0	0	
18-03-2019	10 AM	0	180	97	12	NA	NA	0	0	
18-03-2019	11 AM	0	272	152	21	NA	NA	0	0	
18-03-2019	12 PM	0	269	152	21	NA	NA	0	0	
18-03-2019	1 PM	0	271	152	28	NA	NA	0	0	
18-03-2019	2 PM	0	266	150	55	NA	NA	0	0	
18-03-2019	3 PM	0	125	62	12	NA	NA	0	0	
18-03-2019	4 PM	0	273	149	25	NA	NA	0	0	
18-03-2019	5 PM	0	117	53	7	NA	NA	0	0	
18-03-2019	6 PM	0	252	131	22	NA	NA	0	0	
18-03-2019	7 PM	0	263	137	22	NA	NA	0	0	
18-03-2019	8 PM	0	260	139	22	NA	NA	0	0	
18-03-2019	9 PM	0	265	136	23	NA	NA	0	0	
18-03-2019	10 PM	0	170	77	13	NA	NA	0	0	

18-03-2019	11 PM	0	210	94	23	NA	NA	0	0	
19-03-2019	12 AM	0	160.5	70	55.5	NA	NA	0	0	
19-03-2019	1 AM	0	230	106	70	NA	NA	0	0	
19-03-2019	2 AM	0	254	125	32	NA	NA	0	0	
19-03-2019	3 AM	0	235	128	25	NA	NA	0	0	
19-03-2019	4 AM	0	222	130	22	NA	NA	0	0	
19-03-2019	5 AM	0	216	133	22	NA	NA	0	0	
19-03-2019	6 AM	0	204	134	22	NA	NA	0	0	
19-03-2019	7 AM	0	206	140	22	NA	NA	0	0	
19-03-2019	8 AM	0	212	148	22	NA	NA	0	0	
19-03-2019	9 AM	0	214	153	22	NA	NA	0	0	
19-03-2019	10 AM	0	222	162	21	NA	NA	0	0	
19-03-2019	11 AM	0	221	164	22	NA	NA	0	0	
19-03-2019	12 PM	0	224	167	44	NA	NA	0	0	
19-03-2019	1 PM	0	259	181	47	NA	NA	0	0	
19-03-2019	2 PM	0	247	178	27	NA	NA	0	0	
19-03-2019	3 PM	0	250	172	22	NA	NA	0	0	
19-03-2019	4 PM	0	252	148	21	NA	NA	0	0	
19-03-2019	5 PM	0	233	143	23	NA	NA	0	0	
19-03-2019	6 PM	0	224	127	24	NA	NA	0	0	
19-03-2019	7 PM	0	203	118	25	NA	NA	0	0	
19-03-2019	8 PM	0	196	113	26	NA	NA	0	0	
19-03-2019	9 PM	0	172	95	39	NA	NA	0	0	
19-03-2019	10 PM	0	168	94	96	NA	NA	0	0	
19-03-2019	11 PM	0	187	111	108	NA	NA	0	0	
20-03-2019	12 AM	0	149.5	97	49	NA	NA	0	0	
20-03-2019	1 AM	0	148	97	29	NA	NA	0	0	
20-03-2019	2 AM	0	169	114	26	NA	NA	0	0	
20-03-2019	3 AM	0	187	131	24	NA	NA	0	0	

20-03-2019	4 AM	0	148	116	25	NA	NA	0	0	
20-03-2019	5 AM	0	143	118	26	NA	NA	0	0	
20-03-2019	6 AM	0	143	121	26	NA	NA	0	0	
20-03-2019	7 AM	0	158	135	25	NA	NA	0	0	
20-03-2019	8 AM	0	251	183	21	NA	NA	0	0	
20-03-2019	9 AM	0	267	189	40	NA	NA	0	0	
20-03-2019	10 AM	0	206	154	74	NA	NA	0	0	
20-03-2019	11 AM	0	209	155	34	NA	NA	0	0	
20-03-2019	12 PM	0	194	150	27	NA	NA	0	0	
20-03-2019	1 PM	0	156	135	26	NA	NA	0	0	
20-03-2019	2 PM	0	157	140	25	NA	NA	0	0	
20-03-2019	3 PM	0	165	147	23	NA	NA	0	0	
20-03-2019	4 PM	0	192	153	23	NA	NA	0	0	
20-03-2019	5 PM	0	211	133	25	NA	NA	0	0	
20-03-2019	6 PM	0	184	116	27	NA	NA	0	0	
20-03-2019	7 PM	0	169	103	26	NA	NA	0	0	
20-03-2019	8 PM	0	157	90	56	NA	NA	0	0	
20-03-2019	9 PM	0	200	96	79	NA	NA	0	0	
20-03-2019	10 PM	0	195	91	37	NA	NA	0	0	
20-03-2019	11 PM	0	169	77	29	NA	NA	0	0	
21-03-2019	12 AM	0	137.5	108.5	27	NA	NA	0	0	
21-03-2019	1 AM	0	122	129	28	NA	NA	0	0	
21-03-2019	2 AM	0	124	151	26	NA	NA	0	0	
21-03-2019	3 AM	0	146	164	27	NA	NA	0	0	
21-03-2019	4 AM	0	132	163	26	NA	NA	0	0	
21-03-2019	5 AM	0	133	172	26	NA	NA	0	0	
21-03-2019	6 AM	0	134	177	26	NA	NA	0	0	
21-03-2019	7 AM	0	121	177	25	NA	NA	0	0	
21-03-2019	8 AM	0	121	196	25	NA	NA	0	0	

21-03-2019	9 AM	0	126	207	33	NA	NA	0	0	
21-03-2019	10 AM	0	137	200	34	NA	NA	0	0	
21-03-2019	11 AM	0	119	195	27	NA	NA	0	0	
21-03-2019	12 PM	0	112	196	25	NA	NA	0	0	
21-03-2019	1 PM	0	111	201	25	NA	NA	0	0	
21-03-2019	2 PM	0	135	220	26	NA	NA	0	0	
21-03-2019	3 PM	0	168	234	25	NA	NA	0	0	
21-03-2019	4 PM	0	163	226	25	NA	NA	0	0	
21-03-2019	5 PM	0	180	232	24	NA	NA	0	0	
21-03-2019	6 PM	0	197	243	23	NA	NA	0	0	
21-03-2019	7 PM	0	149	219	26	NA	NA	0	0	
21-03-2019	8 PM	0	173	229	28	NA	NA	0	0	
21-03-2019	9 PM	0	171	227	26	NA	NA	0	0	
21-03-2019	10 PM	0	138	213	26	NA	NA	0	0	
21-03-2019	11 PM	0	157	208	25	NA	NA	0	0	
22-03-2019	12 AM	0	145.5	219	25.5	NA	NA	0	0	
22-03-2019	1 AM	0	178	127	28	NA	NA	0	0	
22-03-2019	2 AM	0	161	113	27	NA	NA	0	0	
22-03-2019	3 AM	0	151	88	28	NA	NA	0	0	
22-03-2019	4 AM	0	146	77	30	NA	NA	0	0	
22-03-2019	5 AM	0	117	60	30	NA	NA	0	0	
22-03-2019	6 AM	0	125	63	30	NA	NA	0	0	
22-03-2019	7 AM	0	122	63	46	NA	NA	0	0	
22-03-2019	8 AM	0	155	93	31	NA	NA	0	0	
22-03-2019	9 AM	0	210	128	28	NA	NA	0	0	
22-03-2019	10 AM	0	204	136	26	NA	NA	0	0	
22-03-2019	11 AM	0	238	159	25	NA	NA	0	0	
22-03-2019	12 PM	0	236	160	26	NA	NA	0	0	
22-03-2019	1 PM	0	196	123	25	NA	NA	0	0	

22-03-2019	2 PM	1	264	138	27	NA	NA	0	0	
22-03-2019	3 PM	1	275	140	29	NA	NA	0	0	
22-03-2019	4 PM	2	246	195	17	NA	NA	0	0	
22-03-2019	5 PM	1	229	210	15	NA	NA	0	0	
22-03-2019	6 PM	1	235	229	19	NA	NA	0	0	
22-03-2019	7 PM	1	263	226	46	NA	NA	0	0	
22-03-2019	8 PM	1	205	198	35	NA	NA	0	0	
22-03-2019	9 PM	1	236	235	26	NA	NA	0	0	
22-03-2019	10 PM	1	248	252	22	NA	NA	0	0	
22-03-2019	11 PM	1	243	254	23	NA	NA	0	0	
23-03-2019	12 AM	1	199.5	236.5	22.5	NA	NA	0	0	
23-03-2019	1 AM	1	223	247	22	NA	NA	0	0	
23-03-2019	2 AM	1	244	257	22	NA	NA	0	0	
23-03-2019	3 AM	1	250	261	24	NA	NA	0	0	
23-03-2019	4 AM	1	256	263	24	NA	NA	0	0	
23-03-2019	5 AM	1	255	267	24	NA	NA	0	0	
23-03-2019	6 AM	1	243	261	24	NA	NA	0	0	
23-03-2019	7 AM	1	243	263	24	NA	NA	0	0	
23-03-2019	8 AM	1	238	261	24	NA	NA	0	0	
23-03-2019	9 AM	1	241	263	23	NA	NA	0	0	
23-03-2019	10 AM	1	248	268	24	NA	NA	0	0	
23-03-2019	11 AM	1	259	268	48	NA	NA	0	0	
23-03-2019	12 PM	1	275	271	100	NA	NA	0	0	
23-03-2019	1 PM	1	285	271	129	NA	NA	0	0	
23-03-2019	2 PM	1	292	270	149	NA	NA	0	0	
23-03-2019	3 PM	1	296	264	89	NA	NA	0	0	
23-03-2019	4 PM	1	269	246	36	NA	NA	0	0	
23-03-2019	5 PM	1	248	248	52	NA	NA	0	0	
23-03-2019	6 PM	1	264	261	42	NA	NA	0	0	

23-03-2019	7 PM	1	264	261	28	NA	NA	0	0	
23-03-2019	8 PM	1	261	266	24	NA	NA	0	0	
23-03-2019	9 PM	1	253	262	20	NA	NA	0	0	
23-03-2019	10 PM	1	257	261	21	NA	NA	0	0	
23-03-2019	11 PM	1	229	241	24	NA	NA	0	0	
24-03-2019	12 AM	0.5	171	259.5	24.5	NA	NA	0	0	
24-03-2019	1 AM	0	180	202	28	NA	NA	0	0	
24-03-2019	2 AM	0	142	179	27	NA	NA	0	0	
24-03-2019	3 AM	0	171	230	26	NA	NA	0	0	
24-03-2019	4 AM	0	148	206	25	NA	NA	0	0	
24-03-2019	5 AM	0	151	210	26	NA	NA	0	0	
24-03-2019	6 AM	0	139	206	25	NA	NA	0	0	
24-03-2019	7 AM	0	137	205	33	NA	NA	0	0	
24-03-2019	8 AM	0	153	215	37	NA	NA	0	0	
24-03-2019	9 AM	0	137	212	28	NA	NA	0	0	
24-03-2019	10 AM	0	133	213	25	NA	NA	0	0	
24-03-2019	11 AM	0	141	219	26	NA	NA	0	0	
24-03-2019	12 PM	0	141	220	26	NA	NA	0	0	
24-03-2019	1 PM	0	141	220	25	NA	NA	0	0	
24-03-2019	2 PM	0	144	222	25	NA	NA	0	0	
24-03-2019	3 PM	0	149	225	24	NA	NA	0	0	
24-03-2019	4 PM	0	166	234	24	NA	NA	0	0	
24-03-2019	5 PM	0	173	235	25	NA	NA	0	0	
24-03-2019	6 PM	0	162	230	26	NA	NA	0	0	
24-03-2019	7 PM	0	168	230	25	NA	NA	0	0	
24-03-2019	8 PM	0	165	231	26	NA	NA	0	0	
24-03-2019	9 PM	0	151	219	25	NA	NA	0	0	
24-03-2019	10 PM	0	175	236	25	NA	NA	0	0	
24-03-2019	11 PM	0	186	240	24	NA	NA	0	0	

25-03-2019	12 AM	0	131.5	207	24	NA	NA	0	0	
25-03-2019	1 AM	0	172	232	25	NA	NA	0	0	
25-03-2019	2 AM	0	200	245	23	NA	NA	0	0	
25-03-2019	3 AM	0	202	248	22	NA	NA	0	0	
25-03-2019	4 AM	0	238	256	22	NA	NA	0	0	
25-03-2019	5 AM	0	235	247	25	NA	NA	0	0	
25-03-2019	6 AM	0	215	238	25	NA	NA	0	0	
25-03-2019	7 AM	0	218	237	25	NA	NA	0	0	
25-03-2019	8 AM	0	196	230	26	NA	NA	0	0	
25-03-2019	9 AM	0	202	229	57	NA	NA	0	0	
25-03-2019	10 AM	0	213	232	49	NA	NA	0	0	
25-03-2019	11 AM	0	204	234	29	NA	NA	0	0	
25-03-2019	12 PM	0	216	242	25	NA	NA	0	0	
25-03-2019	1 PM	0	189	232	25	NA	NA	0	0	
25-03-2019	2 PM	0	168	218	26	NA	NA	0	0	
25-03-2019	3 PM	0	180	226	24	NA	NA	0	0	
25-03-2019	4 PM	0	179	229	26	NA	NA	0	0	
25-03-2019	5 PM	0	232	251	24	NA	NA	0	0	
25-03-2019	6 PM	0	213	238	65	NA	NA	0	0	
25-03-2019	7 PM	0	264	249	70	NA	NA	0	0	
25-03-2019	8 PM	0	252	245	42	NA	NA	0	0	
25-03-2019	9 PM	0	228	234	31	NA	NA	0	0	
25-03-2019	10 PM	0	221	227	26	NA	NA	0	0	
25-03-2019	11 PM	0	220	223	26	NA	NA	0	0	
26-03-2019	12 AM	0	170.5	190	28.5	NA	NA	0	0	
26-03-2019	1 AM	0	196	197	31	NA	NA	0	0	
26-03-2019	2 AM	0	212	202	30	NA	NA	0	0	
26-03-2019	3 AM	0	187	190	31	NA	NA	0	0	
26-03-2019	4 AM	0	188	201	31	NA	NA	0	0	

26-03-2019	5 AM	0	207	208	80	NA	NA	0	0	
26-03-2019	6 AM	0	222	215	142	NA	NA	0	0	
26-03-2019	7 AM	0	240	226	156	NA	NA	0	0	
26-03-2019	8 AM	0	247	238	78	NA	NA	0	0	
26-03-2019	9 AM	0	214	235	35	NA	NA	0	0	
26-03-2019	10 AM	0	202	238	26	NA	NA	0	0	
26-03-2019	11 AM	0	185	235	23	NA	NA	0	0	
26-03-2019	12 PM	0	178	232	23	NA	NA	0	0	
26-03-2019	1 PM	0	176	225	22	NA	NA	0	0	
26-03-2019	2 PM	0	173	224	23	NA	NA	0	0	
26-03-2019	3 PM	0	168	222	23	NA	NA	0	0	
26-03-2019	4 PM	0	161	221	23	NA	NA	0	0	
26-03-2019	5 PM	0	160	223	23	NA	NA	0	0	
26-03-2019	6 PM	0	144	219	23	NA	NA	0	0	
26-03-2019	7 PM	0	146	222	21	NA	NA	0	0	
26-03-2019	8 PM	0	142	223	21	NA	NA	0	0	
26-03-2019	9 PM	0	141	224	21	NA	NA	0	0	
26-03-2019	10 PM	0	145	227	21	NA	NA	0	0	
26-03-2019	11 PM	0	145	225	21	NA	NA	0	0	
27-03-2019	12 AM	0	0	0	0	NA	NA	0	0	
27-03-2019	1 AM	0	168	246	43	NA	NA	0	0	
27-03-2019	2 AM	0	151	225	32	NA	NA	0	0	
27-03-2019	3 AM	-	-	-	-	-	-	-	-	
27-03-2019	4 AM	-	-	-	-	-	-	-	-	
27-03-2019	5 AM	-	-	-	-	-	-	-	-	
27-03-2019	6 AM	-	-	-	-	-	-	-	-	
27-03-2019	7 AM	-	-	-	-	-	-	-	-	
27-03-2019	8 AM	-	-	-	-	-	-	-	-	
27-03-2019	9 AM	-	-	-	-	-	-	-	-	

27-03-2019	10 AM	-	-	-	-	-	-	-	-	-
27-03-2019	11 AM	-	-	-	-	-	-	-	-	-
27-03-2019	12 PM	-	-	-	-	-	-	-	-	-
27-03-2019	1 PM	-	-	-	-	-	-	-	-	-
27-03-2019	2 PM	-	-	-	-	-	-	-	-	-
27-03-2019	3 PM	-	-	-	-	-	-	-	-	-
27-03-2019	4 PM	-	-	-	-	-	-	-	-	-
27-03-2019	5 PM	-	-	-	-	-	-	-	-	-
27-03-2019	6 PM	-	-	-	-	-	-	-	-	-
27-03-2019	7 PM	-	-	-	-	-	-	-	-	-
27-03-2019	8 PM	-	-	-	-	-	-	-	-	-
27-03-2019	9 PM	-	-	-	-	-	-	-	-	-
27-03-2019	10 PM	-	-	-	-	-	-	-	-	-
27-03-2019	11 PM	-	-	-	-	-	-	-	-	-
28-03-2019	12 AM	-	-	-	-	-	-	-	-	-
28-03-2019	1 AM	-	-	-	-	-	-	-	-	-
28-03-2019	2 AM	-	-	-	-	-	-	-	-	-
28-03-2019	3 AM	-	-	-	-	-	-	-	-	-
28-03-2019	4 AM	-	-	-	-	-	-	-	-	-
28-03-2019	5 AM	-	-	-	-	-	-	-	-	-
28-03-2019	6 AM	-	-	-	-	-	-	-	-	-
28-03-2019	7 AM	-	-	-	-	-	-	-	-	-
28-03-2019	8 AM	-	-	-	-	-	-	-	-	-
28-03-2019	9 AM	-	-	-	-	-	-	-	-	-
28-03-2019	10 AM	-	-	-	-	-	-	-	-	-
28-03-2019	11 AM	-	-	-	-	-	-	-	-	-
28-03-2019	12 PM	-	-	-	-	-	-	-	-	-
28-03-2019	1 PM	-	-	-	-	-	-	-	-	-
28-03-2019	2 PM	-	-	-	-	-	-	-	-	-

28-03-2019	3 PM	-	-	-	-	-	-	-	-	
28-03-2019	4 PM	-	-	-	-	-	-	-	-	
28-03-2019	5 PM	-	-	-	-	-	-	-	-	
28-03-2019	6 PM	-	-	-	-	-	-	-	-	
28-03-2019	7 PM	-	-	-	-	-	-	-	-	
28-03-2019	8 PM	-	-	-	-	-	-	-	-	
28-03-2019	9 PM	-	-	-	-	-	-	-	-	
28-03-2019	10 PM	-	-	-	-	-	-	-	-	
28-03-2019	11 PM	-	-	-	-	-	-	-	-	
29-03-2019	12 AM	-	-	-	-	-	-	-	-	
29-03-2019	1 AM	-	-	-	-	-	-	-	-	
29-03-2019	2 AM	-	-	-	-	-	-	-	-	
29-03-2019	3 AM	-	-	-	-	-	-	-	-	
29-03-2019	4 AM	-	-	-	-	-	-	-	-	
29-03-2019	5 AM	-	-	-	-	-	-	-	-	
29-03-2019	6 AM	-	-	-	-	-	-	-	-	
29-03-2019	7 AM	-	-	-	-	-	-	-	-	
29-03-2019	8 AM	-	-	-	-	-	-	-	-	
29-03-2019	9 AM	-	-	-	-	-	-	-	-	
29-03-2019	10 AM	3	101	152	44	NA	NA	0	0	
29-03-2019	11 AM	-	-	-	-	-	-	-	-	
29-03-2019	12 PM	-	-	-	-	-	-	-	-	
29-03-2019	1 PM	-	-	-	-	-	-	-	-	
29-03-2019	2 PM	-	-	-	-	-	-	-	-	
29-03-2019	3 PM	-	-	-	-	-	-	-	-	
29-03-2019	4 PM	-	-	-	-	-	-	-	-	
29-03-2019	5 PM	-	-	-	-	-	-	-	-	
29-03-2019	6 PM	0	0	0	0	NA	NA	0	0	
29-03-2019	7 PM	0	71	141	44	NA	NA	0	0	

29-03-2019	8 PM	-	-	-	-	-	-	-	-	-
29-03-2019	9 PM	-	-	-	-	-	-	-	-	-
29-03-2019	10 PM	-	-	-	-	-	-	-	-	-
29-03-2019	11 PM	-	-	-	-	-	-	-	-	-
30-03-2019	12 AM	-	-	-	-	-	-	-	-	-
30-03-2019	1 AM	-	-	-	-	-	-	-	-	-
30-03-2019	2 AM	-	-	-	-	-	-	-	-	-
30-03-2019	3 AM	-	-	-	-	-	-	-	-	-
30-03-2019	4 AM	-	-	-	-	-	-	-	-	-
30-03-2019	5 AM	-	-	-	-	-	-	-	-	-
30-03-2019	6 AM	-	-	-	-	-	-	-	-	-
30-03-2019	7 AM	-	-	-	-	-	-	-	-	-
30-03-2019	8 AM	-	-	-	-	-	-	-	-	-
30-03-2019	9 AM	-	-	-	-	-	-	-	-	-
30-03-2019	10 AM	-	-	-	-	-	-	-	-	-
30-03-2019	11 AM	-	-	-	-	-	-	-	-	-
30-03-2019	12 PM	-	-	-	-	-	-	-	-	-
30-03-2019	1 PM	-	-	-	-	-	-	-	-	-
30-03-2019	2 PM	-	-	-	-	-	-	-	-	-
30-03-2019	3 PM	-	-	-	-	-	-	-	-	-
30-03-2019	4 PM	-	-	-	-	-	-	-	-	-
30-03-2019	5 PM	-	-	-	-	-	-	-	-	-
30-03-2019	6 PM	-	-	-	-	-	-	-	-	-
30-03-2019	7 PM	-	-	-	-	-	-	-	-	-
30-03-2019	8 PM	-	-	-	-	-	-	-	-	-
30-03-2019	9 PM	-	-	-	-	-	-	-	-	-
30-03-2019	10 PM	-	-	-	-	-	-	-	-	-
30-03-2019	11 PM	-	-	-	-	-	-	-	-	-
31-03-2019	12 AM	-	-	-	-	-	-	-	-	-

31-03-2019	1 AM	-	-	-	-	-	-	-	-	
31-03-2019	2 AM	-	-	-	-	-	-	-	-	
31-03-2019	3 AM	-	-	-	-	-	-	-	-	
31-03-2019	4 AM	0	13	17	0	NA	NA	0	0	
31-03-2019	5 AM	0	20	39	2	NA	NA	0	0	
31-03-2019	6 AM	0	25	41	1	NA	NA	0	0	
31-03-2019	7 AM	1	75	79	8	NA	NA	0	0	
31-03-2019	8 AM	0	48	57	4	NA	NA	0	0	
31-03-2019	9 AM	0	86	84	10	NA	NA	0	0	
31-03-2019	10 AM	0	155	135	22	NA	NA	0	0	
31-03-2019	11 AM	0	253	188	35	NA	NA	0	0	
31-03-2019	12 PM	0	149	114	21	NA	NA	0	0	
31-03-2019	1 PM	0	259	178	36	NA	NA	0	0	
31-03-2019	2 PM	0	238	156	32	NA	NA	0	0	
31-03-2019	3 PM	0	17	15	1	NA	NA	0	0	
31-03-2019	4 PM	-	-	-	-	-	-	-	-	
31-03-2019	5 PM	-	-	-	-	-	-	-	-	
31-03-2019	6 PM	-	-	-	-	-	-	-	-	
31-03-2019	7 PM	1	21	20	17	NA	NA	0	0	
31-03-2019	8 PM	0	130	88	44	NA	NA	0	0	
31-03-2019	9 PM	0	219	143	43	NA	NA	0	0	
31-03-2019	10 PM	0	216	147	34	NA	NA	0	0	
31-03-2019	11 PM	0	215	138	33	NA	NA	0	0	

Annex G4

Hourly Average of Parameters Measured in CHP 3

Date	Hour	CHP 3 Hourly Average (mg/Nm ³)								Remarks
		Dust	CO	NOx	SO2	NMVOCs	VOC (including methane)	HCL	HF	
01-03-2019	12 AM	-	-	-	-	-	-	-	-	
01-03-2019	1 AM	-	-	-	-	-	-	-	-	
01-03-2019	2 AM	-	-	-	-	-	-	-	-	
01-03-2019	3 AM	-	-	-	-	-	-	-	-	
01-03-2019	4 AM	-	-	-	-	-	-	-	-	
01-03-2019	5 AM	-	-	-	-	-	-	-	-	
01-03-2019	6 AM	-	-	-	-	-	-	-	-	
01-03-2019	7 AM	-	-	-	-	-	-	-	-	
01-03-2019	8 AM	-	-	-	-	-	-	-	-	
01-03-2019	9 AM	-	-	-	-	-	-	-	-	
01-03-2019	10 AM	-	-	-	-	-	-	-	-	
01-03-2019	11 AM	-	-	-	-	-	-	-	-	
01-03-2019	12 PM	-	-	-	-	-	-	-	-	
01-03-2019	1 PM	-	-	-	-	-	-	-	-	
01-03-2019	2 PM	-	-	-	-	-	-	-	-	
01-03-2019	3 PM	-	-	-	-	-	-	-	-	
01-03-2019	4 PM	-	-	-	-	-	-	-	-	
01-03-2019	5 PM	-	-	-	-	-	-	-	-	
01-03-2019	6 PM	-	-	-	-	-	-	-	-	
01-03-2019	7 PM	-	-	-	-	-	-	-	-	
01-03-2019	8 PM	-	-	-	-	-	-	-	-	
01-03-2019	9 PM	-	-	-	-	-	-	-	-	
01-03-2019	10 PM	-	-	-	-	-	-	-	-	
01-03-2019	11 PM	-	-	-	-	-	-	-	-	
02-03-2019	12 AM	-	-	-	-	-	-	-	-	

02-03-2019	1 AM	-	-	-	-	-	-	-	-	-
02-03-2019	2 AM	-	-	-	-	-	-	-	-	-
02-03-2019	3 AM	-	-	-	-	-	-	-	-	-
02-03-2019	4 AM	-	-	-	-	-	-	-	-	-
02-03-2019	5 AM	-	-	-	-	-	-	-	-	-
02-03-2019	6 AM	-	-	-	-	-	-	-	-	-
02-03-2019	7 AM	-	-	-	-	-	-	-	-	-
02-03-2019	8 AM	-	-	-	-	-	-	-	-	-
02-03-2019	9 AM	-	-	-	-	-	-	-	-	-
02-03-2019	10 AM	-	-	-	-	-	-	-	-	-
02-03-2019	11 AM	-	-	-	-	-	-	-	-	-
02-03-2019	12 PM	-	-	-	-	-	-	-	-	-
02-03-2019	1 PM	-	-	-	-	-	-	-	-	-
02-03-2019	2 PM	-	-	-	-	-	-	-	-	-
02-03-2019	3 PM	-	-	-	-	-	-	-	-	-
02-03-2019	4 PM	-	-	-	-	-	-	-	-	-
02-03-2019	5 PM	-	-	-	-	-	-	-	-	-
02-03-2019	6 PM	-	-	-	-	-	-	-	-	-
02-03-2019	7 PM	-	-	-	-	-	-	-	-	-
02-03-2019	8 PM	-	-	-	-	-	-	-	-	-
02-03-2019	9 PM	-	-	-	-	-	-	-	-	-
02-03-2019	10 PM	-	-	-	-	-	-	-	-	-
02-03-2019	11 PM	-	-	-	-	-	-	-	-	-
03-03-2019	12 AM	-	-	-	-	-	-	-	-	-
03-03-2019	1 AM	-	-	-	-	-	-	-	-	-
03-03-2019	2 AM	-	-	-	-	-	-	-	-	-
03-03-2019	3 AM	-	-	-	-	-	-	-	-	-
03-03-2019	4 AM	-	-	-	-	-	-	-	-	-
03-03-2019	5 AM	-	-	-	-	-	-	-	-	-

03-03-2019	6 AM	-	-	-	-	-	-	-	-	-
03-03-2019	7 AM	-	-	-	-	-	-	-	-	-
03-03-2019	8 AM	-	-	-	-	-	-	-	-	-
03-03-2019	9 AM	-	-	-	-	-	-	-	-	-
03-03-2019	10 AM	-	-	-	-	-	-	-	-	-
03-03-2019	11 AM	-	-	-	-	-	-	-	-	-
03-03-2019	12 PM	-	-	-	-	-	-	-	-	-
03-03-2019	1 PM	-	-	-	-	-	-	-	-	-
03-03-2019	2 PM	-	-	-	-	-	-	-	-	-
03-03-2019	3 PM	-	-	-	-	-	-	-	-	-
03-03-2019	4 PM	-	-	-	-	-	-	-	-	-
03-03-2019	5 PM	-	-	-	-	-	-	-	-	-
03-03-2019	6 PM	-	-	-	-	-	-	-	-	-
03-03-2019	7 PM	-	-	-	-	-	-	-	-	-
03-03-2019	8 PM	-	-	-	-	-	-	-	-	-
03-03-2019	9 PM	-	-	-	-	-	-	-	-	-
03-03-2019	10 PM	-	-	-	-	-	-	-	-	-
03-03-2019	11 PM	-	-	-	-	-	-	-	-	-
04-03-2019	12 AM	-	-	-	-	-	-	-	-	-
04-03-2019	1 AM	-	-	-	-	-	-	-	-	-
04-03-2019	2 AM	-	-	-	-	-	-	-	-	-
04-03-2019	3 AM	-	-	-	-	-	-	-	-	-
04-03-2019	4 AM	-	-	-	-	-	-	-	-	-
04-03-2019	5 AM	-	-	-	-	-	-	-	-	-
04-03-2019	6 AM	-	-	-	-	-	-	-	-	-
04-03-2019	7 AM	-	-	-	-	-	-	-	-	-
04-03-2019	8 AM	-	-	-	-	-	-	-	-	-
04-03-2019	9 AM	-	-	-	-	-	-	-	-	-
04-03-2019	10 AM	-	-	-	-	-	-	-	-	-

04-03-2019	11 AM	-	-	-	-	-	-	-	-	-
04-03-2019	12 PM	-	-	-	-	-	-	-	-	-
04-03-2019	1 PM	-	-	-	-	-	-	-	-	-
04-03-2019	2 PM	-	-	-	-	-	-	-	-	-
04-03-2019	3 PM	-	-	-	-	-	-	-	-	-
04-03-2019	4 PM	-	-	-	-	-	-	-	-	-
04-03-2019	5 PM	-	-	-	-	-	-	-	-	-
04-03-2019	6 PM	-	-	-	-	-	-	-	-	-
04-03-2019	7 PM	-	-	-	-	-	-	-	-	-
04-03-2019	8 PM	-	-	-	-	-	-	-	-	-
04-03-2019	9 PM	-	-	-	-	-	-	-	-	-
04-03-2019	10 PM	-	-	-	-	-	-	-	-	-
04-03-2019	11 PM	-	-	-	-	-	-	-	-	-
05-03-2019	12 AM	-	-	-	-	-	-	-	-	-
05-03-2019	1 AM	-	-	-	-	-	-	-	-	-
05-03-2019	2 AM	-	-	-	-	-	-	-	-	-
05-03-2019	3 AM	-	-	-	-	-	-	-	-	-
05-03-2019	4 AM	-	-	-	-	-	-	-	-	-
05-03-2019	5 AM	-	-	-	-	-	-	-	-	-
05-03-2019	6 AM	-	-	-	-	-	-	-	-	-
05-03-2019	7 AM	-	-	-	-	-	-	-	-	-
05-03-2019	8 AM	-	-	-	-	-	-	-	-	-
05-03-2019	9 AM	-	-	-	-	-	-	-	-	-
05-03-2019	10 AM	-	-	-	-	-	-	-	-	-
05-03-2019	11 AM	-	-	-	-	-	-	-	-	-
05-03-2019	12 PM	-	-	-	-	-	-	-	-	-
05-03-2019	1 PM	-	-	-	-	-	-	-	-	-
05-03-2019	2 PM	-	-	-	-	-	-	-	-	-
05-03-2019	3 PM	-	-	-	-	-	-	-	-	-

05-03-2019	4 PM	-	-	-	-	-	-	-	-	-
05-03-2019	5 PM	-	-	-	-	-	-	-	-	-
05-03-2019	6 PM	-	-	-	-	-	-	-	-	-
05-03-2019	7 PM	-	-	-	-	-	-	-	-	-
05-03-2019	8 PM	-	-	-	-	-	-	-	-	-
05-03-2019	9 PM	-	-	-	-	-	-	-	-	-
05-03-2019	10 PM	-	-	-	-	-	-	-	-	-
05-03-2019	11 PM	-	-	-	-	-	-	-	-	-
06-03-2019	12 AM	-	-	-	-	-	-	-	-	-
06-03-2019	1 AM	-	-	-	-	-	-	-	-	-
06-03-2019	2 AM	-	-	-	-	-	-	-	-	-
06-03-2019	3 AM	-	-	-	-	-	-	-	-	-
06-03-2019	4 AM	-	-	-	-	-	-	-	-	-
06-03-2019	5 AM	-	-	-	-	-	-	-	-	-
06-03-2019	6 AM	-	-	-	-	-	-	-	-	-
06-03-2019	7 AM	-	-	-	-	-	-	-	-	-
06-03-2019	8 AM	-	-	-	-	-	-	-	-	-
06-03-2019	9 AM	-	-	-	-	-	-	-	-	-
06-03-2019	10 AM	-	-	-	-	-	-	-	-	-
06-03-2019	11 AM	-	-	-	-	-	-	-	-	-
06-03-2019	12 PM	-	-	-	-	-	-	-	-	-
06-03-2019	1 PM	-	-	-	-	-	-	-	-	-
06-03-2019	2 PM	-	-	-	-	-	-	-	-	-
06-03-2019	3 PM	-	-	-	-	-	-	-	-	-
06-03-2019	4 PM	-	-	-	-	-	-	-	-	-
06-03-2019	5 PM	-	-	-	-	-	-	-	-	-
06-03-2019	6 PM	-	-	-	-	-	-	-	-	-
06-03-2019	7 PM	-	-	-	-	-	-	-	-	-
06-03-2019	8 PM	-	-	-	-	-	-	-	-	-

06-03-2019	9 PM	-	-	-	-	-	-	-	-	-
06-03-2019	10 PM	-	-	-	-	-	-	-	-	-
06-03-2019	11 PM	-	-	-	-	-	-	-	-	-
07-03-2019	12 AM	-	-	-	-	-	-	-	-	-
07-03-2019	1 AM	-	-	-	-	-	-	-	-	-
07-03-2019	2 AM	-	-	-	-	-	-	-	-	-
07-03-2019	3 AM	-	-	-	-	-	-	-	-	-
07-03-2019	4 AM	-	-	-	-	-	-	-	-	-
07-03-2019	5 AM	-	-	-	-	-	-	-	-	-
07-03-2019	6 AM	-	-	-	-	-	-	-	-	-
07-03-2019	7 AM	-	-	-	-	-	-	-	-	-
07-03-2019	8 AM	-	-	-	-	-	-	-	-	-
07-03-2019	9 AM	-	-	-	-	-	-	-	-	-
07-03-2019	10 AM	-	-	-	-	-	-	-	-	-
07-03-2019	11 AM	-	-	-	-	-	-	-	-	-
07-03-2019	12 PM	-	-	-	-	-	-	-	-	-
07-03-2019	1 PM	-	-	-	-	-	-	-	-	-
07-03-2019	2 PM	-	-	-	-	-	-	-	-	-
07-03-2019	3 PM	-	-	-	-	-	-	-	-	-
07-03-2019	4 PM	-	-	-	-	-	-	-	-	-
07-03-2019	5 PM	-	-	-	-	-	-	-	-	-
07-03-2019	6 PM	-	-	-	-	-	-	-	-	-
07-03-2019	7 PM	-	-	-	-	-	-	-	-	-
07-03-2019	8 PM	-	-	-	-	-	-	-	-	-
07-03-2019	9 PM	-	-	-	-	-	-	-	-	-
07-03-2019	10 PM	-	-	-	-	-	-	-	-	-
07-03-2019	11 PM	-	-	-	-	-	-	-	-	-
08-03-2019	12 AM	-	-	-	-	-	-	-	-	-
08-03-2019	1 AM	-	-	-	-	-	-	-	-	-

08-03-2019	2 AM	-	-	-	-	-	-	-	-	-
08-03-2019	3 AM	-	-	-	-	-	-	-	-	-
08-03-2019	4 AM	-	-	-	-	-	-	-	-	-
08-03-2019	5 AM	-	-	-	-	-	-	-	-	-
08-03-2019	6 AM	-	-	-	-	-	-	-	-	-
08-03-2019	7 AM	-	-	-	-	-	-	-	-	-
08-03-2019	8 AM	-	-	-	-	-	-	-	-	-
08-03-2019	9 AM	-	-	-	-	-	-	-	-	-
08-03-2019	10 AM	-	-	-	-	-	-	-	-	-
08-03-2019	11 AM	-	-	-	-	-	-	-	-	-
08-03-2019	12 PM	-	-	-	-	-	-	-	-	-
08-03-2019	1 PM	-	-	-	-	-	-	-	-	-
08-03-2019	2 PM	-	-	-	-	-	-	-	-	-
08-03-2019	3 PM	-	-	-	-	-	-	-	-	-
08-03-2019	4 PM	-	-	-	-	-	-	-	-	-
08-03-2019	5 PM	-	-	-	-	-	-	-	-	-
08-03-2019	6 PM	-	-	-	-	-	-	-	-	-
08-03-2019	7 PM	-	-	-	-	-	-	-	-	-
08-03-2019	8 PM	-	-	-	-	-	-	-	-	-
08-03-2019	9 PM	-	-	-	-	-	-	-	-	-
08-03-2019	10 PM	-	-	-	-	-	-	-	-	-
08-03-2019	11 PM	-	-	-	-	-	-	-	-	-
09-03-2019	12 AM	-	-	-	-	-	-	-	-	-
09-03-2019	1 AM	-	-	-	-	-	-	-	-	-
09-03-2019	2 AM	-	-	-	-	-	-	-	-	-
09-03-2019	3 AM	1	121	447	19	NA	NA	0	1	-
09-03-2019	4 AM	-	-	-	-	-	-	-	-	-
09-03-2019	5 AM	-	-	-	-	-	-	-	-	-
09-03-2019	6 AM	-	-	-	-	-	-	-	-	-

09-03-2019	7 AM	-	-	-	-	-	-	-	-	
09-03-2019	8 AM	-	-	-	-	-	-	-	-	
09-03-2019	9 AM	-	-	-	-	-	-	-	-	
09-03-2019	10 AM	-	-	-	-	-	-	-	-	
09-03-2019	11 AM	-	-	-	-	-	-	-	-	
09-03-2019	12 PM	-	-	-	-	-	-	-	-	
09-03-2019	1 PM	-	-	-	-	-	-	-	-	
09-03-2019	2 PM	-	-	-	-	-	-	-	-	
09-03-2019	3 PM	-	-	-	-	-	-	-	-	
09-03-2019	4 PM	-	-	-	-	-	-	-	-	
09-03-2019	5 PM	-	-	-	-	-	-	-	-	
09-03-2019	6 PM	-	-	-	-	-	-	-	-	
09-03-2019	7 PM	-	-	-	-	-	-	-	-	
09-03-2019	8 PM	-	-	-	-	-	-	-	-	
09-03-2019	9 PM	-	-	-	-	-	-	-	-	
09-03-2019	10 PM	-	-	-	-	-	-	-	-	
09-03-2019	11 PM	1	219	320	35	NA	NA	0	1	
10-03-2019	12 AM	3	163	246	25	NA	NA	0	0	
10-03-2019	1 AM	3	206	208	20	NA	NA	0	0	
10-03-2019	2 AM	3	233	215	17	NA	NA	0	0	
10-03-2019	3 AM	2	215	206	18	NA	NA	0	0	
10-03-2019	4 AM	2	209	205	19	NA	NA	0	0	
10-03-2019	5 AM	2	209	202	19	NA	NA	0	0	
10-03-2019	6 AM	2	227	203	19	NA	NA	0	0	
10-03-2019	7 AM	2	243	206	18	NA	NA	0	0	
10-03-2019	8 AM	2	234	204	19	NA	NA	0	0	
10-03-2019	9 AM	2	215	198	30	NA	NA	0	0	
10-03-2019	10 AM	2	224	195	85	NA	NA	0	0	
10-03-2019	11 AM	2	249	198	83	NA	NA	0	0	

10-03-2019	12 PM	2	232	198	38	NA	NA	0	0	
10-03-2019	1 PM	3	283	216	25	NA	NA	0	0	
10-03-2019	2 PM	3	278	185	20	NA	NA	0	0.5	
10-03-2019	3 PM	1	191	145	18	NA	NA	0	0	
10-03-2019	4 PM	1	191	145	18	NA	NA	0	0	
10-03-2019	5 PM	1	187	162	17	NA	NA	0	0	
10-03-2019	6 PM	1	187	206	16	NA	NA	0	0	
10-03-2019	7 PM	-	-	-	-	-	-	-	-	
10-03-2019	8 PM	-	-	-	-	-	-	-	-	
10-03-2019	9 PM	-	-	-	-	-	-	-	-	
10-03-2019	10 PM	-	-	-	-	-	-	-	-	
10-03-2019	11 PM	-	-	-	-	-	-	-	-	
11-03-2019	12 AM	-	-	-	-	-	-	-	-	
11-03-2019	1 AM	-	-	-	-	-	-	-	-	
11-03-2019	2 AM	-	-	-	-	-	-	-	-	
11-03-2019	3 AM	-	-	-	-	-	-	-	-	
11-03-2019	4 AM	-	-	-	-	-	-	-	-	
11-03-2019	5 AM	-	-	-	-	-	-	-	-	
11-03-2019	6 AM	-	-	-	-	-	-	-	-	
11-03-2019	7 AM	-	-	-	-	-	-	-	-	
11-03-2019	8 AM	-	-	-	-	-	-	-	-	
11-03-2019	9 AM	-	-	-	-	-	-	-	-	
11-03-2019	10 AM	-	-	-	-	-	-	-	-	
11-03-2019	11 AM	-	-	-	-	-	-	-	-	
11-03-2019	12 PM	-	-	-	-	-	-	-	-	
11-03-2019	1 PM	-	-	-	-	-	-	-	-	
11-03-2019	2 PM	-	-	-	-	-	-	-	-	
11-03-2019	3 PM	-	-	-	-	-	-	-	-	
11-03-2019	4 PM	-	-	-	-	-	-	-	-	

11-03-2019	5 PM	-	-	-	-	-	-	-	-	
11-03-2019	6 PM	-	-	-	-	-	-	-	-	
11-03-2019	7 PM	-	-	-	-	-	-	-	-	
11-03-2019	8 PM	-	-	-	-	-	-	-	-	
11-03-2019	9 PM	-	-	-	-	-	-	-	-	
11-03-2019	10 PM	-	-	-	-	-	-	-	-	
11-03-2019	11 PM	-	-	-	-	-	-	-	-	
12-03-2019	12 AM	-	-	-	-	-	-	-	-	
12-03-2019	1 AM	-	-	-	-	-	-	-	-	
12-03-2019	2 AM	-	-	-	-	-	-	-	-	
12-03-2019	3 AM	-	-	-	-	-	-	-	-	
12-03-2019	4 AM	-	-	-	-	-	-	-	-	
12-03-2019	5 AM	-	-	-	-	-	-	-	-	
12-03-2019	6 AM	1	168	586	17	NA	NA	0	1	
12-03-2019	7 AM	-	-	-	-	-	-	-	-	
12-03-2019	8 AM	-	-	-	-	-	-	-	-	
12-03-2019	9 AM	-	-	-	-	-	-	-	-	
12-03-2019	10 AM	-	-	-	-	-	-	-	-	
12-03-2019	11 AM	-	-	-	-	-	-	-	-	
12-03-2019	12 PM	-	-	-	-	-	-	-	-	
12-03-2019	1 PM	-	-	-	-	-	-	-	-	
12-03-2019	2 PM	-	-	-	-	-	-	-	-	
12-03-2019	3 PM	-	-	-	-	-	-	-	-	
12-03-2019	4 PM	-	-	-	-	-	-	-	-	
12-03-2019	5 PM	-	-	-	-	-	-	-	-	
12-03-2019	6 PM	-	-	-	-	-	-	-	-	
12-03-2019	7 PM	-	-	-	-	-	-	-	-	
12-03-2019	8 PM	-	-	-	-	-	-	-	-	
12-03-2019	9 PM	-	-	-	-	-	-	-	-	

12-03-2019	10 PM	0	39	441	1	NA	NA	0	0	
12-03-2019	11 PM	0	43	27	0	NA	NA	0	0	
13-03-2019	12 AM	-	-	-	-	-	-	-	-	
13-03-2019	1 AM	-	-	-	-	-	-	-	-	
13-03-2019	2 AM	-	-	-	-	-	-	-	-	
13-03-2019	3 AM	-	-	-	-	-	-	-	-	
13-03-2019	4 AM	-	-	-	-	-	-	-	-	
13-03-2019	5 AM	-	-	-	-	-	-	-	-	
13-03-2019	6 AM	-	-	-	-	-	-	-	-	
13-03-2019	7 AM	-	-	-	-	-	-	-	-	
13-03-2019	8 AM	-	-	-	-	-	-	-	-	
13-03-2019	9 AM	-	-	-	-	-	-	-	-	
13-03-2019	10 AM	-	-	-	-	-	-	-	-	
13-03-2019	11 AM	-	-	-	-	-	-	-	-	
13-03-2019	12 PM	-	-	-	-	-	-	-	-	
13-03-2019	1 PM	-	-	-	-	-	-	-	-	
13-03-2019	2 PM	-	-	-	-	-	-	-	-	
13-03-2019	3 PM	-	-	-	-	-	-	-	-	
13-03-2019	4 PM	2	181	323	15	NA	NA	0	0.5	
13-03-2019	5 PM	2	191	213	15	NA	NA	0	0	
13-03-2019	6 PM	2	195	209	15	NA	NA	0	0	
13-03-2019	7 PM	1	194	204	14	NA	NA	0	0	
13-03-2019	8 PM	1	189	205	15	NA	NA	0	0	
13-03-2019	9 PM	1	186	202	53	NA	NA	0	0	
13-03-2019	10 PM	2	201	203	68	NA	NA	0	0	
13-03-2019	11 PM	1	189	200	27	NA	NA	0	0	
14-03-2019	12 AM	1	181	893	18	NA	NA	0	0.5	
14-03-2019	1 AM	1	184	202	16	NA	NA	0	0	
14-03-2019	2 AM	1	189	206	15	NA	NA	0	0	

14-03-2019	3 AM	1	192	205	15	NA	NA	0	0	
14-03-2019	4 AM	1	189	201	15	NA	NA	0	0	
14-03-2019	5 AM	-	-	-	-	-	-	-	-	
14-03-2019	6 AM	-	-	-	-	-	-	-	-	
14-03-2019	7 AM	-	-	-	-	-	-	-	-	
14-03-2019	8 AM	0	61	201	4	NA	NA	0	0	
14-03-2019	9 AM	-	-	-	-	-	-	-	-	
14-03-2019	10 AM	1	111	56	12	NA	NA	0	0	
14-03-2019	11 AM	2	278	144	21	NA	NA	0	0	
14-03-2019	12 PM	2	266	134	16	NA	NA	0	0	
14-03-2019	1 PM	2	267	136	14	NA	NA	0	0	
14-03-2019	2 PM	2	285	143	15	NA	NA	0	0	
14-03-2019	3 PM	2	297	141	15	NA	NA	0	0	
14-03-2019	4 PM	2	294	138	16	NA	NA	0	0	
14-03-2019	5 PM	2	294	137	16	NA	NA	0	0	
14-03-2019	6 PM	2	291	133	16	NA	NA	0	0	
14-03-2019	7 PM	2	272	123	36	NA	NA	0	0	
14-03-2019	8 PM	2	286	125	111	NA	NA	0	0	
14-03-2019	9 PM	1	76	33	34	NA	NA	0	0	
14-03-2019	10 PM	-	-	-	-	-	-	-	-	
14-03-2019	11 PM	-	-	-	-	-	-	-	-	
15-03-2019	12 AM	-	-	-	-	-	-	-	-	
15-03-2019	1 AM	-	-	-	-	-	-	-	-	
15-03-2019	2 AM	1	109	935	5	NA	NA	0	1	
15-03-2019	3 AM	1	193	120	13	NA	NA	0	0.5	
15-03-2019	4 AM	2	272	121	15	NA	NA	0	0	
15-03-2019	5 AM	2	280	125	15	NA	NA	0	0	
15-03-2019	6 AM	2	266	118	15	NA	NA	0	0	
15-03-2019	7 AM	2	276	123	15	NA	NA	0	0	

15-03-2019	8 AM	2	272	124	15	NA	NA	0	0	
15-03-2019	9 AM	2	226	130	17	NA	NA	0	0.5	
15-03-2019	10 AM	1	191	122	24	NA	NA	0	0	
15-03-2019	11 AM	1	194	124	19	NA	NA	0	0	
15-03-2019	12 PM	1	189	120	15	NA	NA	0	0	
15-03-2019	1 PM	1	189	121	14	NA	NA	0	0	
15-03-2019	2 PM	1	194	126	13	NA	NA	0	0	
15-03-2019	3 PM	1	197	132	14	NA	NA	0	0	
15-03-2019	4 PM	2	198	135	14	NA	NA	0	0	
15-03-2019	5 PM	1	194	135	37	NA	NA	0	0	
15-03-2019	6 PM	2	193	125	83	NA	NA	0	0	
15-03-2019	7 PM	-	-	-	-	-	-	-	-	
15-03-2019	8 PM	-	-	-	-	-	-	-	-	
15-03-2019	9 PM	-	-	-	-	-	-	-	-	
15-03-2019	10 PM	-	-	-	-	-	-	-	-	
15-03-2019	11 PM	-	-	-	-	-	-	-	-	
16-03-2019	12 AM	-	-	-	-	-	-	-	-	
16-03-2019	1 AM	-	-	-	-	-	-	-	-	
16-03-2019	2 AM	-	-	-	-	-	-	-	-	
16-03-2019	3 AM	-	-	-	-	-	-	-	-	
16-03-2019	4 AM	-	-	-	-	-	-	-	-	
16-03-2019	5 AM	-	-	-	-	-	-	-	-	
16-03-2019	6 AM	-	-	-	-	-	-	-	-	
16-03-2019	7 AM	-	-	-	-	-	-	-	-	
16-03-2019	8 AM	-	-	-	-	-	-	-	-	
16-03-2019	9 AM	-	-	-	-	-	-	-	-	
16-03-2019	10 AM	-	-	-	-	-	-	-	-	
16-03-2019	11 AM	-	-	-	-	-	-	-	-	
16-03-2019	12 PM	-	-	-	-	-	-	-	-	

16-03-2019	1 PM	-	-	-	-	-	-	-	-	
16-03-2019	2 PM	-	-	-	-	-	-	-	-	
16-03-2019	3 PM	-	-	-	-	-	-	-	-	
16-03-2019	4 PM	1	71	230	16	NA	NA	0	0	
16-03-2019	5 PM	-	-	-	-	-	-	-	-	
16-03-2019	6 PM	-	-	-	-	-	-	-	-	
16-03-2019	7 PM	-	-	-	-	-	-	-	-	
16-03-2019	8 PM	-	-	-	-	-	-	-	-	
16-03-2019	9 PM	-	-	-	-	-	-	-	-	
16-03-2019	10 PM	-	-	-	-	-	-	-	-	
16-03-2019	11 PM	-	-	-	-	-	-	-	-	
17-03-2019	12 AM	-	-	-	-	-	-	-	-	
17-03-2019	1 AM	-	-	-	-	-	-	-	-	
17-03-2019	2 AM	-	-	-	-	-	-	-	-	
17-03-2019	3 AM	-	-	-	-	-	-	-	-	
17-03-2019	4 AM	-	-	-	-	-	-	-	-	
17-03-2019	5 AM	-	-	-	-	-	-	-	-	
17-03-2019	6 AM	-	-	-	-	-	-	-	-	
17-03-2019	7 AM	-	-	-	-	-	-	-	-	
17-03-2019	8 AM	-	-	-	-	-	-	-	-	
17-03-2019	9 AM	-	-	-	-	-	-	-	-	
17-03-2019	10 AM	-	-	-	-	-	-	-	-	
17-03-2019	11 AM	0	34	200	0	NA	NA	0	0	
17-03-2019	12 PM	-	-	-	-	-	-	-	-	
17-03-2019	1 PM	0	67	242	15	NA	NA	0	0	
17-03-2019	2 PM	0	68	51	3	NA	NA	0	0	
17-03-2019	3 PM	0	54	46	0	NA	NA	0	0	
17-03-2019	4 PM	0	55	45	0	NA	NA	0	0	
17-03-2019	5 PM	0	65	60	0	NA	NA	0	0	

17-03-2019	6 PM	0	52	46	0	NA	NA	0	0	
17-03-2019	7 PM	0	54	45	0	NA	NA	0	0	
17-03-2019	8 PM	0	64	58	0	NA	NA	0	0	
17-03-2019	9 PM	0	51	43	0	NA	NA	0	0	
17-03-2019	10 PM	0	25	19	0	NA	NA	0	0	
17-03-2019	11 PM	0	25	86	16	NA	NA	0	0	
18-03-2019	12 AM	-	-	-	-	-	-	-	-	
18-03-2019	1 AM	-	-	-	-	-	-	-	-	
18-03-2019	2 AM	0	34	86	1	NA	NA	0	0	
18-03-2019	3 AM	1	70	67	6	NA	NA	0	0	
18-03-2019	4 AM	-	-	-	-	-	-	-	-	
18-03-2019	5 AM	-	-	-	-	-	-	-	-	
18-03-2019	6 AM	-	-	-	-	-	-	-	-	
18-03-2019	7 AM	-	-	-	-	-	-	-	-	
18-03-2019	8 AM	0	74	128	5	NA	NA	0	0	
18-03-2019	9 AM	-	-	-	-	-	-	-	-	
18-03-2019	10 AM	0	75	226	3	NA	NA	0	0	
18-03-2019	11 AM	-	-	-	-	-	-	-	-	
18-03-2019	12 PM	-	-	-	-	-	-	-	-	
18-03-2019	1 PM	-	-	-	-	-	-	-	-	
18-03-2019	2 PM	0	33	444	10	NA	NA	0	0	
18-03-2019	3 PM	0	26	16	4	NA	NA	0	0	
18-03-2019	4 PM	0	0	0	0	NA	NA	0	0	
18-03-2019	5 PM	0	34	91	0	NA	NA	0	0	
18-03-2019	6 PM	-	-	-	-	-	-	-	-	
18-03-2019	7 PM	-	-	-	-	-	-	-	-	
18-03-2019	8 PM	-	-	-	-	-	-	-	-	
18-03-2019	9 PM	-	-	-	-	-	-	-	-	
18-03-2019	10 PM	0	29	142	1	NA	NA	0	0	

18-03-2019	11 PM	-	-	-	-	-	-	-	-	-
19-03-2019	12 AM	-	-	-	-	-	-	-	-	-
19-03-2019	1 AM	-	-	-	-	-	-	-	-	-
19-03-2019	2 AM	-	-	-	-	-	-	-	-	-
19-03-2019	3 AM	-	-	-	-	-	-	-	-	-
19-03-2019	4 AM	-	-	-	-	-	-	-	-	-
19-03-2019	5 AM	-	-	-	-	-	-	-	-	-
19-03-2019	6 AM	-	-	-	-	-	-	-	-	-
19-03-2019	7 AM	-	-	-	-	-	-	-	-	-
19-03-2019	8 AM	-	-	-	-	-	-	-	-	-
19-03-2019	9 AM	-	-	-	-	-	-	-	-	-
19-03-2019	10 AM	-	-	-	-	-	-	-	-	-
19-03-2019	11 AM	-	-	-	-	-	-	-	-	-
19-03-2019	12 PM	-	-	-	-	-	-	-	-	-
19-03-2019	1 PM	-	-	-	-	-	-	-	-	-
19-03-2019	2 PM	-	-	-	-	-	-	-	-	-
19-03-2019	3 PM	-	-	-	-	-	-	-	-	-
19-03-2019	4 PM	-	-	-	-	-	-	-	-	-
19-03-2019	5 PM	-	-	-	-	-	-	-	-	-
19-03-2019	6 PM	-	-	-	-	-	-	-	-	-
19-03-2019	7 PM	-	-	-	-	-	-	-	-	-
19-03-2019	8 PM	-	-	-	-	-	-	-	-	-
19-03-2019	9 PM	-	-	-	-	-	-	-	-	-
19-03-2019	10 PM	-	-	-	-	-	-	-	-	-
19-03-2019	11 PM	-	-	-	-	-	-	-	-	-
20-03-2019	12 AM	-	-	-	-	-	-	-	-	-
20-03-2019	1 AM	-	-	-	-	-	-	-	-	-
20-03-2019	2 AM	-	-	-	-	-	-	-	-	-
20-03-2019	3 AM	-	-	-	-	-	-	-	-	-

20-03-2019	4 AM	-	-	-	-	-	-	-	-	
20-03-2019	5 AM	-	-	-	-	-	-	-	-	
20-03-2019	6 AM	-	-	-	-	-	-	-	-	
20-03-2019	7 AM	-	-	-	-	-	-	-	-	
20-03-2019	8 AM	-	-	-	-	-	-	-	-	
20-03-2019	9 AM	-	-	-	-	-	-	-	-	
20-03-2019	10 AM	1	233	495	89	NA	NA	0	1	
20-03-2019	11 AM	1	171	235	33	NA	NA	0	0	
20-03-2019	12 PM	-	-	-	-	-	-	-	-	
20-03-2019	1 PM	-	-	-	-	-	-	-	-	
20-03-2019	2 PM	-	-	-	-	-	-	-	-	
20-03-2019	3 PM	-	-	-	-	-	-	-	-	
20-03-2019	4 PM	-	-	-	-	-	-	-	-	
20-03-2019	5 PM	-	-	-	-	-	-	-	-	
20-03-2019	6 PM	-	-	-	-	-	-	-	-	
20-03-2019	7 PM	-	-	-	-	-	-	-	-	
20-03-2019	8 PM	-	-	-	-	-	-	-	-	
20-03-2019	9 PM	-	-	-	-	-	-	-	-	
20-03-2019	10 PM	-	-	-	-	-	-	-	-	
20-03-2019	11 PM	-	-	-	-	-	-	-	-	
21-03-2019	12 AM	-	-	-	-	-	-	-	-	
21-03-2019	1 AM	-	-	-	-	-	-	-	-	
21-03-2019	2 AM	-	-	-	-	-	-	-	-	
21-03-2019	3 AM	-	-	-	-	-	-	-	-	
21-03-2019	4 AM	-	-	-	-	-	-	-	-	
21-03-2019	5 AM	-	-	-	-	-	-	-	-	
21-03-2019	6 AM	-	-	-	-	-	-	-	-	
21-03-2019	7 AM	-	-	-	-	-	-	-	-	
21-03-2019	8 AM	-	-	-	-	-	-	-	-	

21-03-2019	9 AM	-	-	-	-	-	-	-	-	-
21-03-2019	10 AM	-	-	-	-	-	-	-	-	-
21-03-2019	11 AM	-	-	-	-	-	-	-	-	-
21-03-2019	12 PM	-	-	-	-	-	-	-	-	-
21-03-2019	1 PM	-	-	-	-	-	-	-	-	-
21-03-2019	2 PM	-	-	-	-	-	-	-	-	-
21-03-2019	3 PM	-	-	-	-	-	-	-	-	-
21-03-2019	4 PM	-	-	-	-	-	-	-	-	-
21-03-2019	5 PM	-	-	-	-	-	-	-	-	-
21-03-2019	6 PM	-	-	-	-	-	-	-	-	-
21-03-2019	7 PM	-	-	-	-	-	-	-	-	-
21-03-2019	8 PM	-	-	-	-	-	-	-	-	-
21-03-2019	9 PM	-	-	-	-	-	-	-	-	-
21-03-2019	10 PM	-	-	-	-	-	-	-	-	-
21-03-2019	11 PM	-	-	-	-	-	-	-	-	-
22-03-2019	12 AM	-	-	-	-	-	-	-	-	-
22-03-2019	1 AM	-	-	-	-	-	-	-	-	-
22-03-2019	2 AM	-	-	-	-	-	-	-	-	-
22-03-2019	3 AM	-	-	-	-	-	-	-	-	-
22-03-2019	4 AM	-	-	-	-	-	-	-	-	-
22-03-2019	5 AM	-	-	-	-	-	-	-	-	-
22-03-2019	6 AM	-	-	-	-	-	-	-	-	-
22-03-2019	7 AM	-	-	-	-	-	-	-	-	-
22-03-2019	8 AM	-	-	-	-	-	-	-	-	-
22-03-2019	9 AM	-	-	-	-	-	-	-	-	-
22-03-2019	10 AM	-	-	-	-	-	-	-	-	-
22-03-2019	11 AM	-	-	-	-	-	-	-	-	-
22-03-2019	12 PM	-	-	-	-	-	-	-	-	-
22-03-2019	1 PM	-	-	-	-	-	-	-	-	-

22-03-2019	2 PM	-	-	-	-	-	-	-	-	
22-03-2019	3 PM	0	0	0	0	NA	NA	0	0	
22-03-2019	4 PM	-	-	-	-	-	-	-	-	
22-03-2019	5 PM	-	-	-	-	-	-	-	-	
22-03-2019	6 PM	-	-	-	-	-	-	-	-	
22-03-2019	7 PM	1	82	535	36	NA	NA	0	1	
22-03-2019	8 PM	1	72	70	25	NA	NA	0	0.5	
22-03-2019	9 PM	-	-	-	-	-	-	-	-	
22-03-2019	10 PM	-	-	-	-	-	-	-	-	
22-03-2019	11 PM	-	-	-	-	-	-	-	-	
23-03-2019	12 AM	-	-	-	-	-	-	-	-	
23-03-2019	1 AM	-	-	-	-	-	-	-	-	
23-03-2019	2 AM	-	-	-	-	-	-	-	-	
23-03-2019	3 AM	-	-	-	-	-	-	-	-	
23-03-2019	4 AM	-	-	-	-	-	-	-	-	
23-03-2019	5 AM	-	-	-	-	-	-	-	-	
23-03-2019	6 AM	-	-	-	-	-	-	-	-	
23-03-2019	7 AM	-	-	-	-	-	-	-	-	
23-03-2019	8 AM	-	-	-	-	-	-	-	-	
23-03-2019	9 AM	-	-	-	-	-	-	-	-	
23-03-2019	10 AM	-	-	-	-	-	-	-	-	
23-03-2019	11 AM	-	-	-	-	-	-	-	-	
23-03-2019	12 PM	-	-	-	-	-	-	-	-	
23-03-2019	1 PM	-	-	-	-	-	-	-	-	
23-03-2019	2 PM	-	-	-	-	-	-	-	-	
23-03-2019	3 PM	-	-	-	-	-	-	-	-	
23-03-2019	4 PM	-	-	-	-	-	-	-	-	
23-03-2019	5 PM	-	-	-	-	-	-	-	-	
23-03-2019	6 PM	-	-	-	-	-	-	-	-	

23-03-2019	7 PM	-	-	-	-	-	-	-	-	-
23-03-2019	8 PM	-	-	-	-	-	-	-	-	-
23-03-2019	9 PM	-	-	-	-	-	-	-	-	-
23-03-2019	10 PM	-	-	-	-	-	-	-	-	-
23-03-2019	11 PM	-	-	-	-	-	-	-	-	-
24-03-2019	12 AM	-	-	-	-	-	-	-	-	-
24-03-2019	1 AM	-	-	-	-	-	-	-	-	-
24-03-2019	2 AM	-	-	-	-	-	-	-	-	-
24-03-2019	3 AM	-	-	-	-	-	-	-	-	-
24-03-2019	4 AM	-	-	-	-	-	-	-	-	-
24-03-2019	5 AM	-	-	-	-	-	-	-	-	-
24-03-2019	6 AM	-	-	-	-	-	-	-	-	-
24-03-2019	7 AM	-	-	-	-	-	-	-	-	-
24-03-2019	8 AM	-	-	-	-	-	-	-	-	-
24-03-2019	9 AM	-	-	-	-	-	-	-	-	-
24-03-2019	10 AM	-	-	-	-	-	-	-	-	-
24-03-2019	11 AM	-	-	-	-	-	-	-	-	-
24-03-2019	12 PM	-	-	-	-	-	-	-	-	-
24-03-2019	1 PM	-	-	-	-	-	-	-	-	-
24-03-2019	2 PM	-	-	-	-	-	-	-	-	-
24-03-2019	3 PM	-	-	-	-	-	-	-	-	-
24-03-2019	4 PM	-	-	-	-	-	-	-	-	-
24-03-2019	5 PM	-	-	-	-	-	-	-	-	-
24-03-2019	6 PM	-	-	-	-	-	-	-	-	-
24-03-2019	7 PM	-	-	-	-	-	-	-	-	-
24-03-2019	8 PM	-	-	-	-	-	-	-	-	-
24-03-2019	9 PM	-	-	-	-	-	-	-	-	-
24-03-2019	10 PM	-	-	-	-	-	-	-	-	-
24-03-2019	11 PM	-	-	-	-	-	-	-	-	-

25-03-2019	12 AM	-	-	-	-	-	-	-	-	-
25-03-2019	1 AM	-	-	-	-	-	-	-	-	-
25-03-2019	2 AM	-	-	-	-	-	-	-	-	-
25-03-2019	3 AM	-	-	-	-	-	-	-	-	-
25-03-2019	4 AM	-	-	-	-	-	-	-	-	-
25-03-2019	5 AM	-	-	-	-	-	-	-	-	-
25-03-2019	6 AM	-	-	-	-	-	-	-	-	-
25-03-2019	7 AM	-	-	-	-	-	-	-	-	-
25-03-2019	8 AM	-	-	-	-	-	-	-	-	-
25-03-2019	9 AM	-	-	-	-	-	-	-	-	-
25-03-2019	10 AM	-	-	-	-	-	-	-	-	-
25-03-2019	11 AM	-	-	-	-	-	-	-	-	-
25-03-2019	12 PM	-	-	-	-	-	-	-	-	-
25-03-2019	1 PM	-	-	-	-	-	-	-	-	-
25-03-2019	2 PM	-	-	-	-	-	-	-	-	-
25-03-2019	3 PM	-	-	-	-	-	-	-	-	-
25-03-2019	4 PM	-	-	-	-	-	-	-	-	-
25-03-2019	5 PM	-	-	-	-	-	-	-	-	-
25-03-2019	6 PM	-	-	-	-	-	-	-	-	-
25-03-2019	7 PM	-	-	-	-	-	-	-	-	-
25-03-2019	8 PM	-	-	-	-	-	-	-	-	-
25-03-2019	9 PM	-	-	-	-	-	-	-	-	-
25-03-2019	10 PM	-	-	-	-	-	-	-	-	-
25-03-2019	11 PM	-	-	-	-	-	-	-	-	-
26-03-2019	12 AM	-	-	-	-	-	-	-	-	-
26-03-2019	1 AM	-	-	-	-	-	-	-	-	-
26-03-2019	2 AM	-	-	-	-	-	-	-	-	-
26-03-2019	3 AM	-	-	-	-	-	-	-	-	-
26-03-2019	4 AM	-	-	-	-	-	-	-	-	-

26-03-2019	5 AM	-	-	-	-	-	-	-	-	
26-03-2019	6 AM	-	-	-	-	-	-	-	-	
26-03-2019	7 AM	-	-	-	-	-	-	-	-	
26-03-2019	8 AM	-	-	-	-	-	-	-	-	
26-03-2019	9 AM	-	-	-	-	-	-	-	-	
26-03-2019	10 AM	-	-	-	-	-	-	-	-	
26-03-2019	11 AM	-	-	-	-	-	-	-	-	
26-03-2019	12 PM	-	-	-	-	-	-	-	-	
26-03-2019	1 PM	-	-	-	-	-	-	-	-	
26-03-2019	2 PM	-	-	-	-	-	-	-	-	
26-03-2019	3 PM	-	-	-	-	-	-	-	-	
26-03-2019	4 PM	-	-	-	-	-	-	-	-	
26-03-2019	5 PM	-	-	-	-	-	-	-	-	
26-03-2019	6 PM	-	-	-	-	-	-	-	-	
26-03-2019	7 PM	-	-	-	-	-	-	-	-	
26-03-2019	8 PM	-	-	-	-	-	-	-	-	
26-03-2019	9 PM	-	-	-	-	-	-	-	-	
26-03-2019	10 PM	-	-	-	-	-	-	-	-	
26-03-2019	11 PM	-	-	-	-	-	-	-	-	
27-03-2019	12 AM	1	151	229	20	NA	NA	0	0.5	
27-03-2019	1 AM	2	165	196	45	NA	NA	0	0.5	
27-03-2019	2 AM	2	154	203	28	NA	NA	0	0	
27-03-2019	3 AM	2	211	243	28	NA	NA	0	0	
27-03-2019	4 AM	1	161	228	28	NA	NA	0	0	
27-03-2019	5 AM	1	152	224	25	NA	NA	0	0	
27-03-2019	6 AM	1	151	227	23	NA	NA	0	0	
27-03-2019	7 AM	1	146	225	23	NA	NA	0	0	
27-03-2019	8 AM	1	150	229	23	NA	NA	0	0	
27-03-2019	9 AM	1	152	230	22	NA	NA	0	0	

27-03-2019	10 AM	1	158	233	24	NA	NA	0	0	
27-03-2019	11 AM	1	162	228	25	NA	NA	0	0	
27-03-2019	12 PM	1	168	229	28	NA	NA	0	0	
27-03-2019	1 PM	1	167	222	28	NA	NA	0	0	
27-03-2019	2 PM	1	181	223	61	NA	NA	0	0	
27-03-2019	3 PM	1	187	221	51	NA	NA	0	0	
27-03-2019	4 PM	1	169	206	34	NA	NA	0	0	
27-03-2019	5 PM	1	165	194	32	NA	NA	0	0	
27-03-2019	6 PM	2	201	210	33	NA	NA	0	0	
27-03-2019	7 PM	2	210	220	33	NA	NA	0	0	
27-03-2019	8 PM	2	215	231	29	NA	NA	0	0	
27-03-2019	9 PM	2	229	241	30	NA	NA	0	0	
27-03-2019	10 PM	1	160	221	28	NA	NA	0	0	
27-03-2019	11 PM	1	144	208	28	NA	NA	0	0	
28-03-2019	12 AM	-	-	-	-	-	-	-	-	
28-03-2019	1 AM	-	-	-	-	-	-	-	-	
28-03-2019	2 AM	-	-	-	-	-	-	-	-	
28-03-2019	3 AM	-	-	-	-	-	-	-	-	
28-03-2019	4 AM	-	-	-	-	-	-	-	-	
28-03-2019	5 AM	-	-	-	-	-	-	-	-	
28-03-2019	6 AM	-	-	-	-	-	-	-	-	
28-03-2019	7 AM	-	-	-	-	-	-	-	-	
28-03-2019	8 AM	-	-	-	-	-	-	-	-	
28-03-2019	9 AM	-	-	-	-	-	-	-	-	
28-03-2019	10 AM	-	-	-	-	-	-	-	-	
28-03-2019	11 AM	-	-	-	-	-	-	-	-	
28-03-2019	12 PM	1	143	292	28	NA	NA	0	0.5	
28-03-2019	1 PM	1	151	188	26	NA	NA	0	0	
28-03-2019	2 PM	-	-	-	-	-	-	-	-	

28-03-2019	3 PM	-	-	-	-	-	-	-	-	
28-03-2019	4 PM	-	-	-	-	-	-	-	-	
28-03-2019	5 PM	-	-	-	-	-	-	-	-	
28-03-2019	6 PM	-	-	-	-	-	-	-	-	
28-03-2019	7 PM	-	-	-	-	-	-	-	-	
28-03-2019	8 PM	-	-	-	-	-	-	-	-	
28-03-2019	9 PM	-	-	-	-	-	-	-	-	
28-03-2019	10 PM	-	-	-	-	-	-	-	-	
28-03-2019	11 PM	-	-	-	-	-	-	-	-	
29-03-2019	12 AM	-	-	-	-	-	-	-	-	
29-03-2019	1 AM	-	-	-	-	-	-	-	-	
29-03-2019	2 AM	-	-	-	-	-	-	-	-	
29-03-2019	3 AM	-	-	-	-	-	-	-	-	
29-03-2019	4 AM	-	-	-	-	-	-	-	-	
29-03-2019	5 AM	-	-	-	-	-	-	-	-	
29-03-2019	6 AM	-	-	-	-	-	-	-	-	
29-03-2019	7 AM	-	-	-	-	-	-	-	-	
29-03-2019	8 AM	-	-	-	-	-	-	-	-	
29-03-2019	9 AM	-	-	-	-	-	-	-	-	
29-03-2019	10 AM	2	271	324	79	NA	NA	0	0.5	
29-03-2019	11 AM	2	258	251	62	NA	NA	0	0	
29-03-2019	12 PM	2	308	272	39	NA	NA	0	0	
29-03-2019	1 PM	2	255	252	30	NA	NA	0	0	
29-03-2019	2 PM	2	321	276	30	NA	NA	0	0	
29-03-2019	3 PM	2	346	280	30	NA	NA	0	0	
29-03-2019	4 PM	2	350	280	29	NA	NA	0	0	
29-03-2019	5 PM	2	351	281	28	NA	NA	0	0	
29-03-2019	6 PM	2	388	440	43	NA	NA	0	0	
29-03-2019	7 PM	2	257	253	107	NA	NA	0	0.5	

29-03-2019	8 PM	3	304	266	129	NA	NA	0	0	
29-03-2019	9 PM	2	192	224	97	NA	NA	0	0	
29-03-2019	10 PM	1	180	227	50	NA	NA	0	0	
29-03-2019	11 PM	1	156	218	34	NA	NA	0	0	
30-03-2019	12 AM	1	150	217	30	NA	NA	0	0	
30-03-2019	1 AM	1	149	215	30	NA	NA	0	0	
30-03-2019	2 AM	1	144	217	29	NA	NA	0	0	
30-03-2019	3 AM	1	141	219	28	NA	NA	0	0	
30-03-2019	4 AM	1	138	219	28	NA	NA	0	0	
30-03-2019	5 AM	1	139	226	28	NA	NA	0	0	
30-03-2019	6 AM	1	145	234	28	NA	NA	0	0	
30-03-2019	7 AM	1	145	231	34	NA	NA	0	0	
30-03-2019	8 AM	2	177	259	32	NA	NA	0	0	
30-03-2019	9 AM	1	168	258	29	NA	NA	0	0	
30-03-2019	10 AM	2	177	261	27	NA	NA	0	0	
30-03-2019	11 AM	2	186	261	27	NA	NA	0	0	
30-03-2019	12 PM	2	183	260	28	NA	NA	0	0	
30-03-2019	1 PM	2	202	262	26	NA	NA	0	0	
30-03-2019	2 PM	2	200	262	26	NA	NA	0	0	
30-03-2019	3 PM	2	212	264	26	NA	NA	0	0	
30-03-2019	4 PM	2	218	265	31	NA	NA	0	0	
30-03-2019	5 PM	2	281	276	83	NA	NA	0	0	
30-03-2019	6 PM	2	279	277	49	NA	NA	0	0	
30-03-2019	7 PM	2	258	277	32	NA	NA	0	0	
30-03-2019	8 PM	2	281	286	28	NA	NA	0	0	
30-03-2019	9 PM	2	288	284	29	NA	NA	0	0	
30-03-2019	10 PM	0	62	75	3	NA	NA	0	0	
30-03-2019	11 PM	0	28	36	1	NA	NA	0	0	
31-03-2019	12 AM	-	-	-	-	-	-	-	-	

31-03-2019	1 AM	-	-	-	-	-	-	-	-	-
31-03-2019	2 AM	-	-	-	-	-	-	-	-	-
31-03-2019	3 AM	-	-	-	-	-	-	-	-	-
31-03-2019	4 AM	-	-	-	-	-	-	-	-	-
31-03-2019	5 AM	-	-	-	-	-	-	-	-	-
31-03-2019	6 AM	-	-	-	-	-	-	-	-	-
31-03-2019	7 AM	-	-	-	-	-	-	-	-	-
31-03-2019	8 AM	-	-	-	-	-	-	-	-	-
31-03-2019	9 AM	-	-	-	-	-	-	-	-	-
31-03-2019	10 AM	-	-	-	-	-	-	-	-	-
31-03-2019	11 AM	-	-	-	-	-	-	-	-	-
31-03-2019	12 PM	-	-	-	-	-	-	-	-	-
31-03-2019	1 PM	-	-	-	-	-	-	-	-	-
31-03-2019	2 PM	-	-	-	-	-	-	-	-	-
31-03-2019	3 PM	-	-	-	-	-	-	-	-	-
31-03-2019	4 PM	-	-	-	-	-	-	-	-	-
31-03-2019	5 PM	-	-	-	-	-	-	-	-	-
31-03-2019	6 PM	-	-	-	-	-	-	-	-	-
31-03-2019	7 PM	-	-	-	-	-	-	-	-	-
31-03-2019	8 PM	-	-	-	-	-	-	-	-	-
31-03-2019	9 PM	-	-	-	-	-	-	-	-	-
31-03-2019	10 PM	-	-	-	-	-	-	-	-	-
31-03-2019	11 PM	-	-	-	-	-	-	-	-	-

Annex G5

Hourly Average of Parameters Measured in ASP

Date	Hour	ASP Hourly Average (mg/Nm ³)								Remarks
		Dust	CO	NOx	SO ₂	VOCs (including methane)	NH ₃	HCL	HF	
01-03-2019	12 AM	-	-	-	-	-	-	-	-	
01-03-2019	1 AM	-	-	-	-	-	-	-	-	
01-03-2019	2 AM	-	-	-	-	-	-	-	-	
01-03-2019	3 AM	-	-	-	-	-	-	-	-	
01-03-2019	4 AM	-	-	-	-	-	-	-	-	
01-03-2019	5 AM	-	-	-	-	-	-	-	-	
01-03-2019	6 AM	-	-	-	-	-	-	-	-	
01-03-2019	7 AM	-	-	-	-	-	-	-	-	
01-03-2019	8 AM	-	-	-	-	-	-	-	-	
01-03-2019	9 AM	-	-	-	-	-	-	-	-	
01-03-2019	10 AM	-	-	-	-	-	-	-	-	
01-03-2019	11 AM	-	-	-	-	-	-	-	-	
01-03-2019	12 PM	-	-	-	-	-	-	-	-	
01-03-2019	1 PM	-	-	-	-	-	-	-	-	
01-03-2019	2 PM	-	-	-	-	-	-	-	-	
01-03-2019	3 PM	-	-	-	-	-	-	-	-	
01-03-2019	4 PM	-	-	-	-	-	-	-	-	
01-03-2019	5 PM	-	-	-	-	-	-	-	-	
01-03-2019	6 PM	-	-	-	-	-	-	-	-	
01-03-2019	7 PM	-	-	-	-	-	-	-	-	
01-03-2019	8 PM	-	-	-	-	-	-	-	-	
01-03-2019	9 PM	-	-	-	-	-	-	-	-	
01-03-2019	10 PM	-	-	-	-	-	-	-	-	
01-03-2019	11 PM	-	-	-	-	-	-	-	-	
02-03-2019	12 AM	-	-	-	-	-	-	-	-	

02-03-2019	1 AM	-	-	-	-	-	-	-	-	-
02-03-2019	2 AM	-	-	-	-	-	-	-	-	-
02-03-2019	3 AM	-	-	-	-	-	-	-	-	-
02-03-2019	4 AM	-	-	-	-	-	-	-	-	-
02-03-2019	5 AM	-	-	-	-	-	-	-	-	-
02-03-2019	6 AM	-	-	-	-	-	-	-	-	-
02-03-2019	7 AM	-	-	-	-	-	-	-	-	-
02-03-2019	8 AM	-	-	-	-	-	-	-	-	-
02-03-2019	9 AM	-	-	-	-	-	-	-	-	-
02-03-2019	10 AM	-	-	-	-	-	-	-	-	-
02-03-2019	11 AM	-	-	-	-	-	-	-	-	-
02-03-2019	12 PM	-	-	-	-	-	-	-	-	-
02-03-2019	1 PM	-	-	-	-	-	-	-	-	-
02-03-2019	2 PM	-	-	-	-	-	-	-	-	-
02-03-2019	3 PM	-	-	-	-	-	-	-	-	-
02-03-2019	4 PM	-	-	-	-	-	-	-	-	-
02-03-2019	5 PM	-	-	-	-	-	-	-	-	-
02-03-2019	6 PM	-	-	-	-	-	-	-	-	-
02-03-2019	7 PM	-	-	-	-	-	-	-	-	-
02-03-2019	8 PM	-	-	-	-	-	-	-	-	-
02-03-2019	9 PM	-	-	-	-	-	-	-	-	-
02-03-2019	10 PM	-	-	-	-	-	-	-	-	-
02-03-2019	11 PM	-	-	-	-	-	-	-	-	-
03-03-2019	12 AM	-	-	-	-	-	-	-	-	-
03-03-2019	1 AM	-	-	-	-	-	-	-	-	-
03-03-2019	2 AM	-	-	-	-	-	-	-	-	-
03-03-2019	3 AM	-	-	-	-	-	-	-	-	-
03-03-2019	4 AM	-	-	-	-	-	-	-	-	-
03-03-2019	5 AM	-	-	-	-	-	-	-	-	-

03-03-2019	6 AM	-	-	-	-	-	-	-	-	-
03-03-2019	7 AM	-	-	-	-	-	-	-	-	-
03-03-2019	8 AM	-	-	-	-	-	-	-	-	-
03-03-2019	9 AM	-	-	-	-	-	-	-	-	-
03-03-2019	10 AM	-	-	-	-	-	-	-	-	-
03-03-2019	11 AM	-	-	-	-	-	-	-	-	-
03-03-2019	12 PM	-	-	-	-	-	-	-	-	-
03-03-2019	1 PM	-	-	-	-	-	-	-	-	-
03-03-2019	2 PM	-	-	-	-	-	-	-	-	-
03-03-2019	3 PM	-	-	-	-	-	-	-	-	-
03-03-2019	4 PM	-	-	-	-	-	-	-	-	-
03-03-2019	5 PM	-	-	-	-	-	-	-	-	-
03-03-2019	6 PM	-	-	-	-	-	-	-	-	-
03-03-2019	7 PM	-	-	-	-	-	-	-	-	-
03-03-2019	8 PM	-	-	-	-	-	-	-	-	-
03-03-2019	9 PM	-	-	-	-	-	-	-	-	-
03-03-2019	10 PM	-	-	-	-	-	-	-	-	-
03-03-2019	11 PM	-	-	-	-	-	-	-	-	-
04-03-2019	12 AM	-	-	-	-	-	-	-	-	-
04-03-2019	1 AM	-	-	-	-	-	-	-	-	-
04-03-2019	2 AM	-	-	-	-	-	-	-	-	-
04-03-2019	3 AM	-	-	-	-	-	-	-	-	-
04-03-2019	4 AM	-	-	-	-	-	-	-	-	-
04-03-2019	5 AM	-	-	-	-	-	-	-	-	-
04-03-2019	6 AM	-	-	-	-	-	-	-	-	-
04-03-2019	7 AM	-	-	-	-	-	-	-	-	-
04-03-2019	8 AM	-	-	-	-	-	-	-	-	-
04-03-2019	9 AM	-	-	-	-	-	-	-	-	-
04-03-2019	10 AM	-	-	-	-	-	-	-	-	-

04-03-2019	11 AM	-	-	-	-	-	-	-	-	
04-03-2019	12 PM	-	-	-	-	-	-	-	-	
04-03-2019	1 PM	-	-	-	-	-	-	-	-	
04-03-2019	2 PM	-	-	-	-	-	-	-	-	
04-03-2019	3 PM	-	-	-	-	-	-	-	-	
04-03-2019	4 PM	-	-	-	-	-	-	-	-	
04-03-2019	5 PM	-	-	-	-	-	-	-	-	
04-03-2019	6 PM	-	-	-	-	-	-	-	-	
04-03-2019	7 PM	-	-	-	-	-	-	-	-	
04-03-2019	8 PM	-	-	-	-	-	-	-	-	
04-03-2019	9 PM	-	-	-	-	-	-	-	-	
04-03-2019	10 PM	-	-	-	-	-	-	-	-	
04-03-2019	11 PM	-	-	-	-	-	-	-	-	
05-03-2019	12 AM	-	-	-	-	-	-	-	-	
05-03-2019	1 AM	-	-	-	-	-	-	-	-	
05-03-2019	2 AM	-	-	-	-	-	-	-	-	
05-03-2019	3 AM	-	-	-	-	-	-	-	-	
05-03-2019	4 AM	-	-	-	-	-	-	-	-	
05-03-2019	5 AM	-	-	-	-	-	-	-	-	
05-03-2019	6 AM	-	-	-	-	-	-	-	-	
05-03-2019	7 AM	-	-	-	-	-	-	-	-	
05-03-2019	8 AM	-	-	-	-	-	-	-	-	
05-03-2019	9 AM	-	-	-	-	-	-	-	-	
05-03-2019	10 AM	-	-	-	-	-	-	-	-	
05-03-2019	11 AM	1.5	0	108	0	0	8	0	1.5	Start up / Exceedance in HF is resulted by the interference of sensor by other gases.

05-03-2019	12 PM	3	0	157	1	0	8	0	0.5	Start up
05-03-2019	1 PM	3	0	162	0	0	6	0	0	Start up
05-03-2019	2 PM	1.5	33	193	2	134	93	0	0	Start up
05-03-2019	3 PM	2.5	190	325	1	10	227	0	0	Running with high flowrate 24m3/h Optimising
05-03-2019	4 PM	2	94	253	3	4	458	0	0	Running with high flowrate 24m3/h Optimising
05-03-2019	5 PM	2.5	255	180	11	10	2098	0	1	Running with high flowrate 24m3/h Optimising
05-03-2019	6 PM	1.5	348	171	27	23	1399	0	1	Running with high flowrate 24m3/h Optimising
05-03-2019	7 PM	-	-	-	-	-	-	-	-	
05-03-2019	8 PM	-	-	-	-	-	-	-	-	
05-03-2019	9 PM	0	23	28	4	1	919	0	1	Start up / tripping
05-03-2019	10 PM	3	502	429	36	1535	1069	0	1.5	Start up / tripping / Exceedance in HF is resulted by the interference of sensor by other gases.
05-03-2019	11 PM	1	22	275	1	63	68	0	0	Start up / tripping
06-03-2019	12 AM	1	4	168	0	1	42	0	1.5	Unstable running / always tripping / Exceedance in HF is resulted by the interference of sensor by other gases.

06-03-2019	1 AM	1	195	198	38	1348	762	0.5	1	unstable running / always tripping
06-03-2019	2 AM	1	142	156	10	6	183	0	0	unstable running / always tripping
06-03-2019	3 AM	2.5	108	160	5	5	408	0	0.5	unstable running / always tripping
06-03-2019	4 AM	3	62	55	10	7	1298	0	0	unstable running / always tripping
06-03-2019	5 AM	3	72	90	10	7	875	0	0	unstable running / always tripping
06-03-2019	6 AM	3	3	88	43	3	94	0	0	unstable running / always tripping
06-03-2019	7 AM	3	40	174	38	5	47	0	0	unstable running / always tripping
06-03-2019	8 AM	2	223	190	13	121	392	0	0	unstable running / always tripping
06-03-2019	9 AM	-	-	-	-	-	-	-	-	
06-03-2019	10 AM	-	-	-	-	-	-	-	-	
06-03-2019	11 AM	-	-	-	-	-	-	-	-	
06-03-2019	12 PM	-	-	-	-	-	-	-	-	
06-03-2019	1 PM	-	-	-	-	-	-	-	-	
06-03-2019	2 PM	-	-	-	-	-	-	-	-	
06-03-2019	3 PM	-	-	-	-	-	-	-	-	
06-03-2019	4 PM	-	-	-	-	-	-	-	-	
06-03-2019	5 PM	-	-	-	-	-	-	-	-	
06-03-2019	6 PM	-	-	-	-	-	-	-	-	
06-03-2019	7 PM	-	-	-	-	-	-	-	-	
06-03-2019	8 PM	-	-	-	-	-	-	-	-	
06-03-2019	9 PM	-	-	-	-	-	-	-	-	
06-03-2019	10 PM	-	-	-	-	-	-	-	-	
06-03-2019	11 PM	-	-	-	-	-	-	-	-	

07-03-2019	12 AM	-	-	-	-	-	-	-	-	
07-03-2019	1 AM	-	-	-	-	-	-	-	-	
07-03-2019	2 AM	-	-	-	-	-	-	-	-	
07-03-2019	3 AM	-	-	-	-	-	-	-	-	
07-03-2019	4 AM	-	-	-	-	-	-	-	-	
07-03-2019	5 AM	-	-	-	-	-	-	-	-	
07-03-2019	6 AM	-	-	-	-	-	-	-	-	
07-03-2019	7 AM	-	-	-	-	-	-	-	-	
07-03-2019	8 AM	-	-	-	-	-	-	-	-	
07-03-2019	9 AM	0	0	0	0	0	0	0	0	Start up / Optimising for higher flowrate
07-03-2019	10 AM	0.5	0	1	1	0	232	0	0.5	Start up / Optimising for higher flowrate
07-03-2019	11 AM	1	0	55	1	0	66	0	1	Start up / Optimising for higher flowrate
07-03-2019	12 PM	2	0	216	2	0	39	0	0	Optimising for higher flowrate
07-03-2019	1 PM	2	0	239	0	0	25	0	0	Optimising for higher flowrate
07-03-2019	2 PM	1	0	101	1	1	53	0	0	Optimising for higher flowrate
07-03-2019	3 PM	2	0	22	1	1	93	0	0	Stopping
07-03-2019	4 PM	2	0	2	1	0	277	0	0	Stopping
07-03-2019	5 PM	2	0	4	1	0	356	0	0	Stopping
07-03-2019	6 PM	-	-	-	-	-	-	-	-	
07-03-2019	7 PM	-	-	-	-	-	-	-	-	
07-03-2019	8 PM	-	-	-	-	-	-	-	-	
07-03-2019	9 PM	-	-	-	-	-	-	-	-	

07-03-2019	10 PM	-	-	-	-	-	-	-	-	-
07-03-2019	11 PM	-	-	-	-	-	-	-	-	-
08-03-2019	12 AM	-	-	-	-	-	-	-	-	-
08-03-2019	1 AM	-	-	-	-	-	-	-	-	-
08-03-2019	2 AM	-	-	-	-	-	-	-	-	-
08-03-2019	3 AM	-	-	-	-	-	-	-	-	-
08-03-2019	4 AM	-	-	-	-	-	-	-	-	-
08-03-2019	5 AM	-	-	-	-	-	-	-	-	-
08-03-2019	6 AM	-	-	-	-	-	-	-	-	-
08-03-2019	7 AM	-	-	-	-	-	-	-	-	-
08-03-2019	8 AM	-	-	-	-	-	-	-	-	-
08-03-2019	9 AM	-	-	-	-	-	-	-	-	-
08-03-2019	10 AM	-	-	-	-	-	-	-	-	-
08-03-2019	11 AM	-	-	-	-	-	-	-	-	-
08-03-2019	12 PM	-	-	-	-	-	-	-	-	-
08-03-2019	1 PM	-	-	-	-	-	-	-	-	-
08-03-2019	2 PM	-	-	-	-	-	-	-	-	-
08-03-2019	3 PM	-	-	-	-	-	-	-	-	-
08-03-2019	4 PM	-	-	-	-	-	-	-	-	-
08-03-2019	5 PM	-	-	-	-	-	-	-	-	-
08-03-2019	6 PM	-	-	-	-	-	-	-	-	-
08-03-2019	7 PM	-	-	-	-	-	-	-	-	-
08-03-2019	8 PM	-	-	-	-	-	-	-	-	-
08-03-2019	9 PM	-	-	-	-	-	-	-	-	-
08-03-2019	10 PM	-	-	-	-	-	-	-	-	-
08-03-2019	11 PM	-	-	-	-	-	-	-	-	-
09-03-2019	12 AM	-	-	-	-	-	-	-	-	-
09-03-2019	1 AM	-	-	-	-	-	-	-	-	-
09-03-2019	2 AM	-	-	-	-	-	-	-	-	-

09-03-2019	3 AM	-	-	-	-	-	-	-	-	
09-03-2019	4 AM	1.5	0	0	0	0	56	0	0.5	Start up
09-03-2019	5 AM	2	35	23	4	496	38	0	0	Start up
09-03-2019	6 AM	2	0	36	0	0	53	0	0	Start up
09-03-2019	7 AM	2	0	4	3	0	395	0	0	Start up
09-03-2019	8 AM	2	0	95	2	1	443	0	0	
09-03-2019	9 AM	3.5	350	133	10	97	3242	0	1.5	Exceedance in HF is resulted by the interference of sensor by other gases.
09-03-2019	10 AM	3	0	4	1	1	387	0	0	
09-03-2019	11 AM	3	0	53	20	0	100	0	0	
09-03-2019	12 PM	3	0	53	57	0	56	0	0	
09-03-2019	1 PM	3	0	0	26	3	924	0	0	
09-03-2019	2 PM	3	0	0	7	0	516	0	0	
09-03-2019	3 PM	3	0	0	3	1	646	0	0	
09-03-2019	4 PM	3	0	0	2	0	864	0	0	
09-03-2019	5 PM	3	0	0	2	1	992	0	0	
09-03-2019	6 PM	3	0	1	0	0	444	0	0	
09-03-2019	7 PM	3	0	23	5	0	192	0	0	
09-03-2019	8 PM	3	0	0	49	4	1064	0	0	
09-03-2019	9 PM	3	0	0	77	2	817	0	0	
09-03-2019	10 PM	3	2	0	59	3	1877	0	0.5	
09-03-2019	11 PM	2.5	0	0	19	3	1551	0	0.5	
10-03-2019	12 AM	2	0	0	7	3	1157	0	1	
10-03-2019	1 AM	3	0	0	4	0	1573	0	1	
10-03-2019	2 AM	0.5	60	47	1	6	1087	0	0.5	
10-03-2019	3 AM	3	14	19	2	2	1499	0	1	
10-03-2019	4 AM	3	0	2	0	0	464	0	0	

10-03-2019	5 AM	3	0	0	0	0	578	0	0	
10-03-2019	6 AM	3	0	7	0	0	403	0	0	
10-03-2019	7 AM	3	0	7	1	0	743	0	0	
10-03-2019	8 AM	3	0	0	2	1	1288	0	0.5	
10-03-2019	9 AM	3	0	11	8	0	669	0	0	
10-03-2019	10 AM	2.5	0	31	49	0	155	0	0	
10-03-2019	11 AM	2	0	70	47	0	94	0	0	Stopping
10-03-2019	12 PM	3	0	2	15	0	457	0	0	Stopping
10-03-2019	1 PM	1.5	0	0	4	0	263	0	0	Stopping
10-03-2019	2 PM	-	-	-	-	-	-	-	-	
10-03-2019	3 PM	-	-	-	-	-	-	-	-	
10-03-2019	4 PM	-	-	-	-	-	-	-	-	
10-03-2019	5 PM	-	-	-	-	-	-	-	-	
10-03-2019	6 PM	-	-	-	-	-	-	-	-	
10-03-2019	7 PM	1	0	0	1	0	150	0	0	Start up
10-03-2019	8 PM	3	0	206	0	0	58	0	0	Start up
10-03-2019	9 PM	1	0	509	0	0	33	0	0	Start up
10-03-2019	10 PM	0.5	93	88	2	22	597	0	0	Start up
10-03-2019	11 PM	2.5	23	129	2	2	632	0	0	
11-03-2019	12 AM	1.5	0	286	0	7	33	0	0.5	
11-03-2019	1 AM	2	0	275	0	0	32	0	0	
11-03-2019	2 AM	2	0	420	0	0	22	0	0	
11-03-2019	3 AM	2	0	298	0	0	15	0	0	
11-03-2019	4 AM	2	0	356	0	0	13	0	0	
11-03-2019	5 AM	2	0	259	0	0	11	0	0	
11-03-2019	6 AM	2	0	140	0	0	10	0	0	
11-03-2019	7 AM	2.5	0	47	0	0	31	0	0	
11-03-2019	8 AM	2	0	1	0	0	360	0	0	
11-03-2019	9 AM	2.5	0	24	0	0	255	0	0	

11-03-2019	10 AM	2	0	0	0	0	795	0	0	
11-03-2019	11 AM	2	0	0	1	0	1304	0	0	
11-03-2019	12 PM	2	0	0	1	0	1286	0	0	
11-03-2019	1 PM	2	0	0	1	0	1008	0	0	
11-03-2019	2 PM	1	0	0	0	0	446	0	0	
11-03-2019	3 PM	1	0	5	16	0	338	0	0	
11-03-2019	4 PM	1.5	200	1340	88	1423	1030	1	1	Unstable and always tripped / Start and stop
11-03-2019	5 PM	3	414	537	39	356	1994	0	1.5	Unstable and always tripped / Start and stop/ Exceedance in HF is resulted by the interference of sensor by other gases.
11-03-2019	6 PM	1	0	1057	5	6	59	0	0	Unstable and always tripped / Start and stop
11-03-2019	7 PM	0.5	6	545	0	20	165	0	0	Unstable and always tripped / Start and stop
11-03-2019	8 PM	-	-	-	-	-	-	-	-	
11-03-2019	9 PM	1.5	0	287	0	0	28	0	0	Unstable and always tripped / Start and stop
11-03-2019	10 PM	2	0	514	0	0	18	0	0	Unstable and always tripped / Start and stop

11-03-2019	11 PM	2	0	1057	0	0	13	0	0	Unstable and always tripped / Start and stop
12-03-2019	12 AM	1	84	252	7	276	346	0	0.5	Unstable and always tripped / Start and stop
12-03-2019	1 AM	0.5	6	621	4	21	85	0	0	Unstable and always tripped / Start and stop
12-03-2019	2 AM	1	1	323	0	89	141	0	0	Unstable and always tripped / Start and stop
12-03-2019	3 AM	1.5	0	1619	0	0	25	0	0	Unstable and always tripped / Start and stop
12-03-2019	4 AM	0.5	0	59	0	1	14	0	0	Unstable and always tripped / Start and stop
12-03-2019	5 AM	1	0	880	0	0	23	0	0	Unstable and always tripped / Start and stop
12-03-2019	6 AM	0	0	49	0	0	7	0	0	Unstable and always tripped / Start and stop
12-03-2019	7 AM	1	0	775	0	0	27	0	0	Unstable and always tripped / Start and stop
12-03-2019	8 AM	-	-	-	-	-	-	-	-	
12-03-2019	9 AM	-	-	-	-	-	-	-	-	
12-03-2019	10 AM	1.5	13	238	17	31	52	0	0.5	Start up
12-03-2019	11 AM	2	65	516	30	1215	513	0.5	0.5	Start up
12-03-2019	12 PM	2	0	342	0	0	42	0	0	Start up

12-03-2019	1 PM	2	0	208	0	0	24	0	0	Start up
12-03-2019	2 PM	1.5	19	169	0	186	132	0	0	Optimising for higher flowrate
12-03-2019	3 PM	2	0	103	0	0	33	0	0	Optimising for higher flowrate
12-03-2019	4 PM	2	23	289	3	334	129	0	0	Optimising for higher flowrate
12-03-2019	5 PM	3.5	43	36	29	5	326	0	0	Optimising for higher flowrate
12-03-2019	6 PM	4.5	404	175	69	25	2954	0	0.5	Optimising for higher flowrate
12-03-2019	7 PM	5	371	227	51	29	3906	0	2	Optimising for higher flowrate /Exceedance in HF is resulted by the interference of sensor by other gases.
12-03-2019	8 PM	4.5	266	214	21	14	3122	0	1	
12-03-2019	9 PM	4	293	212	12	13	2816	0	1	
12-03-2019	10 PM	2	200	129	5	9	2129	0	0.5	
12-03-2019	11 PM	0	87	41	0	4	790	0	0	
13-03-2019	12 AM	4	272	186	11	15	3653	0	1	
13-03-2019	1 AM	4	282	191	11	15	3531	0	1	
13-03-2019	2 AM	4	329	201	19	18	3423	0	1	
13-03-2019	3 AM	4	289	198	18	18	3934	0	2	Exceedance in HF is resulted by the interference of sensor by other gases.
13-03-2019	4 AM	4	286	199	14	18	3988	0	2	Exceedance in HF is resulted by the

										interference of sensor by other gases.
13-03-2019	5 AM	4	271	196	13	17	3935	0	2	Exceedance in HF is resulted by the interference of sensor by other gases.
13-03-2019	6 AM	4	250	195	13	16	3887	0	2	Exceedance in HF is resulted by the interference of sensor by other gases.
13-03-2019	7 AM	4	245	193	13	15	3953	0	2	Exceedance in HF is resulted by the interference of sensor by other gases.
13-03-2019	8 AM	4	245	194	14	15	4071	0	2	Exceedance in HF is resulted by the interference of sensor by other gases.
13-03-2019	9 AM	4	254	197	14	16	4218	0	2	Exceedance in HF is resulted by the interference of sensor by other gases.
13-03-2019	10 AM	4	200	182	14	14	4016	0	2	Exceedance in HF is resulted by the interference of sensor by other gases.

13-03-2019	11 AM	2.5	1	112	2	1	1165	0	1	
13-03-2019	12 PM	2	0	603	9	0	49	0	0	Stopping
13-03-2019	1 PM	2.5	0	352	2	0	27	0	0	Stopping
13-03-2019	2 PM	3	0	301	0	0	20	0	0	Stopping
13-03-2019	3 PM	3	0	295	0	0	17	0	0	Stopping
13-03-2019	4 PM	-	-	-	-	-	-	-	-	
13-03-2019	5 PM	-	-	-	-	-	-	-	-	
13-03-2019	6 PM	-	-	-	-	-	-	-	-	
13-03-2019	7 PM	-	-	-	-	-	-	-	-	
13-03-2019	8 PM	-	-	-	-	-	-	-	-	
13-03-2019	9 PM	-	-	-	-	-	-	-	-	
13-03-2019	10 PM	-	-	-	-	-	-	-	-	
13-03-2019	11 PM	-	-	-	-	-	-	-	-	
14-03-2019	12 AM	-	-	-	-	-	-	-	-	
14-03-2019	1 AM	-	-	-	-	-	-	-	-	
14-03-2019	2 AM	-	-	-	-	-	-	-	-	
14-03-2019	3 AM	-	-	-	-	-	-	-	-	
14-03-2019	4 AM	-	-	-	-	-	-	-	-	
14-03-2019	5 AM	0.5	6	25	0	0	332	0	0.5	Start up
14-03-2019	6 AM	2.5	1	220	0	0	149	0	0	Start up
14-03-2019	7 AM	2	0	450	0	0	35	0	0	Start up
14-03-2019	8 AM	1.5	0	137	0	0	18	0	0	Start up
14-03-2019	9 AM	2	0	409	42	0	29	0	0	
14-03-2019	10 AM	1	0	337	13	0	19	0	0	
14-03-2019	11 AM	2	0	98	2	0	40	0	0	
14-03-2019	12 PM	2	0	58	0	0	47	0	0	
14-03-2019	1 PM	2	0	56	0	0	173	0	0	
14-03-2019	2 PM	2	0	131	0	0	36	0	0	
14-03-2019	3 PM	3	7	0	7	3	2725	0	1	

14-03-2019	4 PM	3	8	0	8	4	3223	0	1	
14-03-2019	5 PM	3	17	0	9	6	3336	0	1	
14-03-2019	6 PM	3	21	0	8	6	2847	0	1	
14-03-2019	7 PM	2.5	0	58	17	1	743	0	0.5	
14-03-2019	8 PM	3	5	70	73	1	167	0	0	
14-03-2019	9 PM	1.5	16	1	27	3	1122	0	0.5	
14-03-2019	10 PM	3	25	0	24	5	2555	0	1	
14-03-2019	11 PM	3	0	2	31	0	988	0	1	
15-03-2019	12 AM	3	39	0	25	7	4414	0	2	Exceedance in HF is resulted by the interference of sensor by other gases.
15-03-2019	1 AM	3	13	0	12	6	3854	0	2	Exceedance in HF is resulted by the interference of sensor by other gases.
15-03-2019	2 AM	3	3	0	8	4	3433	0	2	Exceedance in HF is resulted by the interference of sensor by other gases.
15-03-2019	3 AM	0	10	0	0	2	1020	0	0.5	
15-03-2019	4 AM	3	40	2	11	8	4106	0	2	Exceedance in HF is resulted by the interference of sensor by other gases.
15-03-2019	5 AM	3	17	1	8	7	3519	0	2	Exceedance in HF is resulted by the interference of

										sensor by other gases.
15-03-2019	6 AM	3	38	1	10	8	3828	0	2	Exceedance in HF is resulted by the interference of sensor by other gases.
15-03-2019	7 AM	3	20	0	8	7	3545	0	2	Exceedance in HF is resulted by the interference of sensor by other gases.
15-03-2019	8 AM	3	36	1	9	9	3846	0	2	Exceedance in HF is resulted by the interference of sensor by other gases.
15-03-2019	9 AM	-	-	-	-	-	-	-	-	
15-03-2019	10 AM	-	-	-	-	-	-	-	-	
15-03-2019	11 AM	-	-	-	-	-	-	-	-	
15-03-2019	12 PM	-	-	-	-	-	-	-	-	
15-03-2019	1 PM	-	-	-	-	-	-	-	-	
15-03-2019	2 PM	-	-	-	-	-	-	-	-	
15-03-2019	3 PM	-	-	-	-	-	-	-	-	
15-03-2019	4 PM	-	-	-	-	-	-	-	-	
15-03-2019	5 PM	-	-	-	-	-	-	-	-	
15-03-2019	6 PM	-	-	-	-	-	-	-	-	
15-03-2019	7 PM	2.5	26	0	6	0	37	0	1	Start up
15-03-2019	8 PM	3	21	0	0	0	27	0	0	Start up
15-03-2019	9 PM	3	135	0	0	0	19	0	0	Start up
15-03-2019	10 PM	3	207	0	0	0	16	0	0	Start up

15-03-2019	11 PM	3	45	109	0	2	110	0	0	
16-03-2019	12 AM	3	177	120	9	9	2389	0	1	
16-03-2019	1 AM	3	159	85	9	11	2295	0	1	
16-03-2019	2 AM	3	178	139	8	8	1787	0	1	
16-03-2019	3 AM	3	110	114	28	8	768	0	0.5	
16-03-2019	4 AM	3	170	152	36	7	1258	0	1	
16-03-2019	5 AM	3	276	204	16	10	1340	0	1	
16-03-2019	6 AM	3	254	188	7	12	673	0	0.5	
16-03-2019	7 AM	3	210	177	4	15	312	0	0	
16-03-2019	8 AM	3	199	175	2	16	226	0	0	
16-03-2019	9 AM	3	216	181	3	18	229	0	0	
16-03-2019	10 AM	3	156	146	2	17	186	0	0	
16-03-2019	11 AM	3	50	65	5	14	185	0	0	
16-03-2019	12 PM	3	47	65	59	15	130	0	0	
16-03-2019	1 PM	0	292	49	10	7	398	0	0	
16-03-2019	2 PM	3	825	194	25	22	2671	0	1	
16-03-2019	3 PM	3	615	193	45	21	2031	0	1	
16-03-2019	4 PM	0	359	85	18	14	1186	0	0.5	
16-03-2019	5 PM	3	379	183	24	20	3344	0	1	
16-03-2019	6 PM	3	355	174	14	18	3070	0	1	
16-03-2019	7 PM	3	347	178	11	18	3031	0	1	
16-03-2019	8 PM	3	349	185	10	18	2994	0	1	
16-03-2019	9 PM	3	367	193	11	18	2863	0	1	
16-03-2019	10 PM	3	337	184	12	17	3058	0	1	
16-03-2019	11 PM	3	320	169	11	16	2865	0	1	
17-03-2019	12 AM	3	278	156	12	14	3408	0	1.5	Exceedance in HF is resulted by the interference of sensor by other gases.

17-03-2019	1 AM	3	192	139	13	12	3857	0	2	Exceedance in HF is resulted by the interference of sensor by other gases.
17-03-2019	2 AM	3.5	238	179	13	14	3318	0	2	Exceedance in HF is resulted by the interference of sensor by other gases.
17-03-2019	3 AM	3.5	25	409	3	1	78	0	0.5	
17-03-2019	4 AM	3	9	347	0	2	29	0	0	
17-03-2019	5 AM	3	283	182	4	14	1181	0	0.5	
17-03-2019	6 AM	3	365	189	9	17	2440	0	1	
17-03-2019	7 AM	3.5	342	184	10	16	2600	0	1	
17-03-2019	8 AM	3	296	182	10	14	2685	0	1	
17-03-2019	9 AM	3.5	263	186	10	12	2915	0	1	
17-03-2019	10 AM	4	256	189	11	13	2937	0	1	
17-03-2019	11 AM	0	98	59	0	4	856	0	0.5	
17-03-2019	12 PM	3	291	187	9	13	2274	0	1	
17-03-2019	1 PM	0	99	45	3	5	225	0	0	
17-03-2019	2 PM	0	75	23	0	3	357	0	0	
17-03-2019	3 PM	0	68	24	0	2	362	0	0	
17-03-2019	4 PM	0	69	26	0	3	414	0	0	
17-03-2019	5 PM	0	53	16	0	3	304	0	0	
17-03-2019	6 PM	0	66	20	0	3	309	0	0	
17-03-2019	7 PM	0	79	22	0	5	444	0	0	
17-03-2019	8 PM	0	63	11	0	5	359	0	0	
17-03-2019	9 PM	0	73	19	0	6	177	0	0	
17-03-2019	10 PM	1.5	26	3	23	7	326	0	0	

17-03-2019	11 PM	1.5	40	8	50	4	146	0	0	
18-03-2019	12 AM	2	39	33	30	5	1056	0	0.5	
18-03-2019	1 AM	2	0	55	7	2	64	0	0	
18-03-2019	2 AM	0	38	14	1	23	682	0	0	
18-03-2019	3 AM	0.5	4	37	0	0	144	0	0.5	
18-03-2019	4 AM	3	0	376	0	0	46	0	0	
18-03-2019	5 AM	3	0	287	0	0	31	0	0	
18-03-2019	6 AM	3	101	81	2	9	419	0	0	
18-03-2019	7 AM	3	179	116	4	17	309	0	0	
18-03-2019	8 AM	0	24	22	0	5	58	0	0	
18-03-2019	9 AM	3	26	115	1	8	84	0	0	
18-03-2019	10 AM	0.5	0	76	0	1	19	0	0	
18-03-2019	11 AM	3	0	226	0	0	25	0	0	
18-03-2019	12 PM	3	0	212	0	0	19	0	0	
18-03-2019	1 PM	3	0	221	5	0	16	0	0	
18-03-2019	2 PM	1.5	0	153	17	0	11	0	0	
18-03-2019	3 PM	1.5	16	86	5	2	14	0	0	
18-03-2019	4 PM	2.5	86	131	4	5	83	0	0	
18-03-2019	5 PM	0.5	87	78	1	8	53	0	0	
18-03-2019	6 PM	2	163	130	5	15	244	0	0	
18-03-2019	7 PM	2	206	133	7	17	466	0	0	
18-03-2019	8 PM	3	256	144	8	18	732	0	0	
18-03-2019	9 PM	3	310	153	10	20	1172	0	0.5	
18-03-2019	10 PM	1	209	82	5	12	1143	0	0.5	
18-03-2019	11 PM	3	309	129	13	18	2335	0	1	
19-03-2019	12 AM	3	243	93	42	16	2073	0	1	
19-03-2019	1 AM	3	313	125	53	19	2424	0	1	
19-03-2019	2 AM	3	280	117	24	17	3061	0	1	
19-03-2019	3 AM	3	294	121	14	18	2299	0	1	

19-03-2019	4 AM	3	311	142	11	19	1548	0	1	
19-03-2019	5 AM	3	254	134	9	16	932	0	0.5	
19-03-2019	6 AM	3	219	130	7	16	667	0	0	
19-03-2019	7 AM	3	212	135	6	15	505	0	0	
19-03-2019	8 AM	3	249	136	7	17	832	0	0	
19-03-2019	9 AM	2.5	281	144	8	19	919	0	0.5	
19-03-2019	10 AM	2	321	145	9	23	1101	0	0.5	
19-03-2019	11 AM	2	326	137	10	26	1297	0	1	
19-03-2019	12 PM	2	237	103	30	25	974	0	0	
19-03-2019	1 PM	3	438	206	38	27	1038	0	1	
19-03-2019	2 PM	3	340	179	15	20	828	0	0	
19-03-2019	3 PM	3	363	191	10	21	885	0	0.5	
19-03-2019	4 PM	2.5	316	162	10	18	961	0	0	
19-03-2019	5 PM	2.5	353	170	10	22	905	0	0	
19-03-2019	6 PM	3	388	179	13	23	1046	0	0	
19-03-2019	7 PM	3	112	242	5	9	292	0	0	
19-03-2019	8 PM	3	0	459	0	0	33	0	0	
19-03-2019	9 PM	2	0	366	16	0	22	0	0	
19-03-2019	10 PM	2	251	174	84	590	19	0	0.5	
19-03-2019	11 PM	2	886	35	113	2422	15	1.5	1	
20-03-2019	12 AM	2	1065	8	59	1705	12	0	1	
20-03-2019	1 AM	1	1860	0	73	2908	10	3.5	1	
20-03-2019	2 AM	0.5	2021	169	93	4721	7	10	2	Exceedance in HF is resulted by the interference of sensor by other gases.
20-03-2019	3 AM	2	287	7	11	489	9	0	0	
20-03-2019	4 AM	2	1002	0	36	1808	9	0.5	1	
20-03-2019	5 AM	2	1011	0	43	2084	8	1	1	

20-03-2019	6 AM	2	1021	32	61	2467	7	2	1	
20-03-2019	7 AM	4.5	441	14	15	677	7	0	0	
20-03-2019	8 AM	-	-	-	-	-	-	-	-	
20-03-2019	9 AM	-	-	-	-	-	-	-	-	
20-03-2019	10 AM	-	-	-	-	-	-	-	-	
20-03-2019	11 AM	-	-	-	-	-	-	-	-	
20-03-2019	12 PM	0.5	0	170	0	0	3	0	0.5	Start up
20-03-2019	1 PM	3	0	448	0	0	13	0	0.5	Start up
20-03-2019	2 PM	2.5	77	287	4	900	22	0	0.5	Start up
20-03-2019	3 PM	3	1	183	0	0	13	0	0	Start up
20-03-2019	4 PM	3	87	157	2	11	34	0	0	
20-03-2019	5 PM	3	130	192	7	11	65	0	0	
20-03-2019	6 PM	3	0	194	6	3	24	0	0	
20-03-2019	7 PM	3	1	217	4	2	15	0	0	
20-03-2019	8 PM	3	0	180	36	1	14	0	0	
20-03-2019	9 PM	3	105	179	58	7	59	0	0	
20-03-2019	10 PM	3	293	173	26	13	823	0	0	
20-03-2019	11 PM	3	280	161	17	16	655	0	0	
21-03-2019	12 AM	2	375	162	18	19	639	0	1	
21-03-2019	1 AM	3	269	133	17	20	798	0	0	
21-03-2019	2 AM	2	296	141	15	25	740	0	0	
21-03-2019	3 AM	2.5	342	156	14	27	805	0	0	
21-03-2019	4 AM	3	335	156	14	26	799	0	0	
21-03-2019	5 AM	3	344	154	14	28	826	0	0	
21-03-2019	6 AM	3	346	153	13	27	872	0	0	
21-03-2019	7 AM	3	351	155	13	28	858	0	0	
21-03-2019	8 AM	2	328	138	12	26	584	0	0.5	
21-03-2019	9 AM	2	268	135	20	25	529	0	0	
21-03-2019	10 AM	3	335	178	22	26	504	0	0	

21-03-2019	11 AM	1.5	282	137	9	22	384	0	0	
21-03-2019	12 PM	2	295	134	7	30	602	0	0	
21-03-2019	1 PM	3	257	122	10	26	1035	0	0	
21-03-2019	2 PM	1.5	154	57	15	13	3461	0	1	
21-03-2019	3 PM	0	108	278	22	976	1444	0	1	Stopping / Unstable
21-03-2019	4 PM	0	0	399	0	0	26	0	0	Stopping / Unstable
21-03-2019	5 PM	0	0	0	0	0	0	0	0	Stopping / Unstable
21-03-2019	6 PM	-	-	-	-	-	-	-	-	
21-03-2019	7 PM	-	-	-	-	-	-	-	-	
21-03-2019	8 PM	0	0	0	0	0	0	0	0	
21-03-2019	9 PM	0	0	0	0	0	0	0	0	
21-03-2019	10 PM	0	267	119	18	1095	615	0.5	1	Start up
21-03-2019	11 PM	0	376	331	32	1436	821	1.5	1.5	Start up /Exceedance in HF is resulted by the interference of sensor by other gases.
22-03-2019	12 AM	0	0	335	2	0	3	0	1	
22-03-2019	1 AM	0.5	0	578	2	0	34	0	1	
22-03-2019	2 AM	1	29	955	5	140	105	0	1	
22-03-2019	3 AM	1	762	1159	36	1521	671	0.5	1	
22-03-2019	4 AM	0.5	91	34	11	397	330	0	0.5	
22-03-2019	5 AM	1	814	348	80	3077	2547	4	2.5	Stopping / Unstable /Exceedance in HF is resulted by the interference of

										sensor by other gases.
22-03-2019	6 AM	1.5	1169	248	41	1332	1787	1	2	Stopping / Unstable Exceedance in HF is resulted by the interference of sensor by other gases.
22-03-2019	7 AM	1.5	231	303	44	1003	863	0	0.5	Stopping / Unstable
22-03-2019	8 AM	0	288	241	88	4546	2017	5.5	2	Stopping / Unstable Exceedance in HF is resulted by the interference of sensor by other gases.
22-03-2019	9 AM	-	-	-	-	-	-	-	-	
22-03-2019	10 AM	-	-	-	-	-	-	-	-	
22-03-2019	11 AM	-	-	-	-	-	-	-	-	
22-03-2019	12 PM	-	-	-	-	-	-	-	-	
22-03-2019	1 PM	1.5	0	1	0	2	32	0	1	
22-03-2019	2 PM	-	-	-	-	-	-	-	-	
22-03-2019	3 PM	-	-	-	-	-	-	-	-	
22-03-2019	4 PM	-	-	-	-	-	-	-	-	
22-03-2019	5 PM	-	-	-	-	-	-	-	-	
22-03-2019	6 PM	-	-	-	-	-	-	-	-	
22-03-2019	7 PM	-	-	-	-	-	-	-	-	
22-03-2019	8 PM	-	-	-	-	-	-	-	-	
22-03-2019	9 PM	-	-	-	-	-	-	-	-	

22-03-2019	10 PM	-	-	-	-	-	-	-	-	
22-03-2019	11 PM	-	-	-	-	-	-	-	-	
23-03-2019	12 AM	-	-	-	-	-	-	-	-	
23-03-2019	1 AM	-	-	-	-	-	-	-	-	
23-03-2019	2 AM	-	-	-	-	-	-	-	-	
23-03-2019	3 AM	-	-	-	-	-	-	-	-	
23-03-2019	4 AM	-	-	-	-	-	-	-	-	
23-03-2019	5 AM	-	-	-	-	-	-	-	-	
23-03-2019	6 AM	-	-	-	-	-	-	-	-	
23-03-2019	7 AM	-	-	-	-	-	-	-	-	
23-03-2019	8 AM	-	-	-	-	-	-	-	-	
23-03-2019	9 AM	-	-	-	-	-	-	-	-	
23-03-2019	10 AM	-	-	-	-	-	-	-	-	
23-03-2019	11 AM	-	-	-	-	-	-	-	-	
23-03-2019	12 PM	-	-	-	-	-	-	-	-	
23-03-2019	1 PM	-	-	-	-	-	-	-	-	
23-03-2019	2 PM	-	-	-	-	-	-	-	-	
23-03-2019	3 PM	-	-	-	-	-	-	-	-	
23-03-2019	4 PM	-	-	-	-	-	-	-	-	
23-03-2019	5 PM	-	-	-	-	-	-	-	-	
23-03-2019	6 PM	-	-	-	-	-	-	-	-	
23-03-2019	7 PM	-	-	-	-	-	-	-	-	
23-03-2019	8 PM	-	-	-	-	-	-	-	-	
23-03-2019	9 PM	-	-	-	-	-	-	-	-	
23-03-2019	10 PM	-	-	-	-	-	-	-	-	
23-03-2019	11 PM	-	-	-	-	-	-	-	-	
24-03-2019	12 AM	0.5	3	40	3	25	2	0	1	Start up
24-03-2019	1 AM	3	150	306	27	1185	161	0	1.5	Start up / Exceedance in HF is

										resulted by the interference of sensor by other gases.
24-03-2019	2 AM	2.5	180	274	29	1817	63	0.5	1	Start up
24-03-2019	3 AM	2.5	132	140	25	1520	26	0	1	Start up
24-03-2019	4 AM	3	6	54	4	56	204	0	0	
24-03-2019	5 AM	3	21	27	7	11	680	0	0	
24-03-2019	6 AM	3.5	13	58	6	10	339	0	0	
24-03-2019	7 AM	4	0	275	13	3	37	0	0	
24-03-2019	8 AM	3.5	124	420	28	538	25	0	0	
24-03-2019	9 AM	3	212	211	25	1385	29	0	0	
24-03-2019	10 AM	2.5	417	131	53	2465	40	1	0.5	
24-03-2019	11 AM	3	113	245	14	644	217	0	0	
24-03-2019	12 PM	3	21	121	3	112	72	0	0	
24-03-2019	1 PM	3	75	88	10	337	194	0	0	
24-03-2019	2 PM	3	71	55	7	251	231	0	0	
24-03-2019	3 PM	3	243	79	17	647	558	0	0	
24-03-2019	4 PM	3	150	76	15	453	408	0	0	
24-03-2019	5 PM	3	163	57	13	361	521	0	0	
24-03-2019	6 PM	3	90	43	11	308	519	0	0	
24-03-2019	7 PM	3	129	59	11	288	397	0	0	
24-03-2019	8 PM	3	168	65	16	559	535	0	0	
24-03-2019	9 PM	3	115	57	11	331	369	0	0	
24-03-2019	10 PM	3	37	69	6	105	199	0	0	
24-03-2019	11 PM	3	543	159	37	1651	1187	1	1	
25-03-2019	12 AM	2	481	128	46	2012	1243	1	1	Unsteady operating
25-03-2019	1 AM	2	371	110	35	1490	1049	0	1	Unsteady operating
25-03-2019	2 AM	2	349	86	29	1271	1025	0	1	Unsteady operating

25-03-2019	3 AM	2.5	593	163	40	1827	1372	1	1.5	Unsteady operating / Exceedance in HF is resulted by the interference of sensor by other gases.
25-03-2019	4 AM	2	590	132	44	2222	1566	1.5	1.5	Unsteady operating / Exceedance in HF is resulted by the interference of sensor by other gases.
25-03-2019	5 AM	2	513	143	53	2802	1622	2.5	2	Unsteady operating / Exceedance in HF is resulted by the interference of sensor by other gases.
25-03-2019	6 AM	2	491	218	70	3019	1659	3	2	Unsteady operating / Exceedance in HF is resulted by the interference of sensor by other gases.
25-03-2019	7 AM	2	552	214	54	3182	1702	3.5	2	Unsteady operating / Exceedance in HF is resulted by the interference of sensor by other gases.
25-03-2019	8 AM	2	468	231	63	3124	1609	3	2	Unsteady operating / Exceedance in HF is resulted by the

										interference of sensor by other gases.
25-03-2019	9 AM	1.5	579	385	82	3359	1642	3.5	2	Unsteady operating / Exceedance in HF is resulted by the interference of sensor by other gases.
25-03-2019	10 AM	2	419	419	88	3936	1011	4.5	2	Unsteady operating / Exceedance in HF is resulted by the interference of sensor by other gases.
25-03-2019	11 AM	1	339	489	80	3710	373	4	1.5	Unsteady operating / Exceedance in HF is resulted by the interference of sensor by other gases.
25-03-2019	12 PM	0.5	23	271	22	1634	83	1.5	0.5	Unsteady operating
25-03-2019	1 PM	2	379	434	68	3447	55	6	1	Unsteady operating
25-03-2019	2 PM	1.5	378	690	78	4278	292	4	1.5	Unsteady operating / Exceedance in HF is resulted by the interference of sensor by other gases.
25-03-2019	3 PM	1.5	344	825	26	1347	722	1	0.5	Unsteady operating
25-03-2019	4 PM	2.5	0	526	0	0	39	0	0	Unsteady operating
25-03-2019	5 PM	0	9	31	0	107	20	0	0	Unsteady operating

25-03-2019	6 PM	2.5	0	205	34	1	29	0	0	Unsteady operating
25-03-2019	7 PM	4.5	545	213	51	149	3111	0	0.5	
25-03-2019	8 PM	4.5	149	135	33	18	1579	0	0	
25-03-2019	9 PM	4	121	61	22	21	2264	0	0.5	
25-03-2019	10 PM	4	140	69	19	22	2203	0	0.5	
25-03-2019	11 PM	4	147	68	19	52	1763	0	0.5	
26-03-2019	12 AM	4	166	71	23	319	1407	0	0.5	
26-03-2019	1 AM	4	145	44	29	416	1736	0	1	
26-03-2019	2 AM	4	136	42	24	218	1703	0	1	
26-03-2019	3 AM	4	134	42	24	159	1805	0	0.5	
26-03-2019	4 AM	4	96	29	23	36	1938	0	0	
26-03-2019	5 AM	4	83	27	63	22	1778	0	0	
26-03-2019	6 AM	4	76	28	121	22	1685	0	0	
26-03-2019	7 AM	4	94	46	130	22	1611	0	0	
26-03-2019	8 AM	4	106	63	62	20	1601	0	0	
26-03-2019	9 AM	2.5	26	547	20	220	912	0	0.5	Unsteady operating / tripped
26-03-2019	10 AM	3	19	110	9	4	783	0	0.5	Test run by contractor
26-03-2019	11 AM	2	0	685	3	0	42	0	0	Test run by contractor
26-03-2019	12 PM	2	0	742	1	0	29	0	0	Test run by contractor
26-03-2019	1 PM	2	0	646	1	0	21	0	0	Test run by contractor
26-03-2019	2 PM	2	0	216	1	0	15	0	0	Test run by contractor
26-03-2019	3 PM	2	0	309	0	0	12	0	0	Test run by contractor
26-03-2019	4 PM	2	0	364	0	0	10	0	0	Test run by contractor

26-03-2019	5 PM	2	0	338	0	0	8	0	0	Test run by contractor
26-03-2019	6 PM	2	0	328	0	0	6	0	0	Test run by contractor
26-03-2019	7 PM	2	0	368	0	0	7	0	0	Test run by contractor
26-03-2019	8 PM	2	0	380	0	0	7	0	0	Test run by contractor
26-03-2019	9 PM	2	0	378	1	0	7	0	0	Test run by contractor
26-03-2019	10 PM	2	0	384	1	0	6	0	0	Test run by contractor
26-03-2019	11 PM	1.5	0	376	1	0	5	0	0	Test run by contractor
27-03-2019	12 AM	0.5	1	189	13	547	58	0	3	Stopping / Unstable / tripping / Exceedance in HF is resulted by the interference of sensor by other gases.
27-03-2019	1 AM	0	0	0	0	0	0	0	0	Stopping / Unstable
27-03-2019	2 AM	-	-	-	-	-	-	-	-	
27-03-2019	3 AM	1	36	56	5	3	437	0	0.5	Start up / Unstable
27-03-2019	4 AM	2	0	302	4	0	66	0	0	Start up / Unstable
27-03-2019	5 AM	2	0	330	0	0	22	0	0	Start up / Unstable
27-03-2019	6 AM	2	0	221	0	0	15	0	0	Start up / Unstable
27-03-2019	7 AM	2	0	209	0	0	11	0	0	
27-03-2019	8 AM	2	0	183	0	0	8	0	0	
27-03-2019	9 AM	2	0	133	2	0	7	0	0	
27-03-2019	10 AM	2	0	392	3	1	7	0	0	

27-03-2019	11 AM	2	0	446	5	0	8	0	0	
27-03-2019	12 PM	2	0	282	7	0	6	0	0	
27-03-2019	1 PM	2	0	250	9	0	5	0	0	
27-03-2019	2 PM	2	0	315	37	0	4	0	0	
27-03-2019	3 PM	2	0	333	28	0	4	0	0	
27-03-2019	4 PM	2	0	151	15	0	8	0	0	
27-03-2019	5 PM	2	0	185	12	0	8	0	0	
27-03-2019	6 PM	1	0	291	6	0	2	0	0	Stopping / Unstable
27-03-2019	7 PM	0	0	243	2	0	10	0	0	Stopping / Unstable
27-03-2019	8 PM	-	-	-	-	-	-	-	-	
27-03-2019	9 PM	0	0	59	0	0	11	0	0.5	
27-03-2019	10 PM	3	0	411	1	1	27	0	0	Start up / Unstable
27-03-2019	11 PM	2.5	0	320	0	0	17	0	0	Start up / Unstable
28-03-2019	12 AM	2	66	130	9	288	8	0	1.5	Start up / Unstable / Exceedance in HF is resulted by the interference of sensor by other gases.
28-03-2019	1 AM	2.5	0	102	1	0	26	0	0	Start up / Unstable
28-03-2019	2 AM	2	0	234	1	0	21	0	0	
28-03-2019	3 AM	1	12	175	0	3	109	0	0	
28-03-2019	4 AM	0.5	11	181	0	35	201	0	0	
28-03-2019	5 AM	2	0	344	0	0	38	0	0	
28-03-2019	6 AM	2	0	187	0	0	18	0	0	
28-03-2019	7 AM	2	0	205	15	0	11	0	0	
28-03-2019	8 AM	2	0	189	83	0	9	0	0	
28-03-2019	9 AM	2	0	148	90	0	7	0	0	

28-03-2019	10 AM	2	0	176	37	0	6	0	0	
28-03-2019	11 AM	2	0	176	14	0	6	0	0	
28-03-2019	12 PM	-	-	-	-	-	-	-	-	
28-03-2019	1 PM	-	-	-	-	-	-	-	-	
28-03-2019	2 PM	1.5	33	114	8	4	330	0	0.5	Start up / Unstable
28-03-2019	3 PM	2	0	422	9	0	26	0	0	Start up / Unstable
28-03-2019	4 PM	0.5	0	392	5	0	11	0	0	Start up / Unstable
28-03-2019	5 PM	0.5	4	0	4	2	570	0	0.5	Start up / Unstable
28-03-2019	6 PM	2	0	221	4	1	76	0	0	Start up / Unstable
28-03-2019	7 PM	2	0	242	2	0	20	0	0	
28-03-2019	8 PM	2	0	173	5	0	15	0	0	
28-03-2019	9 PM	1.5	0	273	40	0	12	0	0	
28-03-2019	10 PM	2	0	110	37	0	10	0	0	
28-03-2019	11 PM	2	0	187	20	0	9	0	0	
29-03-2019	12 AM	2	0	169	17	0	8	0	0	
29-03-2019	1 AM	1.5	24	273	20	37	11	0	0	
29-03-2019	2 AM	1.5	1183	283	52	1197	876	1.5	0.5	
29-03-2019	3 AM	2.5	0	159	17	0	32	0	0	
29-03-2019	4 AM	2	58	345	19	45	29	0	0	
29-03-2019	5 AM	2.5	0	91	19	0	35	0	0	
29-03-2019	6 AM	2	0	163	15	0	16	0	0	
29-03-2019	7 AM	2	0	189	11	0	12	0	0	
29-03-2019	8 AM	2	0	255	10	0	10	0	0	Stopping
29-03-2019	9 AM	1.5	0	400	10	0	7	0	0.5	Stopping
29-03-2019	10 AM	0.5	0	358	11	0	1	0	0.5	Stopping
29-03-2019	11 AM	-	-	-	-	-	-	-	-	
29-03-2019	12 PM	-	-	-	-	-	-	-	-	
29-03-2019	1 PM	-	-	-	-	-	-	-	-	
29-03-2019	2 PM	-	-	-	-	-	-	-	-	

29-03-2019	3 PM	-	-	-	-	-	-	-	-	
29-03-2019	4 PM	-	-	-	-	-	-	-	-	
29-03-2019	5 PM	-	-	-	-	-	-	-	-	
29-03-2019	6 PM	-	-	-	-	-	-	-	-	
29-03-2019	7 PM	-	-	-	-	-	-	-	-	
29-03-2019	8 PM	-	-	-	-	-	-	-	-	
29-03-2019	9 PM	0.5	0	82	14	0	6	0	0.5	Start up
29-03-2019	10 PM	3	0	407	20	0	21	0	0	Start up
29-03-2019	11 PM	3	0	305	7	0	17	0	0	Start up
30-03-2019	12 AM	3	0	173	4	0	13	0	0	
30-03-2019	1 AM	3	0	240	3	0	11	0	0	ASP unstable
30-03-2019	2 AM	3	0	246	0	0	10	0	0	ASP unstable
30-03-2019	3 AM	3	0	274	0	0	7	0	0	ASP unstable
30-03-2019	4 AM	3	0	295	0	0	5	0	0	ASP unstable
30-03-2019	5 AM	3	0	285	0	0	4	0	0	ASP unstable
30-03-2019	6 AM	3	0	256	0	0	4	0	0	ASP unstable
30-03-2019	7 AM	3	0	239	6	0	3	0	0	ASP unstable
30-03-2019	8 AM	3	0	163	5	0	2	0	0	
30-03-2019	9 AM	3	0	113	2	1	2	0	0	
30-03-2019	10 AM	3	0	86	1	1	2	0	0	
30-03-2019	11 AM	3	0	93	0	1	2	0	0	
30-03-2019	12 PM	3	0	98	1	1	2	0	0	
30-03-2019	1 PM	3	0	96	0	1	3	0	0	
30-03-2019	2 PM	3	0	151	0	1	2	0	0	
30-03-2019	3 PM	3	0	106	0	2	3	0	0	
30-03-2019	4 PM	3	0	97	3	2	2	0	0	
30-03-2019	5 PM	3	0	100	40	3	1	0	0	
30-03-2019	6 PM	3	0	91	17	1	2	0	0	
30-03-2019	7 PM	3	0	65	4	2	6	0	0	

30-03-2019	8 PM	3	0	91	1	2	6	0	0	
30-03-2019	9 PM	3	0	86	0	2	4	0	0	
30-03-2019	10 PM	0	0	2	0	0	1	0	0	
30-03-2019	11 PM	0	0	3	0	0	9	0	0	
31-03-2019	12 AM	3	0	50	3	1	34	0	0	
31-03-2019	1 AM	3	0	57	3	1	24	0	0	
31-03-2019	2 AM	3	0	38	3	1	70	0	0	Unstable / Tripping
31-03-2019	3 AM	3	0	29	4	2	95	0	0	Unstable / Tripping
31-03-2019	4 AM	1.5	0	25	2	1	43	0	0	Unstable / Tripping
31-03-2019	5 AM	0	2	0	0	0	87	0	0	Unstable / Tripping
31-03-2019	6 AM	0	0	8	0	1	34	0	0	
31-03-2019	7 AM	0	0	50	0	0	6	0	0	
31-03-2019	8 AM	0	0	30	0	0	3	0	0	
31-03-2019	9 AM	0	0	40	0	0	3	0	0	
31-03-2019	10 AM	1	0	122	3	0	5	0	0	
31-03-2019	11 AM	2	0	143	7	0	9	0	0	
31-03-2019	12 PM	1	0	103	4	0	4	0	0	
31-03-2019	1 PM	2	0	202	7	0	6	0	0	
31-03-2019	2 PM	1	0	134	4	0	4	0	0	
31-03-2019	3 PM	1	0	83	4	0	3	0	0	
31-03-2019	4 PM	2	0	202	30	0	4	0	0	
31-03-2019	5 PM	2	0	239	109	0	3	0	0	
31-03-2019	6 PM	3	0	211	135	0	1	0	0	
31-03-2019	7 PM	0	0	61	47	0	0	0	0	
31-03-2019	8 PM	1	0	215	25	0	0	0	0	
31-03-2019	9 PM	3	0	316	16	0	1	0	0	
31-03-2019	10 PM	2.5	0	306	6	0	1	0	0	
31-03-2019	11 PM	2.5	0	209	5	0	1	0	0	

Annex H

Waste Flow Table

Annex H1

Construction Phase Waste Flow Table

No. EP/SP/61/10 of Organic Resources Recovery Centre (Phase I)
Monthly Summary Waste Flow Table

Month	Actual Quantities of Inert C&D Materials Generated					Actual Quantities of Non-inert C&D Materials (Construction Waste) Generated				
	Total Quantity Generated	Reused in the Contract	Reused in other Projects	Hard Rocks & Large Broken Concrete	Disposed as Public Fill	Metals (see Note 1)	Paper/ cardboard packaging (see Note 1)	Plastics (see Note 2)	Chemical Waste	Others, e.g. general refuse (see Note 3)
	tonne	tonne	tonne	tonne	tonne	kilogram	kilogram	kilogram	Litre	tonne
May 2015	29.58	0.00	0.00	0.00	29.58	0.00	0.00	0.00	0.00	0.00
June 2015	2226.90	0.00	0.00	0.00	2226.90	0.00	0.00	0.00	0.00	9.66
July 2015	2832.27	0.00	0.00	0.00	2832.27	0.00	0.00	0.00	0.00	33.68
August 2015	6657.25	0.00	0.00	0.00	6657.25	0.00	20.00	0.00	0.00	55.06
September 2015	5467.05	0.00	0.00	0.00	5467.05	3480.00	0.00	0.00	0.00	83.81
October 2015	5419.04	0.00	0.00	0.00	5419.04	18710.00	0.00	0.00	0.00	20.45
November 2015	1375.26	0.00	0.00	0.00	1375.26	21610.00	0.00	0.00	0.00	17.38
December 2015	2199.56	75.28	0.00	0.00	2124.28	0.00	41.00	0.00	0.00	21.83
January 2016	4601.43	0.00	0.00	0.00	4601.43	18140.00	50.00	0.00	640.00	20.86
February 2016	4167.01	0.00	0.00	0.00	4167.01	510.00	79.00	0.00	0.00	16.57
March 2016	299.92	41.28	0.00	0.00	258.64	22320.00	75.00	0.00	0.00	22.69
April 2016	3186.37	98.37	0.00	0.00	3088.00	60690.00	77.00	0.00	255.00	37.63
May 2016	1612.33	63.41	0.00	0.00	1548.92	13490.00	35000.00	0.00	0.00	40.76
June 2016	1144.73	30.43	0.00	0.00	1114.30	14600.00	120.00	0.00	0.00	58.34
July 2016	662.76	0.00	0.00	0.00	662.76	13370.00	0.00	0.00	0.00	40.48
August 2016	391.88	0.00	0.00	0.00	391.88	18660.00	84.00	0.00	0.00	61.91
September 2016	324.35	0.00	0.00	0.00	324.35	56800.00	2780.00	0.00	0.00	138.25
October 2016	1561.82	39.00	0.00	0.00	1522.82	40000	9.30	0.00	700.00	114.47
November 2016	897.23	507.94	00.00	0.00	389.76	0.00	123.00	0.00	0.00	154.22
December 2016	2477.95	489.00	0.00	0.00	1988.95	2960.00	93.00	0.00	0.00	136.80
January 2017	2150.92	503.60	0.00	0.00	1647.32	31240.00	21051.00	3630.00	0.00	127.43

Month	Actual Quantities of Inert C&D Materials Generated					Actual Quantities of Non-inert C&D Materials (Construction Waste) Generated				
	Total Quantity Generated	Reused in the Contract	Reused in other Projects	Hard Rocks & Large Broken Concrete	Disposed as Public Fill	Metals (see Note 1)	Paper/ cardboard packaging (see Note 1)	Plastics (see Note 2)	Chemical Waste	Others, e.g. general refuse (see Note 3)
	tonne	tonne	tonne	tonne	tonne	kilogram	kilogram	kilogram	Litre	tonne
February 2017	553.80	440.00	0.00	0.00	113.80	14940.00	18820.00	2880.00	460.00	83.46
March 2017	665.93	460.00	0.00	0.00	205.93	11660.00	29370.00	4400.00	660.00	99.59
April 2017	553.41	220.00	0.00	0.00	333.41	8600.00	25610.00	520.00	700.00	81.83
May 2017	388.82	211.00	0.00	0.00	177.82	1090.00	64.00	0.00	0.00	109.10
June 2017	352.12	104.00	0.00	0.00	248.12	1800.00	16400.00	12030.00	700.00	70.58
July 2017	400.72	165.00	0.00	0.00	235.72	6500.00	12330.00	4690.00	0.00	52.20
August 2017	589.89	202.00	0.00	0.00	387.89	23330.00	27079.00	5220.00	700.00	69.52
September 2017	3347.18	1364.00	0.00	0.00	1983.18	33379.00	29426.00	3990.00	0.00	62.82
October 2017	2384.86	984.00	0.00	0.00	1400.86	11842.00	34071.00	5230.00	0.00	74.13
November 2017	797.42	384.18	0.00	0.00	413.24	20210.00	25225.00	4030.00	0.00	163.03
December 2017	106.32	51.00	0.00	0.00	55.32	17650.00	19520.00	3210.00	0.00	82.23
January 2018	283.65	125.83	0.00	0.00	157.82	12900.00	15600.00	12330.00	0.00	30.93
February 2018	122.31	55.70	0.00	0.00	66.61	10950.00	13260.00	6570.00	0.00	16.95
March 2018	217.06	99.80	0.00	0.00	117.26	12260.00	12120.00	5960.00	0.00	32.53
April 2018	1118.36	460.58	0.00	0.00	657.78	16320.00	12590.00	6280.00	0.00	33.90
May 2018	475.54	198.85	0.00	0.00	276.69	15230.00	11024.00	0.00	0.00	40.02
June 2018	684.10	256.50	0.00	0.00	427.60	14320.00	10260.00	2630.00	0.00	43.01
July 2018	93.99	42.00	0.00	0.00	51.99	11220.00	6200.00	0.00	0.00	59.77
August 2018	528.56	225.00	0.00	0.00	303.56	13620.00	33400.00	26760.00	0.00	44.50
September 2018	765.70	325.00	0.00	0.00	440.70	10600.00	4500.00	0.00	0.00	41.82
October 2018	0.00	0.00	0.00	0.00	0.00	0.00	2330.00	0.00	0.00	109.49
November 2018	77.71	0.00	0.00	0.00	77.71	0.00	0.00	0.00	0.00	30.18
December 2018	88.43	0.00	0.00	0.00	88.43	0.00	0.00	0.00	0.00	5.72
January 2019	21.13	0.00	0.00	0.00	21.13	0.00	0.00	0.00	1880.00	4.55

Month	Actual Quantities of Inert C&D Materials Generated					Actual Quantities of Non-inert C&D Materials (Construction Waste) Generated				
	Total Quantity Generated	Reused in the Contract	Reused in other Projects	Hard Rocks & Large Broken Concrete	Disposed as Public Fill	Metals (see Note 1)	Paper/ cardboard packaging (see Note 1)	Plastics (see Note 2)	Chemical Waste	Others, e.g. general refuse (see Note 3)
	tonne	tonne	tonne	tonne	tonne	kilogram	kilogram	kilogram	Litre	tonne
February 2019	326.44	0.00	0.00	0.00	326.44	0.00	0.00	0.00	0.00	26.69
March 2019	190.4	0.00	0.00	0.00	190.40	0.00	0.00	0.00	0.00	16.45
Total	64836.84	8222.28	0.00	0.00	56614.56	605001.00	418801.30	110360.00	6695.00	2697.28

- Notes: (1) Metal and paper/cardboard packaging were collected by recycler for recycling.
(2) Plastics refer to plastic bottles/containers, plastic sheets/foam from packaging material collected by recycler for recycling.
(3) General refuse was disposed of at NENT by subcontractors.

Annex H2

Operation Phase Waste Flow Table

**No. EP/SP/61/10 of Organic Resources Recovery Centre (Phase 1)
Monthly Summary Waste Flow Table**

Month	Chemical Waste	Waste Generated from Pretreatment Process				General Refuse							
		Disposed of at Landfill (see Note 1)	Metals (see Note 2)	Paper/ cardboard packaging (see Note 2)	Plastics (see Note 3)	Disposed of at Landfill (see Note 1)		Metals (see Note 2)		Paper/ cardboard packaging (see Note 2)		Plastics (see Note 3)	
	Litre	tonne	kilogram	kilogram	kilogram	No. of collection	tonne	No. of collection	kilogram	No. of collection	kilogram	No. of collection	kilogram
March 2019	1,200	477.08	0.00	0.00	0.00	26	1.50	0	0	0	0	0	0
Total	1,200	477.08	0.00	0.00	0.00	26	1.50	0	0	0	0	0	0

Notes:

1. General refuse was disposed of at NENT by subcontractors.
2. Metal and paper/cardboard packaging were collected by recycler for recycling.
3. Plastics refer to plastic bottles/containers, plastic sheets/foam from packaging material collected by recycler for recycling.
4. It was assumed that two 240-litre bins filled with 80% of general refuse were collected at each collection. The general refuse density was assumed to be around 0.15 kg/L.

Annex I

Environmental Complaint,
Environmental Summons
and Persecution Log

Annex I Cumulative Complaint and Summons/Prosecutions Log

Reporting Month	Number of Complaints in Reporting Month	Number of Summons/Prosecutions in Reporting Month
May 2015	0	0
June 2015	0	0
July 2015	0	0
August 2015	0	0
September 2015	0	0
October 2015	0	0
November 2015	0	0
December 2015	0	0
January 2016	0	0
February 2016	0	0
March 2016	0	0
April 2016	0	0
May 2016	0	0
June 2016	0	0
July 2016	0	0
August 2016	0	0
September 2016	0	0
October 2016	0	0

Reporting Month	Number of Complaints in Reporting Month	Number of Summons/Prosecutions in Reporting Month
November 2016	0	0
December 2016	0	0
January 2017	0	0
February 2017	0	0
March 2017	0	0
April 2017	0	0
May 2017	0	0
June 2017	0	0
July 2017	0	0
August 2017	0	0
September 2017	0	0
October 2017	0	0
November 2017	0	0
December 2017	0	0
January 2018	0	0
February 2018	0	0
March 2018	0	0
April 2018	0	0
May 2018	0	0
June 2018	0	0

Reporting Month	Number of Complaints in Reporting Month	Number of Summons/Prosecutions in Reporting Month
July 2018	0	0
August 2018	0	0
September 2018	1	0
October 2018	0	0
November 2018	0	0
December 2018	0	0
January 2019	0	0
February 2019	0	0
March 2019	0	0
Overall Total	1	0

Annex J

Odour Monitoring Result

Annex J1

Odour Patrol Result

Organic Resources Recovery Centre (Phase 1)
Odour Patrol Record Log Sheet



Date	1 / 3 / 2019
Type of Patrol	Weekly Patrol / <u>Monthly Independent Patrol</u> /
Weather Condition	Sunny / <u>Cloudy</u> / Windy / Humid / Foggy /
Average Temperature (°C)	23.1
Average Relative Humidity (%)	77.8

Monitoring Location	Time	Odour Intensity	Odour Characteristics	Duration	Possible Source of Odour	Remark
Location 1	10:37	0 / 1 / 2 / 3 / 4	P1:0 P2:1 Biogas	<u>Intermittent</u> / Continuous	Biogas Holder	
Location 2	10:38	0 / 1 / 2 / 3 / 4		Intermittent / Continuous		
Location 3	10:39	0 / 1 / 2 / 3 / 4		Intermittent / Continuous		
Location 4	10:42	0 / 1 / 2 / 3 / 4		Intermittent / Continuous		
Location 5	10:44	0 / 1 / 2 / 3 / 4	Grass	<u>Intermittent</u> / Continuous	Grass	
Location 6	10:46	0 / 1 / 2 / 3 / 4	P1:1 P2:0 Biogas	<u>Intermittent</u> / Continuous	Biogas Holder	
Location 7	10:49	0 / 1 / 2 / 3 / 4	P1:1 P2:0 Biogas	<u>Intermittent</u> / Continuous	Biogas Holder	
Location 8	10:51	0 / 1 / 2 / 3 / 4		Intermittent / Continuous		

Remark

	EPD Representative	Employer Representative	Independent Odour Patrol Team	Independent Odour Patrol Team	OSCAR Bioenergy JV
Name	FIONA LAM		Edwin Wong	HO Tsz Kin	Sarah HO
Signature		NA			Sarah
Date	1/3/2019		1/3/2019	1/3/2019	1/3/2019

Example of Odour Characteristics	Example of Possible Source of Odour
Biogas / Compost / sewage / rotten-egg smell / decayed vegetables / Diesel / ammoniacal / dischargeable odour / putrefaction / sharp / pungent / fish / irritating / fruit / vinegar	PRVs of Gas Holder / Sediment / Water / SSOW Trucks / Doors Opened / Stack emission / Sewage / food waste / Pretreatment / Machine Operation / Material / others /

Organic Resources Recovery Centre (Phase 1)
Odour Patrol Record Log Sheet



Date	1 / 3 / 2019
Type of Patrol	Weekly Patrol / Monthly Independent Patrol /
Weather Condition	Sunny / Cloudy / Windy / Humid / Foggy /
Average Temperature (°C)	22.5
Average Relative Humidity (%)	80.2

Monitoring Location	Time	Odour Intensity	Odour Characteristics	Duration	Possible Source of Odour	Remark
Location 1	17:05	0 / ① / 2 / 3 / 4	Biogas	Intermittent / Continuous	Biogas Holder	
Location 2	17:06	0 / ① / 2 / 3 / 4	Biogas	Intermittent / Continuous	Biogas Holder	
Location 3	17:07	0 / ① / 2 / 3 / 4	Biogas	Intermittent / Continuous	Biogas Holder	
Location 4	17:09	① / 1 / 2 / 3 / 4		Intermittent / Continuous		
Location 5	17:11	0 / ① / 2 / 3 / 4	Grass	Intermittent / Continuous	Grass	
Location 6	17:13	① / 1 / 2 / 3 / 4		Intermittent / Continuous		
Location 7	17:16	0 / ① / 2 / 3 / 4	Biogas	Intermittent / Continuous	Biogas Holder	
Location 8	17:17	0 / 1 / 2 / 3 / 4	Rubbish	Intermittent / Continuous	Rubbish Truck	P1: 1 P2: 0

Remark

	EPD Representative	Employer Representative	Independent Odour Patrol Team	Independent Odour Patrol Team	OSCAR Bioenergy JV
Name	FIONA LAM		Edwin Wong	Ho Tsz kin	Sarah Ho
Signature		NA			
Date	1/3/2019		1-3-2019	1-3-2019	1/3/2019

Example of Odour Characteristics	Example of Possible Source of Odour
Biogas / Compost / sewage / rotten-egg smell / decayed vegetables / Diesel / ammoniacal / dischargeable odour / putrefaction / sharp / pungent / fish / irritating / fruit / vinegar	PRVs of Gas Holder / Sediment / Water / SSOW Trucks / Doors Opened / Stack emission / Sewage / food waste / Pretreatment / Machine Operation / Material / others /

Organic Resources Recovery Centre (Phase 1)
Odour Patrol Record Log Sheet



Date	4 / 3 / 2019
Type of Patrol	<u>Weekly Patrol</u> / Monthly Independent Patrol /
Weather Condition	<u>Sunny</u> / Cloudy / Windy / Humid / Foggy /
Average Temperature (°C)	23.8
Average Relative Humidity (%)	66

Monitoring Location	Time	Odour Intensity	Odour Characteristics	Duration	Possible Source of Odour	Remark
Location 1	11:07	0 / 0 / 2 / 3 / 4	Biogas	Intermittent / Continuous	Biogas Holder	
Location 2	11:09	0 / 1 / 2 / 3 / 4	Biogas	Intermittent / Continuous	Biogas Holder	
Location 3	11:10	0 / 1 / 2 / 3 / 4	Biogas	Intermittent / Continuous	Biogas Holder	
Location 4	11:13	0 / 1 / 2 / 3 / 4		Intermittent / Continuous		
Location 5	11:15	0 / 1 / 2 / 3 / 4		Intermittent / Continuous		
Location 6	11:19	0 / 1 / 2 / 3 / 4	Biogas	Intermittent / Continuous	Biogas Holder	
Location 7	11:25	0 / 1 / 2 / 3 / 4	Diesel	Intermittent / Continuous	Machine	
Location 8	11:26	0 / 1 / 2 / 3 / 4		Intermittent / Continuous		

Remark

	EPD Representative	Employer Representative	Independent Odour Patrol Team	Independent Odour Patrol Team	OSCAR Bioenergy JV
Name	TESS CHAN				Sarah HO
Signature	Jess	NA	NA	NA	Sarah
Date	04 MAR 2019				4 / 3 / 2019

Example of Odour Characteristics	Example of Possible Source of Odour
Biogas / Compost / sewage / rotten-egg smell / decayed vegetables / Diesel / ammoniacal / dischargeable odour / putrefaction / sharp / pungent / fish / irritating / fruit / vinegar	PRVs of Gas Holder / Sediment / Water / SSOW Trucks / Doors Opened / Stack emission / Sewage / food waste / Pretreatment / Machine Operation / Material / others /

Organic Resources Recovery Centre (Phase 1)
Odour Patrol Record Log Sheet



Date	8 / 3 / 2019
Type of Patrol	Weekly Patrol / Monthly Independent Patrol /
Weather Condition	Sunny / <u>Cloudy</u> / Windy / Humid / Foggy /
Average Temperature (°C)	20.1
Average Relative Humidity (%)	71

Monitoring Location	Time	Odour Intensity	Odour Characteristics	Duration	Possible Source of Odour	Remark
Location 1	10:09	0 / 1 / 2 / 3 / 4		Intermittent / Continuous		
Location 2	10:11	0 / 1 / 2 / 3 / 4	Biogas	<u>Intermittent</u> / Continuous	Biogas Holder	
Location 3	10:12	0 / 1 / 2 / 3 / 4		Intermittent / Continuous		
Location 4	10:15	0 / 1 / 2 / 3 / 4		Intermittent / Continuous		
Location 5	10:19	0 / 1 / 2 / 3 / 4	Grass	Intermittent / <u>Continuous</u>	Grass	
Location 6	10:22	0 / 1 / 2 / 3 / 4	Rubbish	<u>Intermittent</u> / Continuous	Unknown source	
Location 7	10:29	0 / 1 / 2 / 3 / 4	Engine	<u>Intermittent</u> / Continuous	Truck	
Location 8	10:31	0 / 1 / 2 / 3 / 4		Intermittent / Continuous		

Remark

	EPD Representative	Employer Representative	Independent Odour Patrol Team	Independent Odour Patrol Team	OSCAR Bioenergy JV
Name	Fiona Lam				Sarah Ho
Signature					
Date	8/3/2019	NA	NA	NA	8/3/2019

Example of Odour Characteristics	Example of Possible Source of Odour
Biogas / Compost / sewage / rotten-egg smell / decayed vegetables / Diesel / ammoniacal / dischargeable odour / putrefaction / sharp / pungent / fish / irritating / fruit / vinegar	PRVs of Gas Holder / Sediment / Water / SSOW Trucks / Doors Opened / Stack emission / Sewage / food waste / Pretreatment / Machine Operation / Material / others /

Organic Resources Recovery Centre (Phase 1)
Odour Patrol Record Log Sheet



Date	11 / 3 / 2019
Type of Patrol	<u>Weekly Patrol</u> / Monthly Independent Patrol /
Weather Condition	<u>Sunny</u> / Cloudy / Windy / Humid / Foggy /
Average Temperature (°C)	24.8
Average Relative Humidity (%)	50

Monitoring Location	Time	Odour Intensity	Odour Characteristics	Duration	Possible Source of Odour	Remark
Location 1	14:03	0 / 1 / 2 / 3 / 4		Intermittent / Continuous		
Location 2	14:06	0 / 1 / 2 / 3 / 4	Biogas (strong) wastewater	Intermittent / <u>Continuous</u>	Biogas Holder Desulphurization Unit area	
Location 3	14:07	0 / 1 / 2 / 3 / 4		<u>Intermittent</u> / Continuous		
Location 4	14:11	0 / 1 / 2 / 3 / 4		Intermittent / Continuous		
Location 5	14:13	0 / 1 / 2 / 3 / 4		Intermittent / Continuous		
Location 6	14:17	0 / 1 / 2 / 3 / 4		Intermittent / Continuous		
Location 7	14:22	0 / 1 / 2 / 3 / 4		Intermittent / Continuous		
Location 8	14:23	0 / 1 / 2 / 3 / 4		Intermittent / Continuous		

Remark

	EPD Representative	Employer Representative	Independent Odour Patrol Team	Independent Odour Patrol Team	OSCAR Bioenergy JV
Name	FIONA LAM				11/3/2019 Sarah Ho
Signature					Sarah
Date	11/3/2019	NA	NA	NA	11/3/2019

Example of Odour Characteristics	Example of Possible Source of Odour
Biogas / Compost / sewage / rotten-egg smell / decayed vegetables / Diesel / ammoniacal / dischargeable odour / putrefaction / sharp / pungent / fish / irritating / fruit / vinegar	PRVs of Gas Holder / Sediment / Water / SSOW Trucks / Doors Opened / Stack emission / Sewage / food waste / Pretreatment / Machine Operation / Material / others /

Organic Resources Recovery Centre (Phase 1)
Odour Patrol Record Log Sheet



Date	13 / 3 / 2019
Type of Patrol	<u>Weekly Patrol</u> / Monthly Independent Patrol /
Weather Condition	<u>Sunny</u> / Cloudy / Windy / Humid / Foggy /
Average Temperature (°C)	26.8
Average Relative Humidity (%)	50

Monitoring Location	Time	Odour Intensity	Odour Characteristics	Duration	Possible Source of Odour	Remark
Location 1	13:31	0 / 1 / 2 / 3 / 4		Intermittent / Continuous		
Location 2	13:33	0 / 1 / 2 / 3 / 4	Biogas	<u>Intermittent</u> / Continuous	Biogas Holder	
Location 3	13:34	0 / 1 / 2 / 3 / 4		Intermittent / Continuous		
Location 4	13:36	0 / 1 / 2 / 3 / 4		Intermittent / Continuous		
Location 5	13:38	0 / 1 / 2 / 3 / 4		Intermittent / Continuous		
Location 6	13:41	0 / 1 / 2 / 3 / 4		Intermittent / Continuous		
Location 7	13:44	0 / 1 / 2 / 3 / 4	oil	<u>Intermittent</u> / Continuous	Machine	
Location 8	13:46	0 / 1 / 2 / 3 / 4		Intermittent / Continuous		

Remark

	EPD Representative	Employer Representative	Independent Odour Patrol Team	Independent Odour Patrol Team	OSCAR Bioenergy JV
Name	TESS CHAN				Sarah HO
Signature		NA	NA	NA	
Date	13 MAR 2019				13 / 3 / 2019

Example of Odour Characteristics	Example of Possible Source of Odour
Biogas / Compost / sewage / rotten-egg smell / decayed vegetables / Diesel / ammoniacal / dischargeable odour / putrefaction / sharp / pungent / fish / irritating / fruit / vinegar	PRVs of Gas Holder / Sediment / Water / SSOW Trucks / Doors Opened / Stack emission / Sewage / food waste / Pretreatment / Machine Operation / Material / others /

Organic Resources Recovery Centre (Phase 1)
Odour Patrol Record Log Sheet



Date	15 March 2019
Type of Patrol	Weekly Patrol / Monthly Independent Patrol / _____
Weather Condition	Sunny / <u>Cloudy</u> / Windy / Humid / Foggy /
Average Temperature (°C)	22.8
Average Relative Humidity (%)	70%

Monitoring Location	Time	Odour Intensity	Odour Characteristics	Duration	Possible Source of Odour	Remark
Location 1	10:59	0 / 1 / 2 / 3 / 4	—	Intermittent / Continuous		
Location 2	11:02	0 / 1 / 2 / 3 / 4	Biogas smell/plastic	Intermittent / Continuous	Biogas Hold PRV	—
Location 3	11:03	0 / 1 / 2 / 3 / 4	Biogas smell	Intermittent / Continuous	Setpoint Adjust	—
Location 4	11:05	0 / 1 / 2 / 3 / 4	—	Intermittent / Continuous		
Location 5	11:06	0 / 1 / 2 / 3 / 4	—	Intermittent / Continuous		
Location 6	11:09	0 / 1 / 2 / 3 / 4	—	Intermittent / Continuous		
Location 7	11:11	0 / 1 / 2 / 3 / 4	—	Intermittent / Continuous		
Location 8	11:13	0 / 1 / 2 / 3 / 4	—	Intermittent / Continuous		

Remark

	EPD Representative	Employer Representative	Independent Odour Patrol Team	Independent Odour Patrol Team	OSCAR Bioenergy JV
Name	TES CHAN				Terence CHAN
Signature					
Date	15 MAR 2019				15/3/2019

Example of Odour Characteristics	Example of Possible Source of Odour
Biogas / Compost / sewage / rotten-egg smell / decayed vegetables / Diesel / ammoniacal / dischargeable odour / putrefaction / sharp / pungent / fish / irritating / fruit / vinegar	PRVs of Gas Holder / Sediment / Water / SSOW Trucks / Doors Opened / Stack emission / Sewage / food waste / Pretreatment / Machine Operation / Material / others /

Organic Resources Recovery Centre (Phase 1)
Odour Patrol Record Log Sheet



Date	18 Mar 2019
Type of Patrol	Weekly Patrol / Monthly Independent Patrol
Weather Condition	Sunny / Cloudy / Windy / Humid / Foggy /
Average Temperature (°C)	26°C
Average Relative Humidity (%)	65%

Monitoring Location	Time	Odour Intensity	Odour Characteristics	Duration	Possible Source of Odour	Remark
Location 1	14:14	0 / 1 / 2 / 3 / 4		Intermittent / Continuous		
Location 2	14:15	0 / 1 / 2 / 3 / 4	Plastic Smell	Intermittent / Continuous	PRV of Gas Holder	
Location 3	14:16	0 / 1 / 2 / 3 / 4		Intermittent / Continuous		
Location 4	14:19	0 / 1 / 2 / 3 / 4		Intermittent / Continuous		
Location 5	14:21	0 / 1 / 2 / 3 / 4		Intermittent / Continuous		
Location 6	14:23	0 / 1 / 2 / 3 / 4	Soil Smell	Intermittent / Continuous	Landscap works nearby at B2/B1	
Location 7	14:26	0 / 1 / 2 / 3 / 4		Intermittent / Continuous		
Location 8	14:27	0 / 1 / 2 / 3 / 4		Intermittent / Continuous		

Remark

	EPD Representative	Employer Representative	Independent Odour Patrol Team	Independent Odour Patrol Team	OSCAR Bioenergy JV
Name	David Choi				Kerence CHAN
Signature					
Date	18/3/2019				18/3/2019

Example of Odour Characteristics	Example of Possible Source of Odour
Biogas / Compost / sewage / rotten-egg smell / decayed vegetables / Diesel / ammoniacal / dischargeable odour / putrefaction / sharp / pungent / fish / irritating / fruit / vinegar	PRVs of Gas Holder / Sediment / Water / SSOW Trucks / Doors Opened / Stack emission / Sewage / food waste / Pretreatment / Machine Operation / Material / others /

Organic Resources Recovery Centre (Phase 1)
Odour Patrol Record Log Sheet



Date	20 Mar 2019
Type of Patrol	Weekly Patrol / Monthly Independent Patrol
Weather Condition	Sunny / <u>Cloudy</u> / Windy / Humid / Foggy /
Average Temperature (°C)	25°C
Average Relative Humidity (%)	80%

Monitoring Location	Time	Odour Intensity	Odour Characteristics	Duration	Possible Source of Odour	Remark
Location 1	11:05	0/1/2/3/4		Intermittent / Continuous		
Location 2	11:07	0/1/2/3/4	Plastic smell	Intermittent / Continuous	PRV of Gas Holder	
Location 3	11:08	0/1/2/3/4		Intermittent / Continuous		
Location 4	11:10	0/1/2/3/4		Intermittent / Continuous		
Location 5	11:12	0/1/2/3/4		Intermittent / Continuous		
Location 6	11:14	0/1/2/3/4		Intermittent / Continuous		
Location 7	11:16	0/1/2/3/4		Intermittent / Continuous		
Location 8	11:17	0/1/2/3/4		Intermittent / Continuous		

Remark

	EPD Representative	Employer Representative	Independent Odour Patrol Team	Independent Odour Patrol Team	OSCAR Bioenergy JV
Name	Daniel Choi				Terence TAN
Signature					
Date	20/3/2019				20/3/2019

Example of Odour Characteristics	Example of Possible Source of Odour
Biogas / Compost / sewage / rotten-egg smell / decayed vegetables / Diesel / ammoniacal / dischargeable odour / putrefaction / sharp / pungent / fish / irritating / fruit / vinegar	PRVs of Gas Holder / Sediment / Water / SSOW Trucks / Doors Opened / Stack emission / Sewage / food waste / Pretreatment / Machine Operation / Material / others /

Organic Resources Recovery Centre (Phase 1)
Odour Patrol Record Log Sheet



Date	22 Mar 2019
Type of Patrol	Weekly Patrol / Monthly Independent Patrol /
Weather Condition	Sunny <u>Cloudy</u> / Windy / Humid / Foggy /
Average Temperature (°C)	27°C
Average Relative Humidity (%)	85%

Monitoring Location	Time	Odour Intensity	Odour Characteristics	Duration	Possible Source of Odour	Remark
Location 1	1:04	① / 1 / 2 / 3 / 4		Intermittent / Continuous		
Location 2	1:06	0 / ① / 2 / 3 / 4	Plastic smell	Intermittent / Continuous	PSV of Gas Holder	
Location 3	1:07	0 / ① / 2 / 3 / 4	H ₂ S smell	Intermittent / Continuous	discharge Analyser	
Location 4	1:10	① / 1 / 2 / 3 / 4		Intermittent / Continuous		
Location 5	1:12	0 / ① / 2 / 3 / 4	Glass smell	Intermittent / Continuous	Landscaper	
Location 6	1:16	① / 1 / 2 / 3 / 4		Intermittent / Continuous		
Location 7	1:17	0 / ① / 2 / 3 / 4	Rubbish smell	Intermittent / Continuous	Retreatment	
Location 8	1:19	0 / ① / 2 / 3 / 4	Rubbish smell	Intermittent / Continuous	unknown	

Remark

	EPD Representative	Employer Representative	Independent Odour Patrol Team	Independent Odour Patrol Team	OSCAR Bioenergy JV
Name	FIONA LAM				TERENCE CHAN
Signature					
Date	22/3/2019				22/3/2019

Example of Odour Characteristics	Example of Possible Source of Odour
Biogas / Compost / sewage / rotten-egg smell / decayed vegetables / Diesel / ammoniacal / dischargeable odour / putrefaction / sharp / pungent / fish / irritating / fruit / vinegar	PRVs of Gas Holder / Sediment / Water / SSOV Trucks / Doors Opened / Stack emission / Sewage / food waste / Pretreatment / Machine Operation / Material / others /

Organic Resources Recovery Centre (Phase 1)
Odour Patrol Record Log Sheet



Date	25 / 3 / 2019
Type of Patrol	Weekly Patrol / Monthly Independent Patrol /
Weather Condition	Sunny / Cloudy / Windy / Humid / Foggy /
Average Temperature (°C)	23.3
Average Relative Humidity (%)	70

Monitoring Location	Time	Odour Intensity	Odour Characteristics	Duration	Possible Source of Odour	Remark
Location 1	11:06	0 / ① / 2 / 3 / 4	Grass Smell	Intermittent / Continuous	Grass	
Location 2	11:08	0 / ① / 2 / 3 / 4	Biogas	Intermittent / Continuous	Biogas Holder	
Location 3	11:10	0 / ① / 2 / 3 / 4	H ₂ S	Intermittent / Continuous	Desulphurization Unit	
Location 4	11:13	① / 1 / 2 / 3 / 4		Intermittent / Continuous		
Location 5	11:16	① / 1 / 2 / 3 / 4		Intermittent / Continuous		
Location 6	11:18	0 / ① / 2 / 3 / 4	Compost	Intermittent / Continuous	Composting Hall	
Location 7	11:22	0 / ① / 2 / 3 / 4	Generator	Intermittent / Continuous	Electric Generator	
Location 8	11:25	① / 1 / 2 / 3 / 4		Intermittent / Continuous		

Remark

	EPD Representative	Employer Representative	Independent Odour Patrol Team	Independent Odour Patrol Team	OSCAR Bioenergy JV
Name	FIONA LAM				Sarah HO
Signature					
Date	25/3/2019	NA	NA	NA	25 / 3 / 2019

Example of Odour Characteristics	Example of Possible Source of Odour
Biogas / Compost / sewage / rotten-egg smell / decayed vegetables / Diesel / ammoniacal / dischargeable odour / putrefaction / sharp / pungent / fish / irritating / fruit / vinegar	PRVs of Gas Holder / Sediment / Water / SSOW Trucks / Doors Opened / Stack emission / Sewage / food waste / Pretreatment / Machine Operation / Material / others /

Organic Resources Recovery Centre (Phase 1)

Odour Patrol Record Log Sheet



Date	27 / 3 / 2019
Type of Patrol	Weekly Patrol / Monthly Independent Patrol /
Weather Condition	Sunny / Cloudy / Windy / Humid / Foggy /
Average Temperature (°C)	24.4
Average Relative Humidity (%)	69

Monitoring Location	Time	Odour Intensity	Odour Characteristics	Duration	Possible Source of Odour	Remark
Location 1	10:05	0 / 1 / 2 / 3 / 4		Intermittent / Continuous		
Location 2	10:07	0 / 1 / 2 / 3 / 4	Biogas	Intermittent / Continuous	Biogas Holder	
Location 3	10:08	0 / 1 / 2 / 3 / 4	Biogas	Intermittent / Continuous	Biogas Holder	
Location 4	10:11	0 / 1 / 2 / 3 / 4		Intermittent / Continuous		
Location 5	10:14	0 / 1 / 2 / 3 / 4		Intermittent / Continuous		
Location 6	10:16	0 / 1 / 2 / 3 / 4		Intermittent / Continuous		
Location 7	10:18	0 / 1 / 2 / 3 / 4		Intermittent / Continuous		
Location 8	10:19	0 / 1 / 2 / 3 / 4		Intermittent / Continuous		

Remark

	EPD Representative	Employer Representative	Independent Odour Patrol Team	Independent Odour Patrol Team	OSCAR Bioenergy JV
Name	FIONA LAM				Sarah HO
Signature		NA	NA	NA	Sarah
Date	27/3/2019				27/3/2019

Example of Odour Characteristics	Example of Possible Source of Odour
Biogas / Compost / sewage / rotten-egg smell / decayed vegetables / Diesel / ammoniacal / dischargeable odour / putrefaction / sharp / pungent / fish / irritating / fruit / vinegar	PRVs of Gas Holder / Sediment / Water / SSOW Trucks / Doors Opened / Stack emission / Sewage / food waste / Pretreatment / Machine Operation / Material / others /

Organic Resources Recovery Centre (Phase 1)
Odour Patrol Record Log Sheet



Date	29/3/2019
Type of Patrol	<u>Weekly Patrol</u> / Monthly Independent Patrol /
Weather Condition	Sunny <u>Cloudy</u> / Windy / Humid / Foggy /
Average Temperature (°C)	25.8
Average Relative Humidity (%)	80

Monitoring Location	Time	Odour Intensity	Odour Characteristics	Duration	Possible Source of Odour	Remark
Location 1	9:20	0/1/2/3/4		<i>Intermittent / Continuous</i>		
Location 2	9:22	0/1/2/3/4	Biogas	<i>Intermittent / Continuous</i>	Biogas Holder	
Location 3	9:23	0/1/2/3/4	Biogas	<i>Intermittent / Continuous</i>	Biogas Holder	
Location 4	9:26	0/1/2/3/4		<i>Intermittent / Continuous</i>		
Location 5	9:28	0/1/2/3/4	Grass	<i>Intermittent / Continuous</i>	Grass	
Location 6	9:30	0/1/2/3/4		<i>Intermittent / Continuous</i>		
Location 7	9:33	0/1/2/3/4	Rubbish	<i>Intermittent / Continuous</i>	Inert Truck	
Location 8	9:35	0/1/2/3/4		<i>Intermittent / Continuous</i>		

Remark

	EPD Representative	Employer Representative	Independent Odour Patrol Team	Independent Odour Patrol Team	OSCAR Bioenergy JV
Name	Fiona Lam				Sarah HO
Signature	<i>Fiona</i>	NA	NA	NA	Sarah
Date	29/3/2019				29/3/2019

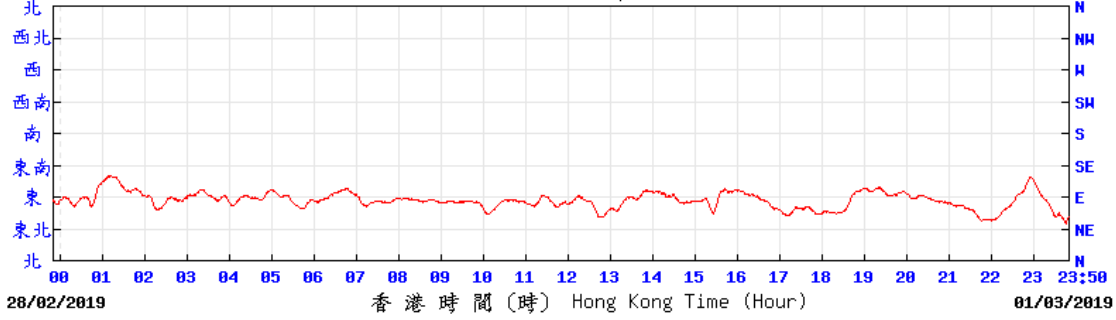
Example of Odour Characteristics	Example of Possible Source of Odour
Biogas / Compost / sewage / rotten-egg smell / decayed vegetables / Diesel / ammoniacal / dischargeable odour / putrefaction / sharp / pungent / fish / irritating / fruit / vinegar	PRVs of Gas Holder / Sediment / Water / SSOW Trucks / Doors Opened / Stack emission / Sewage / food waste / Pretreatment / Machine Operation / Material / others /

Annex J2

Local Wind Direction and Wind Speed

Wind Direction

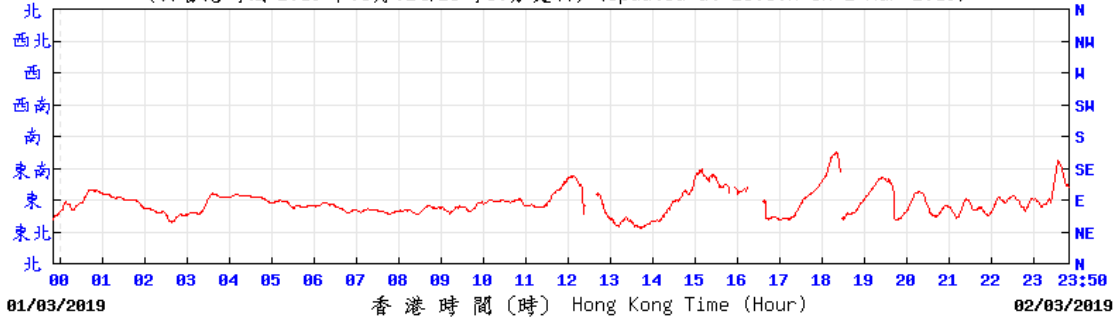
(於香港時間 2019 年03月01日23時50分更新) (Updated at 23:50H on 1 Mar 2019)



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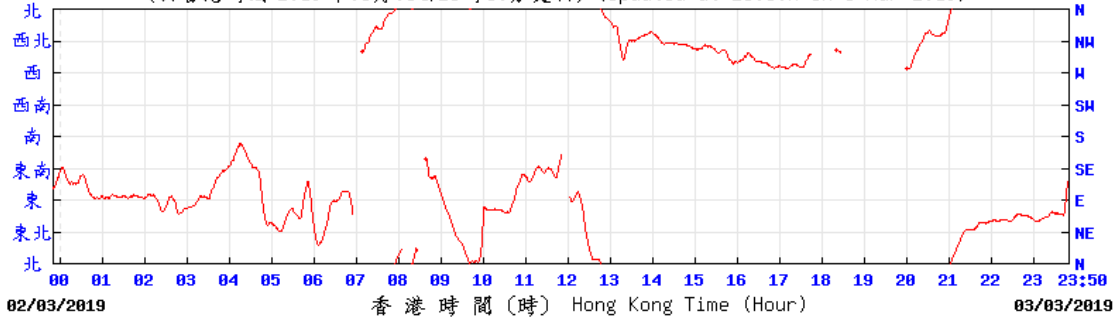
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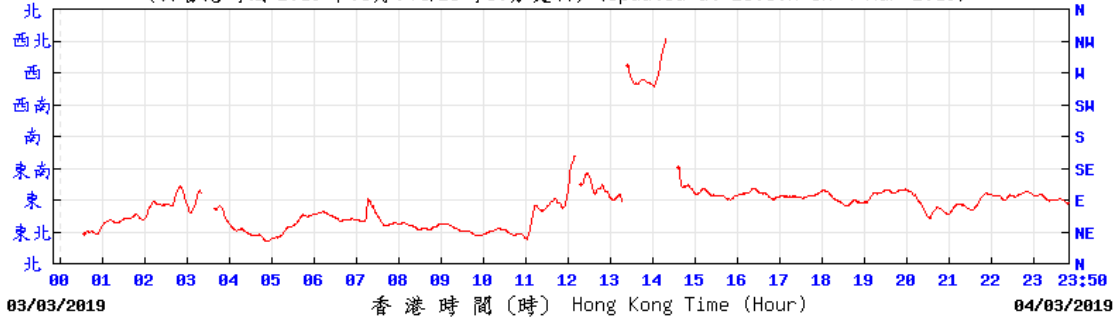
(於香港時間 2019 年03月03日23時50分更新) (Updated at 23:50H on 3 Mar 2019)



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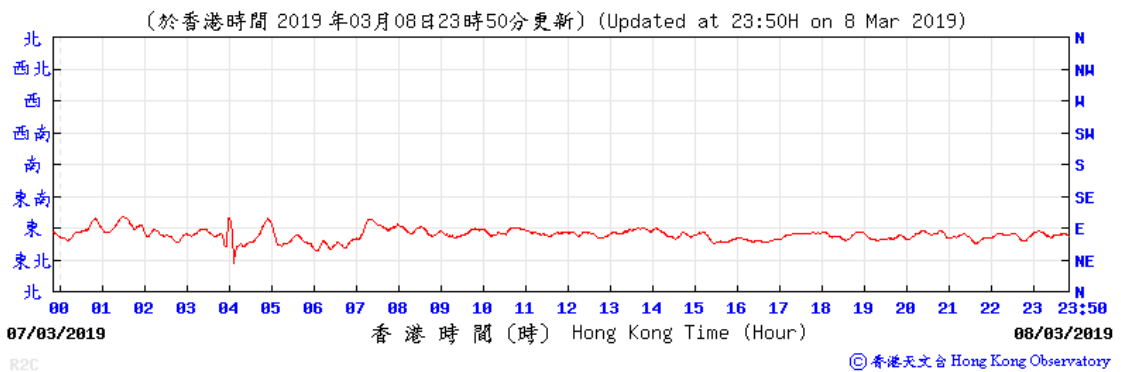
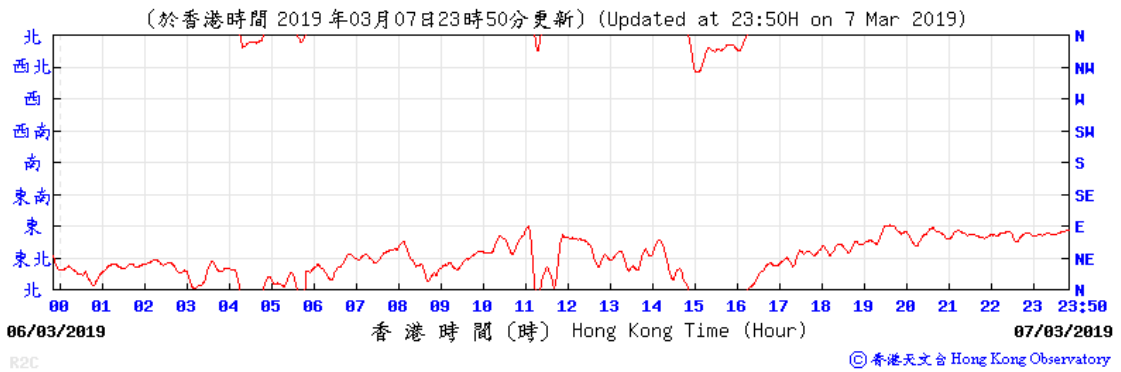
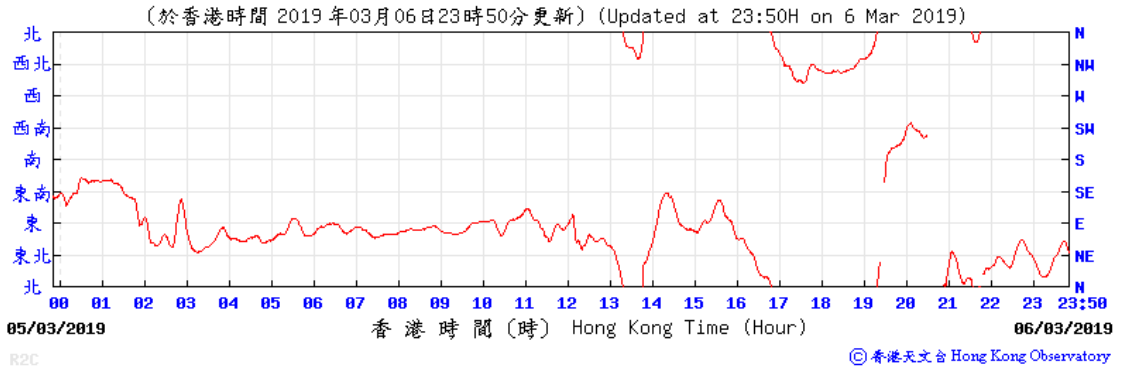
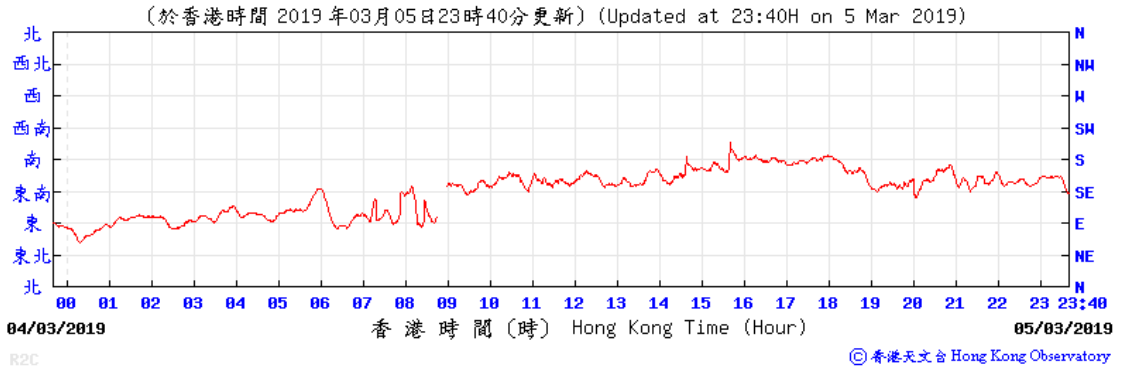
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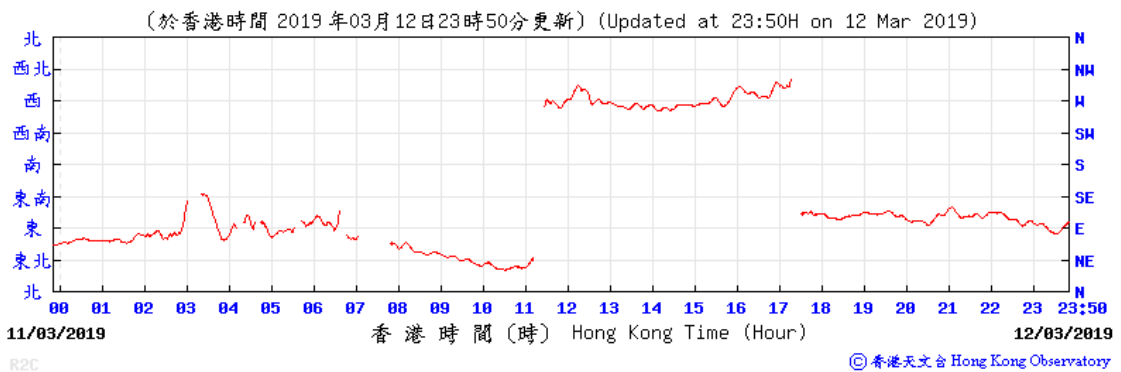
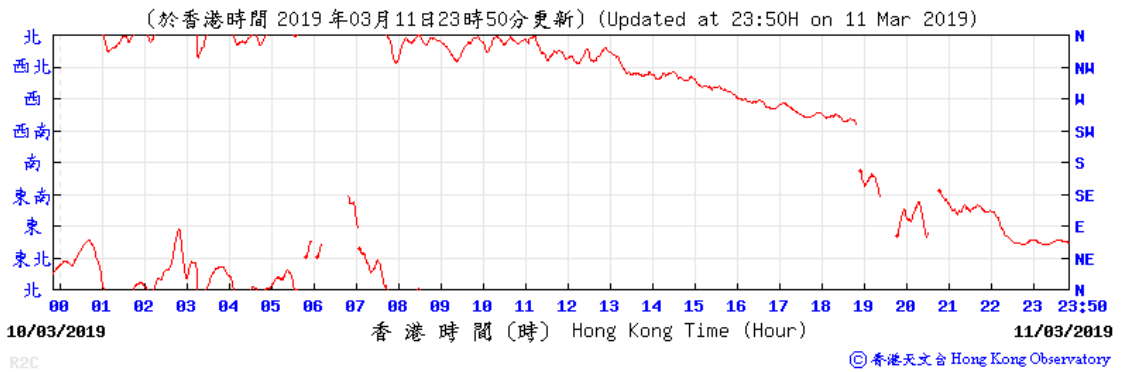
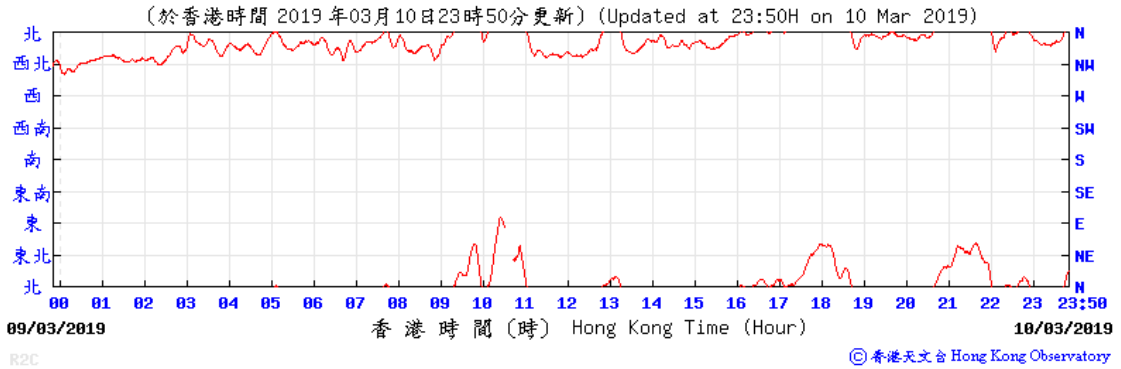
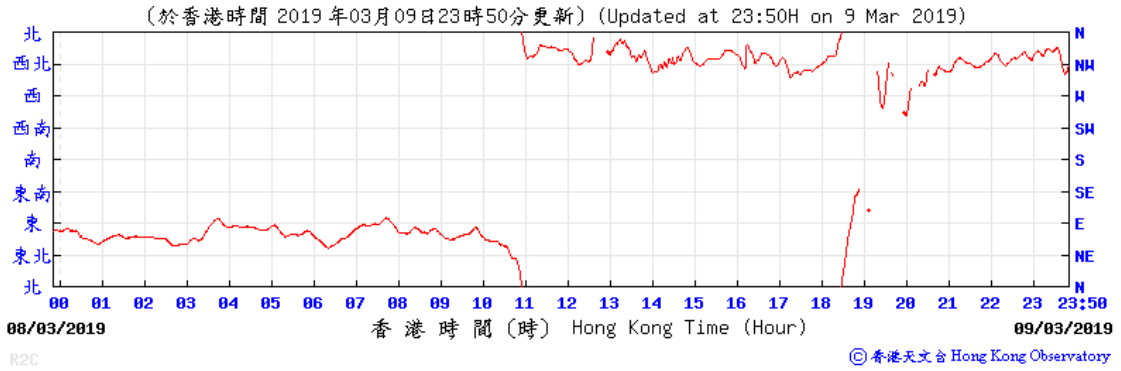
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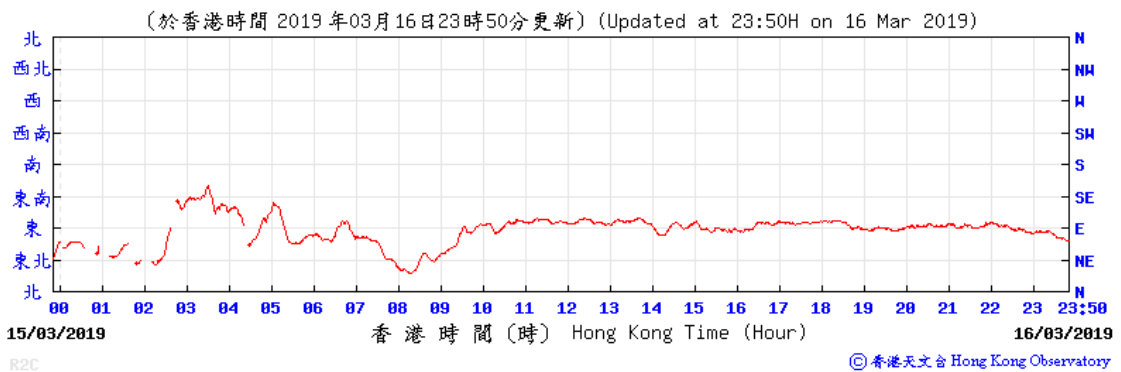
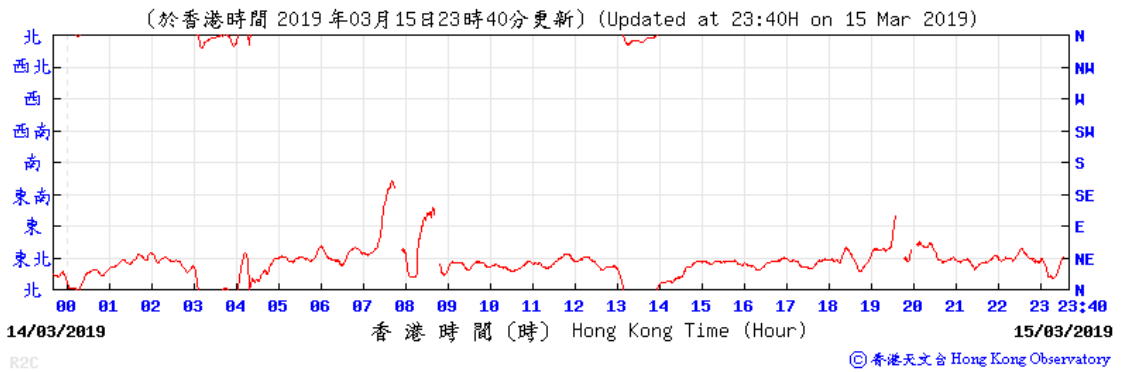
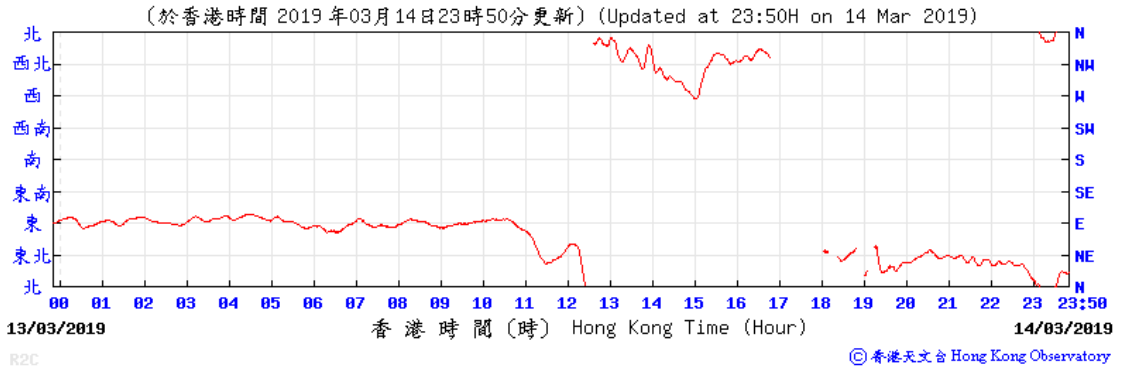
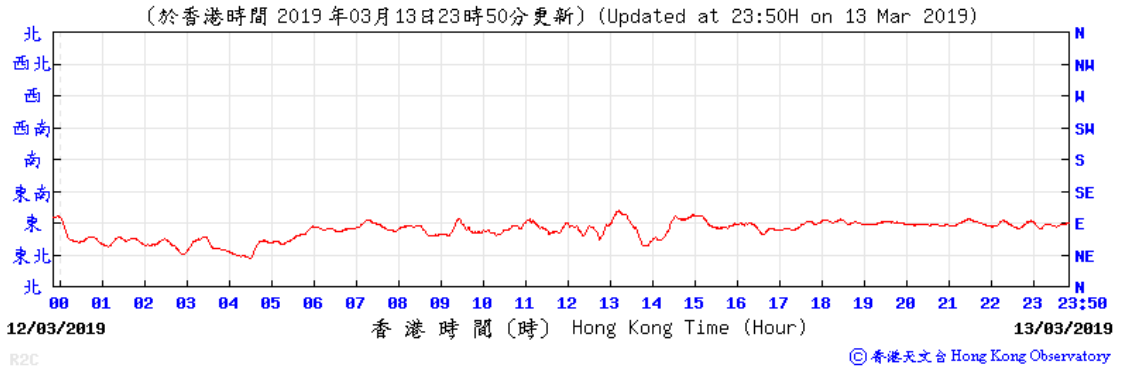


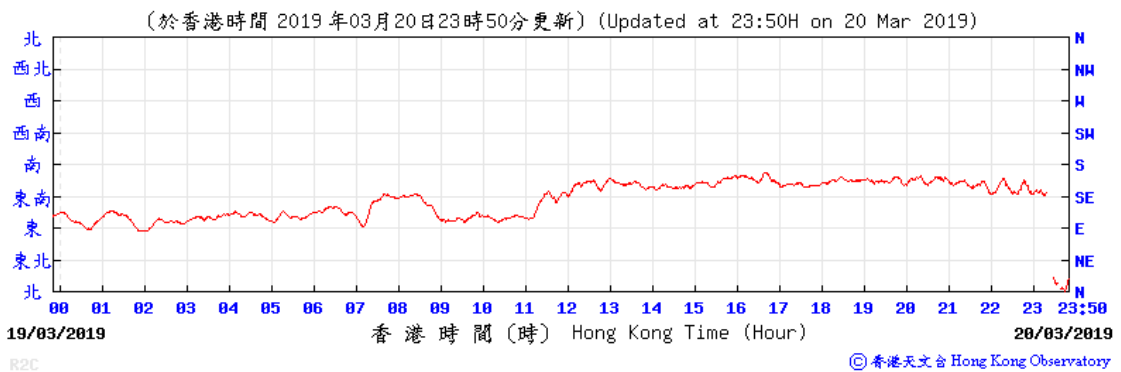
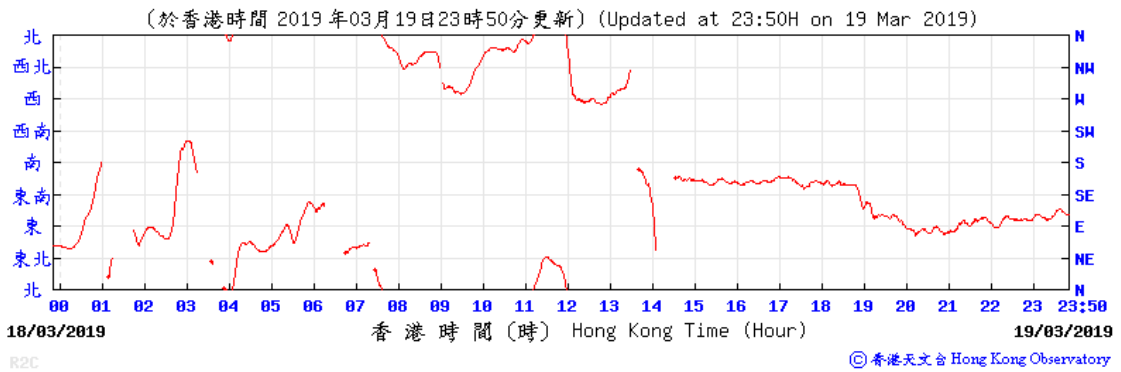
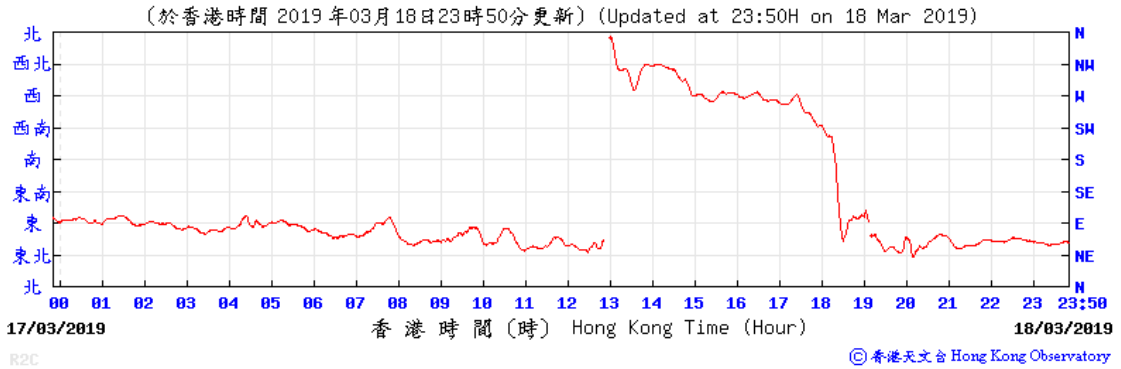
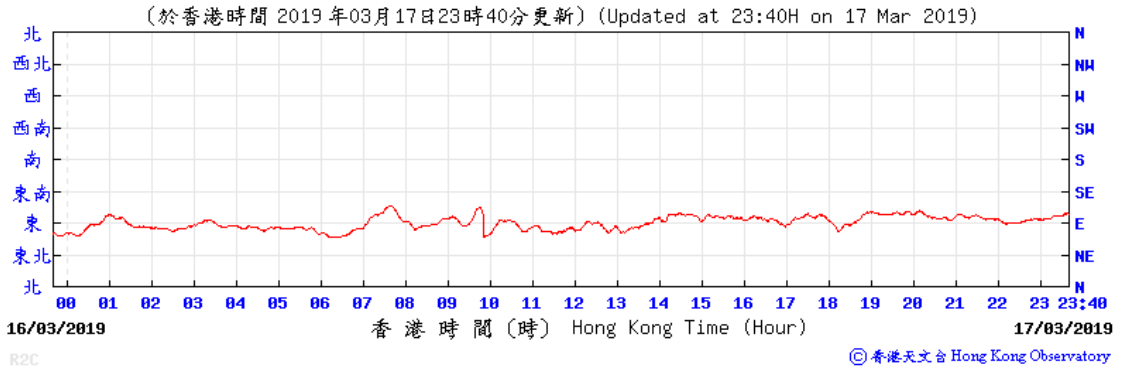
R2C

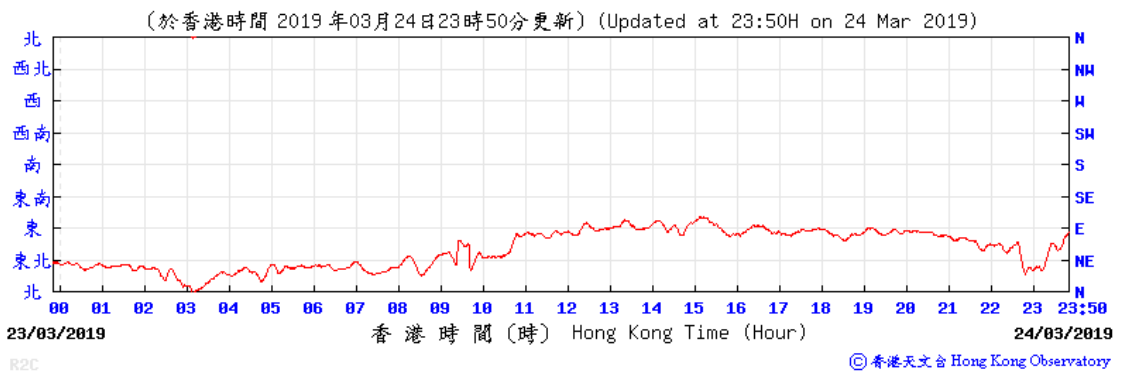
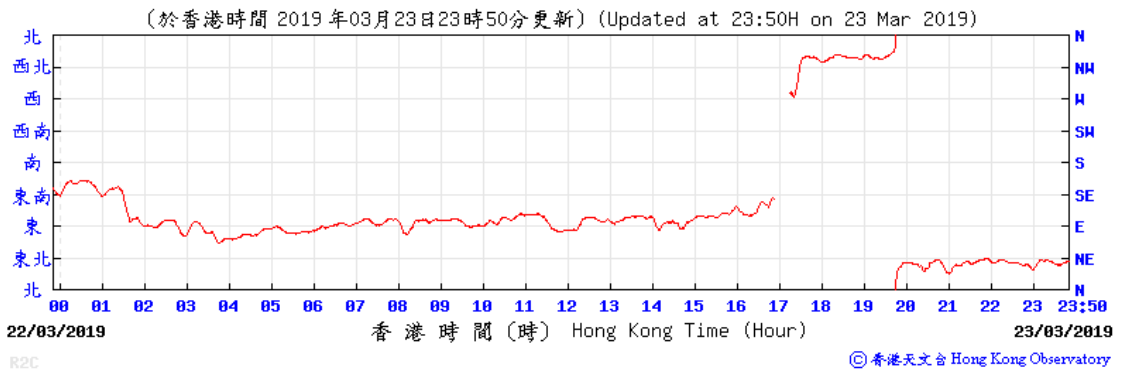
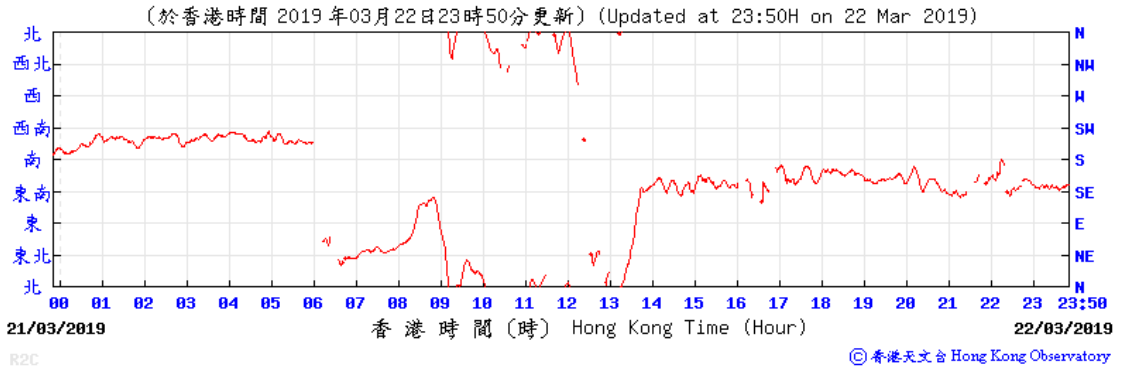
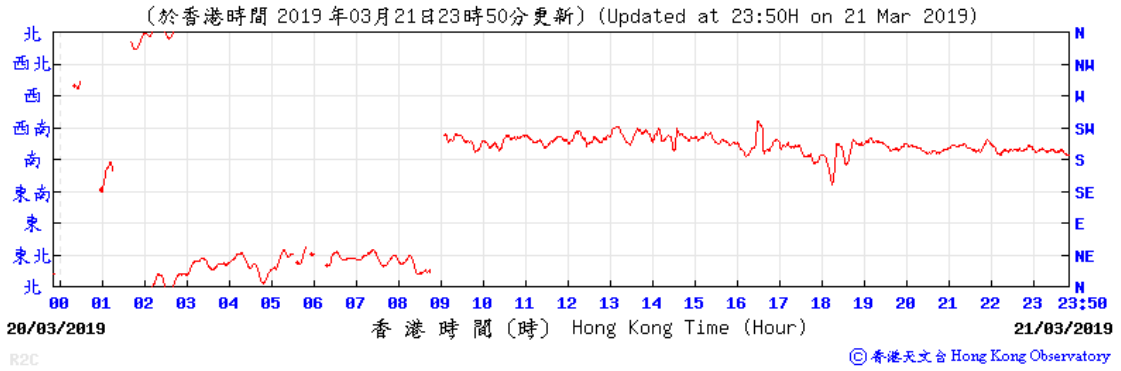
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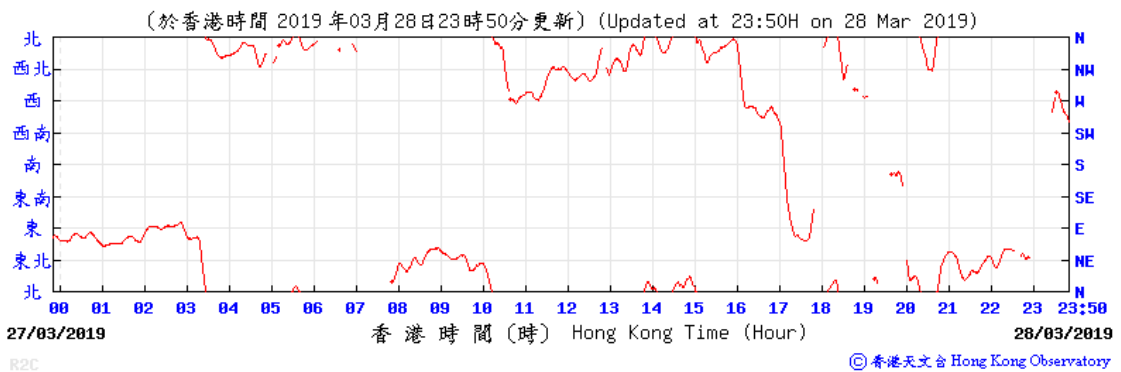
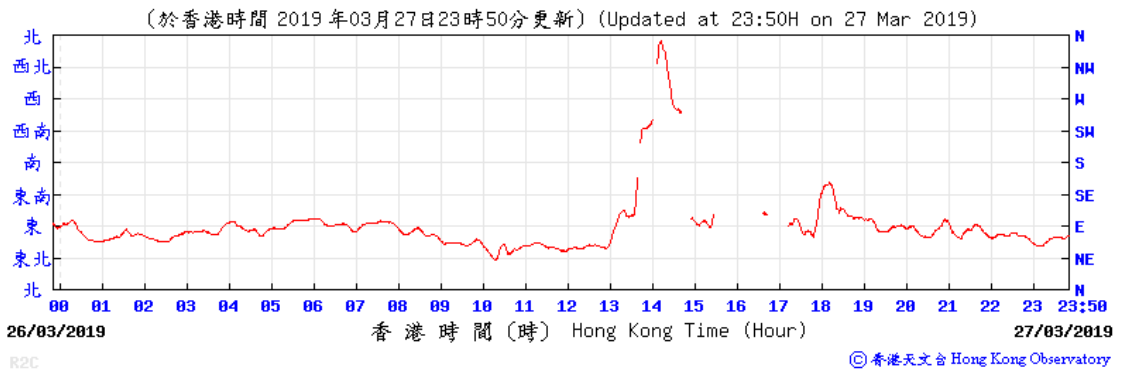
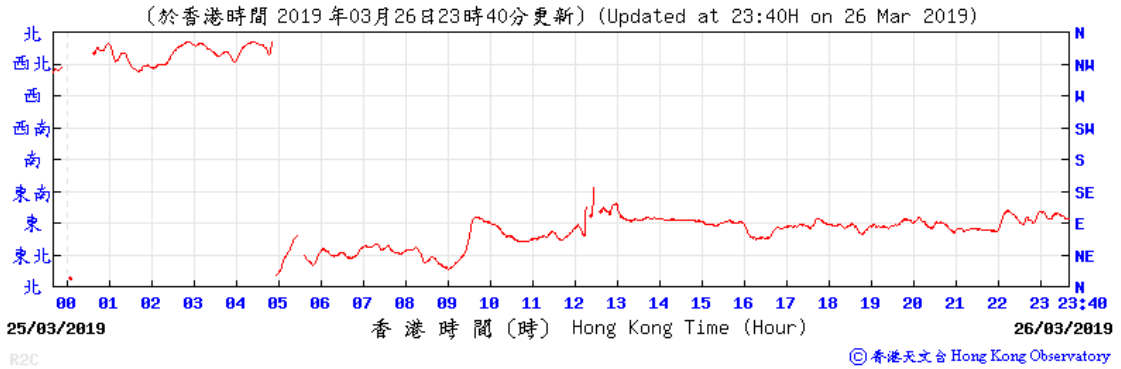
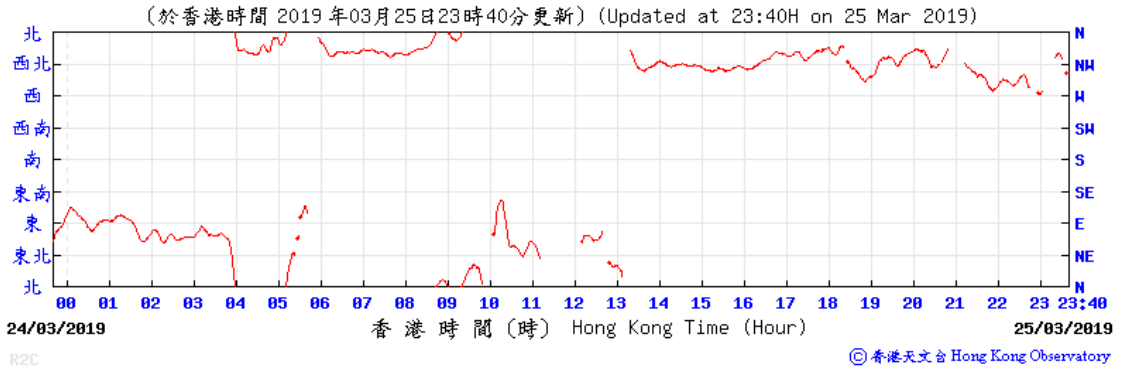


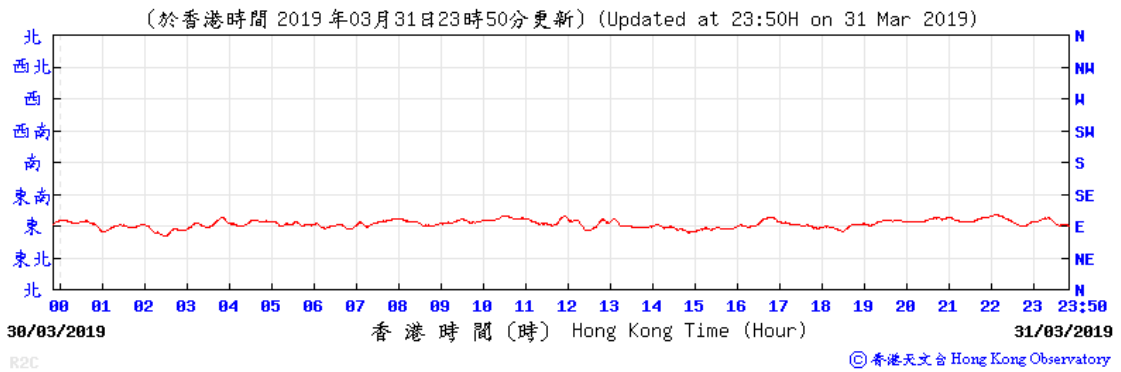
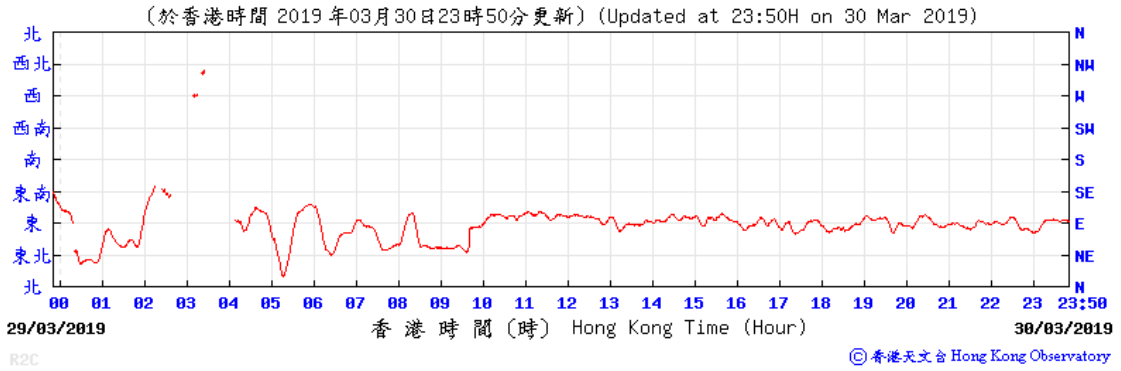
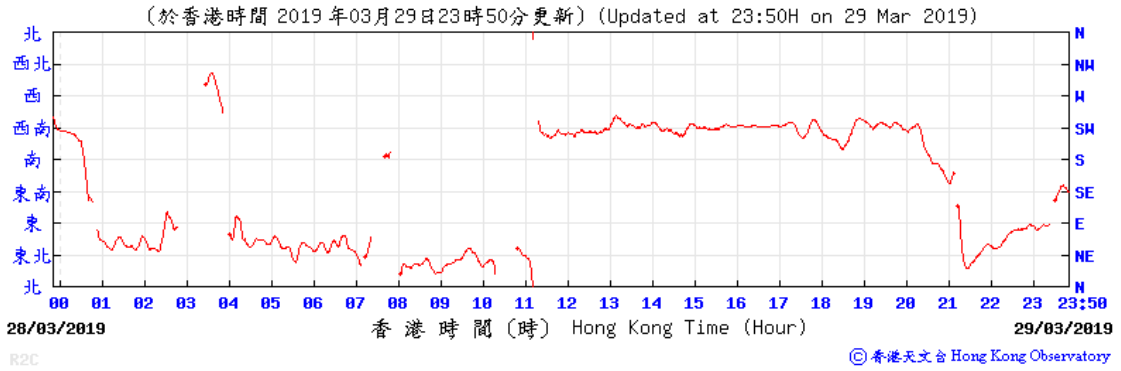












Annex J3

Odour Sampling Result



CERTIFICATE OF ANALYSIS

CLIENT:	Oscar Bioenergy Joint Venture	WORK ORDER:	HK1864017
CONTACT:	Mr Edwin Wong	LABORATORY:	Hong Kong
ADDRESS:	No. 5, Sham Fung Road, Siu Ho Wan, North Lantau Island, NT, Hong Kong	SUB-BATCH:	0
		DATE RECEIVED:	10 December 2018
		DATE OF ISSUE:	14 December 2018
PROJECT:	Odour Monitoring for the Organic Resources Recovery Centre Phase 1 in Siu Ho Wan	SAMPLE TYPE:	Air
SITE:	Organic Resources Recovery Centre Phase 1 (ORRC1)	NO OF SAMPLES:	3
PO:			

COMMENTS


Air sample(s) were collected by ALS Technichem (HK) staff on 10th December, 2018 at the Organic Resources Recovery Centre Phase 1 (ORRC1) in Siu Ho Wan for Odour Monitoring.

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

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.


Richard Fung
General Manager - Hong Kong

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METHOD STATEMENT

A. Odour Concentration

1. Odour Sampling

Odour gas sample was collected by passive sampling technique. A Nalophan™ sampling bag was placed inside an air-tight sampler and then drawn to vacuum. Approximately 60 litre of gas sample was collected into the sampling bag for testing.

The odour sample was collected at the Organic Recovery Resources Centre Phase 1 (ORRC1) and sampling location was shown in Appendix A3.

2. Olfactometry Testing

Odour concentration was determined by a Forced-choice Dynamic Olfactometer in accordance with the European Standard Method (EN13725).

This European Standard specifies a method for the objective determination of the odour concentration of a gaseous sample using dynamic olfactometry with human assessors and the emission rate of odours emanating from point sources, area sources with outward flow and area sources without outward flow.

This European Standard is applicable to the measurement of odour concentration of pure substances, defined mixtures and undefined mixtures of gaseous odorants in air or nitrogen, using dynamic olfactometry with a panel of human assessors being the sensor.

The unit of measurement is the odour unit per cubic metre: OU_e/m^3 . The odour concentration is measured by determining the dilution factor required to reach the detection threshold. The odour concentration at the detection threshold is by definition 1 OU_e/m^3 . The odour concentration is then expressed in terms of multiples of the detection threshold. The range of measurement including pre-dilution prior to the olfactometry analysis is typically from 10^1 OU_e/m^3 to 10^7 OU_e/m^3 .

Olfactometry Testing was performed by using the Scentroid™ SS600 Olfactometer. The testing was performed by at least five qualified panellists who have been selected through an n-butanol screening test.

All testing finished within 24 hours after sample receipt.

**RESULT****1. Odour Concentration**

Sample ID	Location	Sampling Date	Sampling Time	LOR (OU _E /Nm ³)	Odour Concentration (OU _E /Nm ³)	Characteristics of the odour detected of the gas sample	Volumetric Flow Rate (Nm ³ /min)	Emission rate (OU _E /hr)
HK1864017-001	CAPC Unit (Bypass AC Filter)	10-Dec-18	11:36-11:41	11	828	Decayed orange with minor bleach smell	1267.4	63,000,000
HK1864017-002	CAPC Unit (Bypass AC Filter)	10-Dec-18	11:41-11:46	11	886	Decayed orange with minor bleach smell	1267.4	67,400,000
HK1864017-003	Field Blank	10-Dec-18	--	11	<11	--	--	--

Remark:

1. LOR denotes limit of reporting.
2. The collected sample volume of the gas bag is sufficient for olfactometry analysis.
3. Field Blank containing pure nitrogen gas was collected and filled by ALS staff.
4. The volumetric flow rate value for calculation of the emission rate was provided by the client.



APPENDIX 1

A1. SITE CONDITIONS AND OBSERVATION

Location	Date	Time	Ambient Temperature (°C)	Relative Humidity (%)	Ambient Pressure (hPa)	Wind Speed (m/s)	Wind Direction (Degree)	Direction from Source ¹	Duration of Odour	On-Site Observation		Weather Condition
										Odour Nature	Possible Source	
CAPC Unit	10-12-18	11:36 - 11:46	17.3	64.6	1019.4	0.7	320	NA	NA	No odour was smelled.	NA	Cloudy

Note:

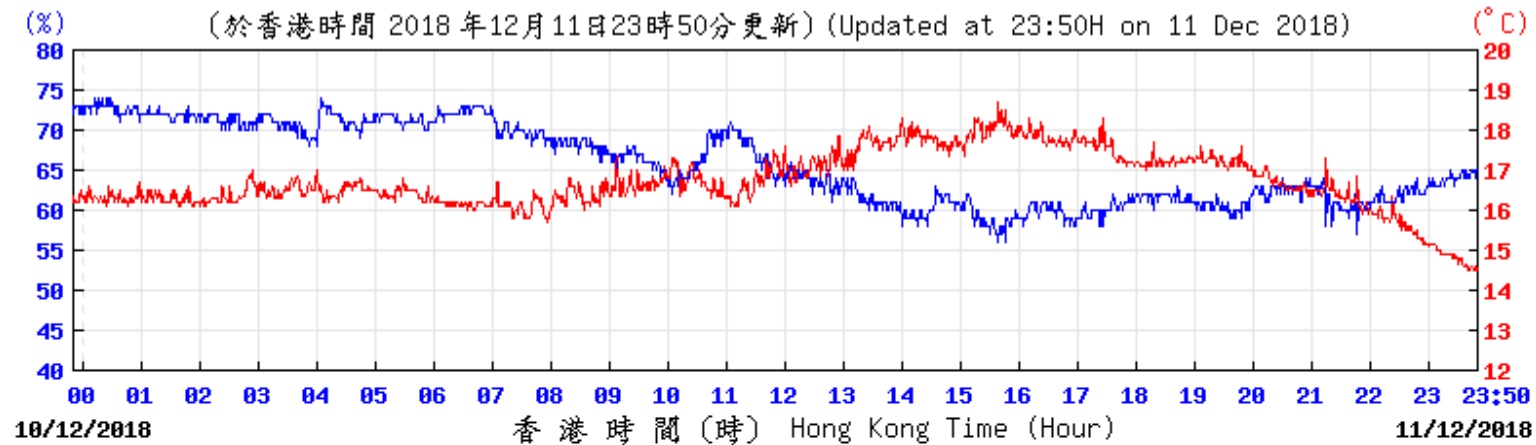
1. It was assumed that the exhaust of the CAPC Unit was from the odour source.



APPENDIX 2

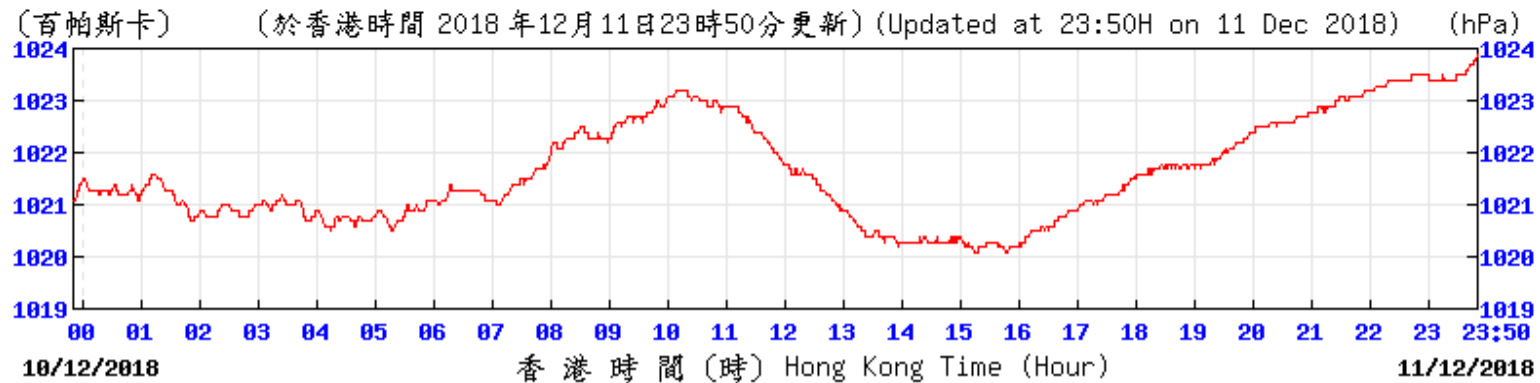
A2. EXTRACT OF METEOROLOGICAL OBSERVATIONS FROM THE HONG KONG AIRPORT OBSERVATORY STATION

Temperature/Humidity:



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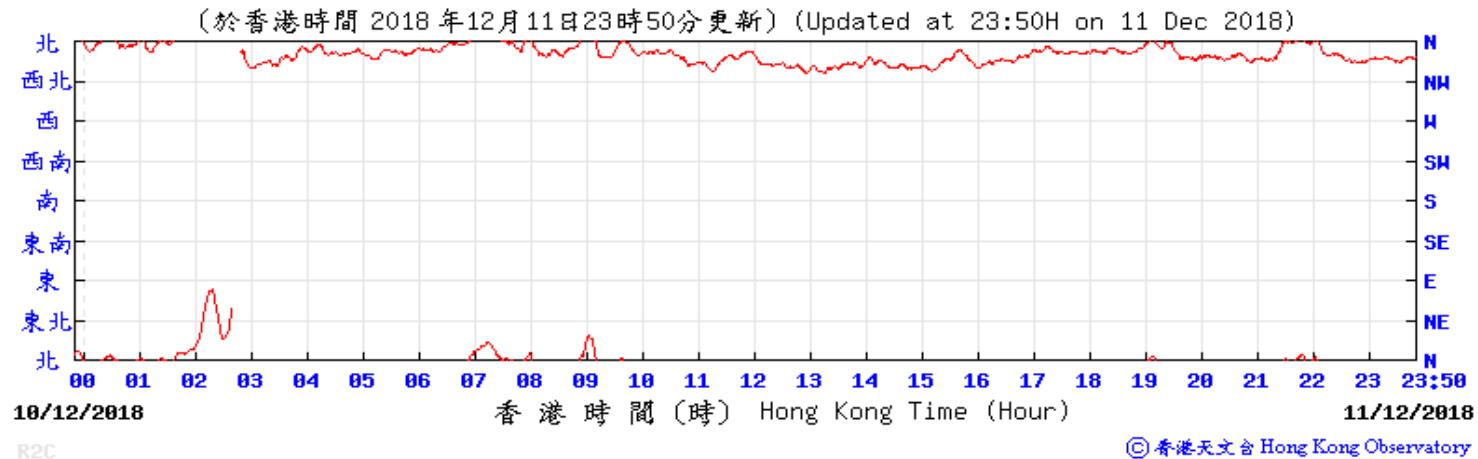
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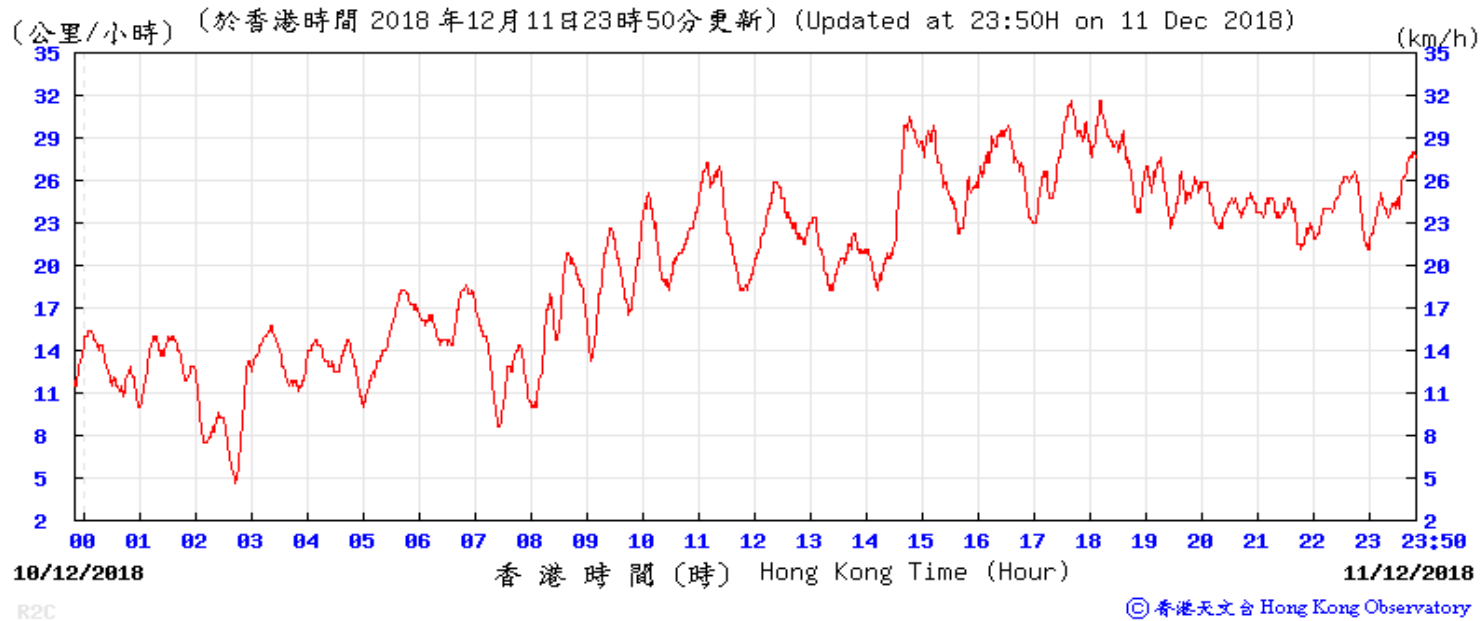
© 香港天文台 Hong Kong Observatory



Wind Direction:



Wind Speed:



APPENDIX 3

A3. PHOTO OF THE SAMPLING LOCATION





CERTIFICATE OF ANALYSIS

CLIENT:	Oscar Bioenergy Joint Venture	WORK ORDER:	HK1864595
CONTACT:	Mr Edwin Wong	LABORATORY:	Hong Kong
ADDRESS:	No. 5, Sham Fung Road, Siu Ho Wan, North Lantau Island, NT, Hong Kong	SUB-BATCH:	0
		DATE RECEIVED:	10 December 2018
		DATE OF ISSUE:	14 December 2018
PROJECT:	Odour Monitoring for the Organic Resources Recovery Centre Phase 1 in Siu Ho Wan	SAMPLE TYPE:	Air
SITE:	Organic Resources Recovery Centre Phase 1 (ORRC1)	NO OF SAMPLES:	3
PO:	---		

COMMENTS

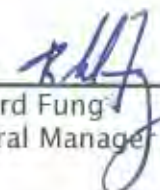
Air sample(s) were collected by ALS Technichem (HK) staff on 10th December, 2018 at the Organic Resources Recovery Centre Phase 1 (ORRC1) in Siu Ho Wan for Odour Monitoring.

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

NOTES

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


Richard Fung
General Manager - Hong Kong

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METHOD STATEMENT

A. Odour Concentration

1. Odour Sampling

Odour gas sample was collected by passive sampling technique. A Nalophan™ sampling bag was placed inside an air-tight sampler and then drawn to vacuum. Approximately 60 litre of gas sample was collected into the sampling bag for testing.

The odour sample was collected at the Organic Recovery Resources Centre Phase 1 (ORRC1) and sampling location was shown in Appendix A3.

2. Olfactometry Testing

Odour concentration was determined by a Forced-choice Dynamic Olfactometer in accordance with the European Standard Method (EN13725).

This European Standard specifies a method for the objective determination of the odour concentration of a gaseous sample using dynamic olfactometry with human assessors and the emission rate of odours emanating from point sources, area sources with outward flow and area sources without outward flow.

This European Standard is applicable to the measurement of odour concentration of pure substances, defined mixtures and undefined mixtures of gaseous odorants in air or nitrogen, using dynamic olfactometry with a panel of human assessors being the sensor.

The unit of measurement is the odour unit per cubic metre: OU_E/m^3 . The odour concentration is measured by determining the dilution factor required to reach the detection threshold. The odour concentration at the detection threshold is by definition $1 OU_E/m^3$. The odour concentration is then expressed in terms of multiples of the detection threshold. The range of measurement including pre-dilution prior to the olfactometry analysis is typically from $10^1 OU_E/m^3$ to $10^7 OU_E/m^3$.

Olfactometry Testing was performed by using the Scentroid™ SS600 Olfactometer. The testing was performed by at least five qualified panellists who have been selected through an n-butanol screening test.

All testing finished within 24 hours after sample receipt.

**RESULT****1. Odour Concentration**

Sample ID	Location	Sampling Date	Sampling Time	LOR (OU _E /Nm ³)	Odour Concentration (OU _E /Nm ³)	Characteristics of the odour detected of the gas sample	Volumetric Flow Rate (Nm ³ /min)	Emission rate (OU _E /hr)
HK1864595-001	CAPC Unit (With AC Filter)	10-Dec-18	11:56 - 12:02	11	773	Decayed orange	1156.5	53,600,000
HK1864595-002	CAPC Unit (With AC Filter)	10-Dec-18	12:02 - 12:07	11	674	Decayed orange	1156.5	46,800,000
HK1864595-003	Field Blank	10-Dec-18	--	11	<11	--	--	--

Remark:

1. LOR denotes limit of reporting.
2. The collected sample volume of the gas bag is sufficient for olfactometry analysis.
3. Field Blank containing pure nitrogen gas was collected and filled by ALS staff.
4. The volumetric flow rate value for calculation of the emission rate was provided by the client.



APPENDIX 1

A1. SITE CONDITIONS AND OBSERVATION

Location	Date	Time	Ambient Temperature (°C)	Relative Humidity (%)	Ambient Pressure (hPa)	Wind Speed (m/s)	Wind Direction (Degree)	Direction from Source ¹	Duration of Odour	On-Site Observation		Weather Condition
										Odour Nature	Possible Source	
CAPC Unit	10-12-18	11:56 - 12:07	17.8	64.1	1019.4	0.8	291	NA	NA	No odour was smelled.	NA	Cloudy

Note:

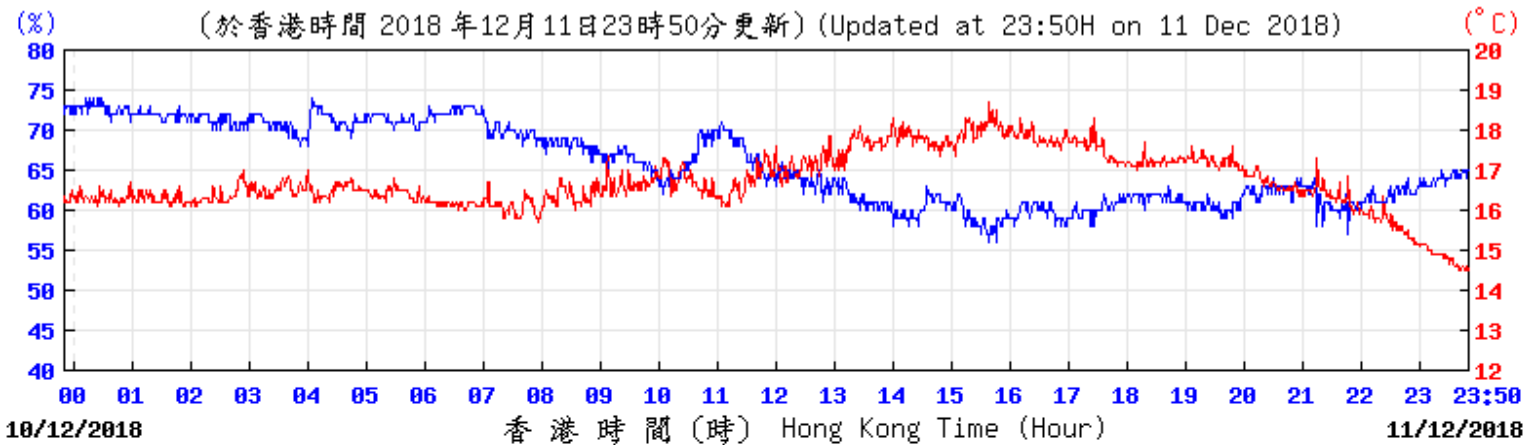
1. It was assumed that the exhaust of the CAPC Unit was from the odour source.



APPENDIX 2

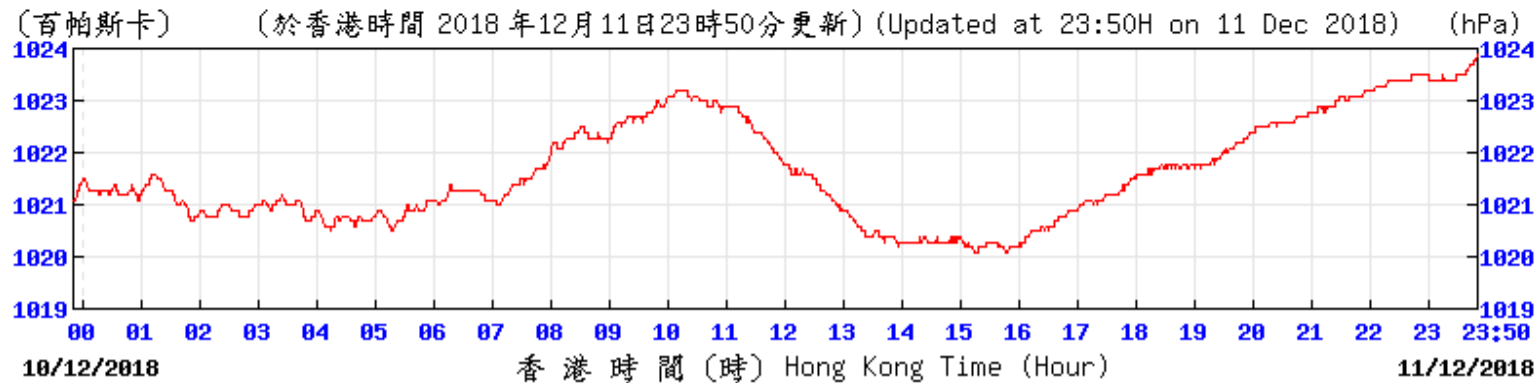
A2. EXTRACT OF METEOROLOGICAL OBSERVATIONS FROM THE HONG KONG AIRPORT OBSERVATORY STATION

Temperature/Humidity:



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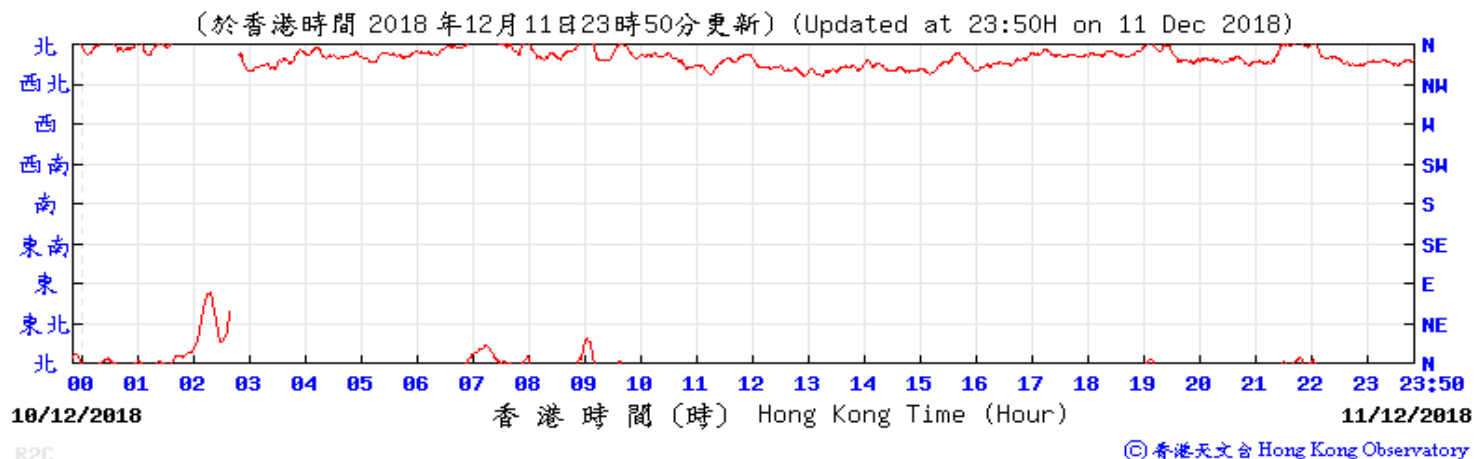
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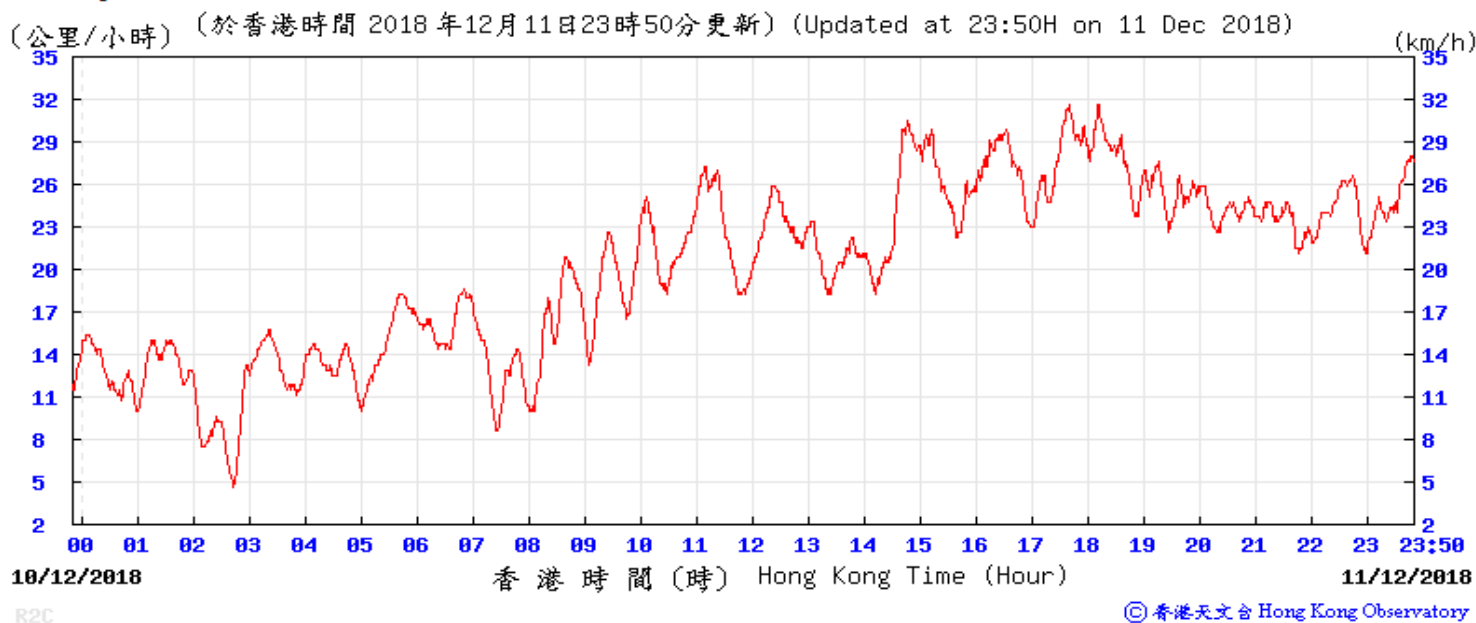
© 香港天文台 Hong Kong Observatory



Wind Direction:



Wind Speed:



APPENDIX 3

A3. PHOTO OF THE SAMPLING LOCATION





CERTIFICATE OF ANALYSIS

CLIENT:	Oscar Bioenergy Joint Venture	WORK ORDER:	HK1864596
CONTACT:	Mr Edwin Wong	LABORATORY:	Hong Kong
ADDRESS:	No. 5, Sham Fung Road, Siu Ho Wan, North Lantau Island, NT, Hong Kong	SUB-BATCH:	0
		DATE RECEIVED:	11 December 2018
		DATE OF ISSUE:	14 December 2018
PROJECT:	Odour Monitoring for the Organic Resources Recovery Centre Phase 1 in Siu Ho Wan	SAMPLE TYPE:	Air
SITE:	Organic Resources Recovery Centre Phase 1 (ORRC1)	NO OF SAMPLES:	3
PO:			

COMMENTS


Air sample(s) were collected by ALS Technichem (HK) staff on 11th December, 2018 at the Organic Resources Recovery Centre Phase 1 (ORRC1) in Siu Ho Wan for Odour Monitoring.

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

NOTES

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


Richard Fung
General Manager - Hong Kong

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METHOD STATEMENT

A. Odour Concentration

1. Odour Sampling

Odour gas sample was collected by passive sampling technique. A Nalophan™ sampling bag was placed inside an air-tight sampler and then drawn to vacuum. Approximately 60 litre of gas sample was collected into the sampling bag for testing.

The odour sample was collected at the Organic Recovery Resources Centre Phase 1 (ORRC1) and sampling location was shown in Appendix A3.

2. Olfactometry Testing

Odour concentration was determined by a Forced-choice Dynamic Olfactometer in accordance with the European Standard Method (EN13725).

This European Standard specifies a method for the objective determination of the odour concentration of a gaseous sample using dynamic olfactometry with human assessors and the emission rate of odours emanating from point sources, area sources with outward flow and area sources without outward flow.

This European Standard is applicable to the measurement of odour concentration of pure substances, defined mixtures and undefined mixtures of gaseous odorants in air or nitrogen, using dynamic olfactometry with a panel of human assessors being the sensor.

The unit of measurement is the odour unit per cubic metre: OU_e/m^3 . The odour concentration is measured by determining the dilution factor required to reach the detection threshold. The odour concentration at the detection threshold is by definition 1 OU_e/m^3 . The odour concentration is then expressed in terms of multiples of the detection threshold. The range of measurement including pre-dilution prior to the olfactometry analysis is typically from 10^1 OU_e/m^3 to 10^7 OU_e/m^3 .

Olfactometry Testing was performed by using the Scentroid™ SS600 Olfactometer. The testing was performed by at least five qualified panellists who have been selected through an n-butanol screening test.

All testing finished within 24 hours after sample receipt.

**RESULT****1. Odour Concentration**

Sample ID	Location	Sampling Date	Sampling Time	LOR (OU _E /Nm ³)	Odour Concentration (OU _E /Nm ³)	Characteristics of the odour detected of the gas sample	Volumetric Flow Rate (Nm ³ /min)	Emission rate (OU _E /hr)
HK1864596-001	CAPC Unit (Bypass AC Filter)	11-Dec-18	15:13 - 15:17	11	476	Decayed orange with minor bleach smell	1419	40,500,000
HK1864596-002	CAPC Unit (Bypass AC Filter)	11-Dec-18	15:19 - 15:23	11	510	Decayed orange with minor bleach smell	1419	43,400,000
HK1864596-003	Field Blank	11-Dec-18	--	11	<11	--	--	--

Remark:

1. LOR denotes limit of reporting.
2. The collected sample volume of the gas bag is sufficient for olfactometry analysis.
3. Field Blank containing pure nitrogen gas was collected and filled by ALS staff.
4. The volumetric flow rate value for calculation of the emission rate was provided by the client.



APPENDIX 1

A1. SITE CONDITIONS AND OBSERVATION

Location	Date	Time	Ambient Temperature (°C)	Relative Humidity (%)	Ambient Pressure (hPa)	Wind Speed (m/s)	Wind Direction (Degree)	Direction from Source ¹	Duration of Odour	On-Site Observation		Weather Condition
										Odour Nature	Possible Source	
CAPC Unit	11-12-18	15:13 - 15:23	18.0	64.7	1017.6	3.0	321	NA	NA	No odour was smelled.	NA	Sunny

Note:

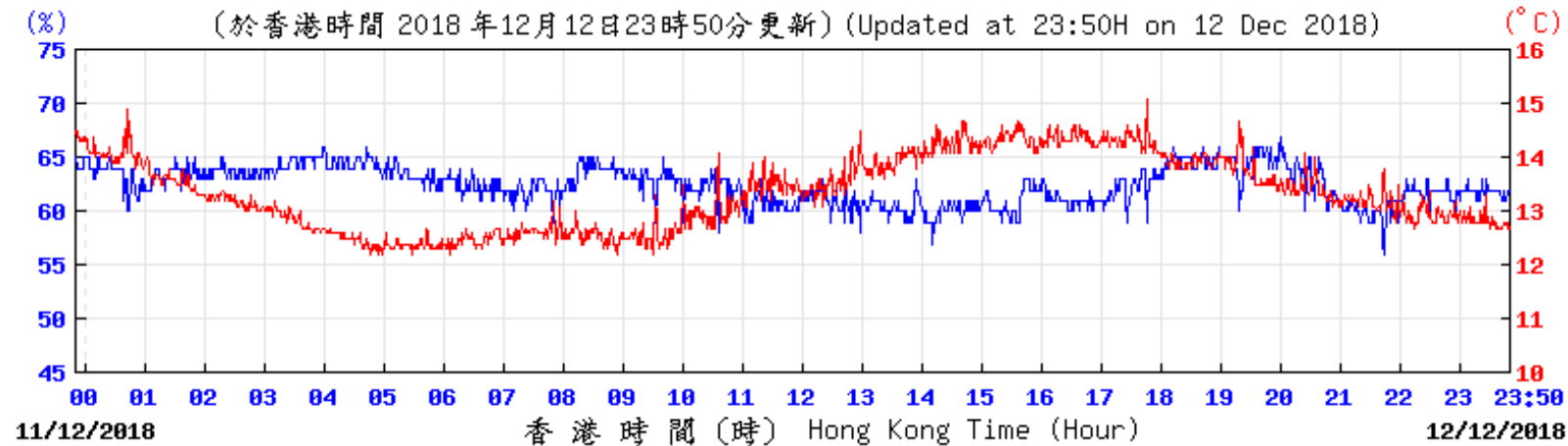
1. It was assumed that the exhaust of the CAPC Unit was from the odour source.



APPENDIX 2

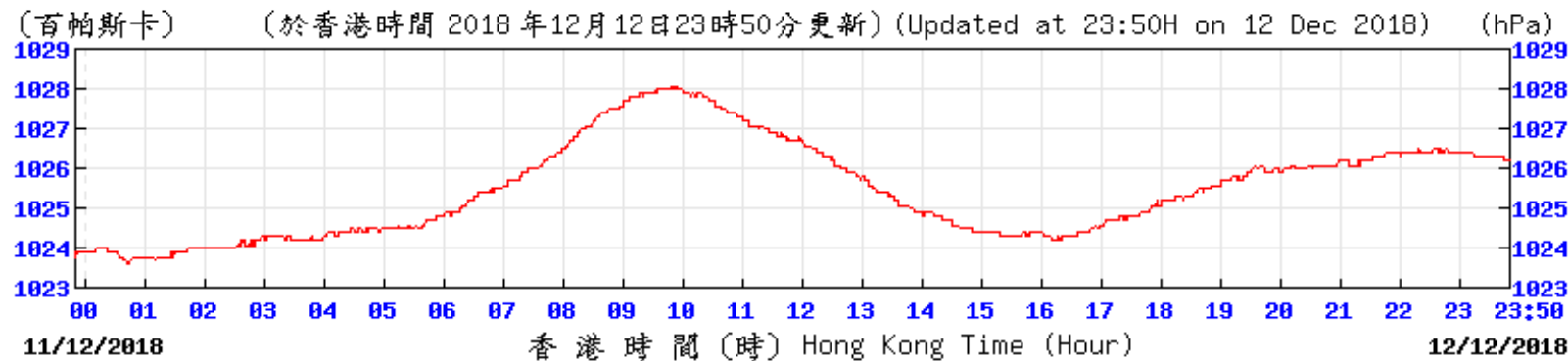
A2. EXTRACT OF METEOROLOGICAL OBSERVATIONS FROM THE HONG KONG AIRPORT OBSERVATORY STATION

Temperature/Humidity:



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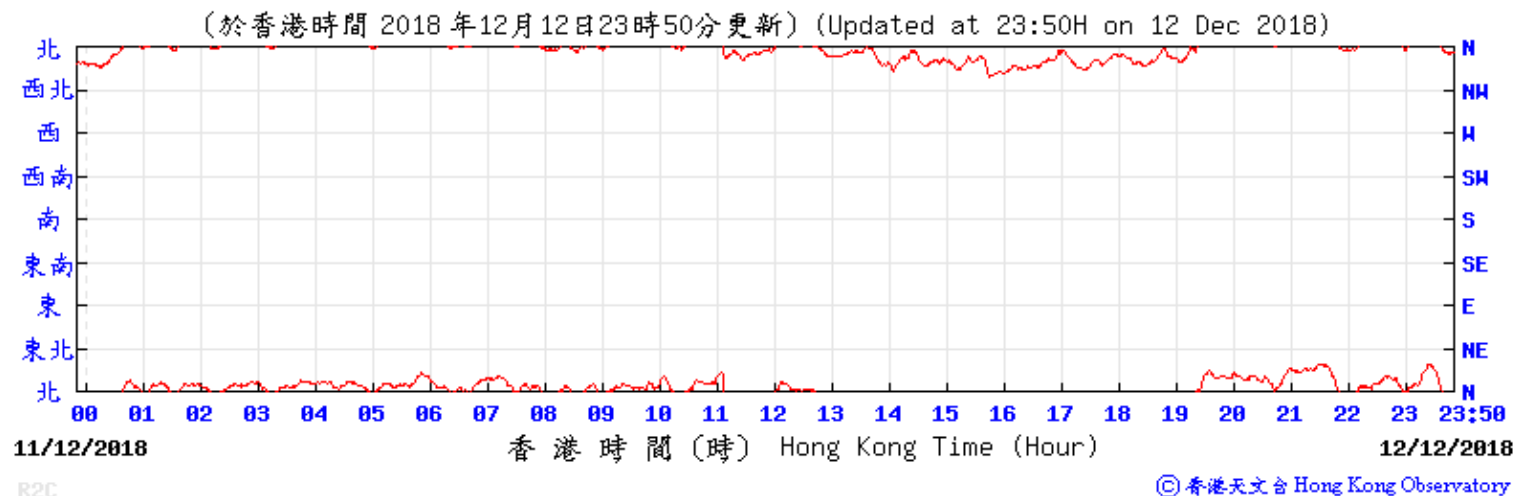
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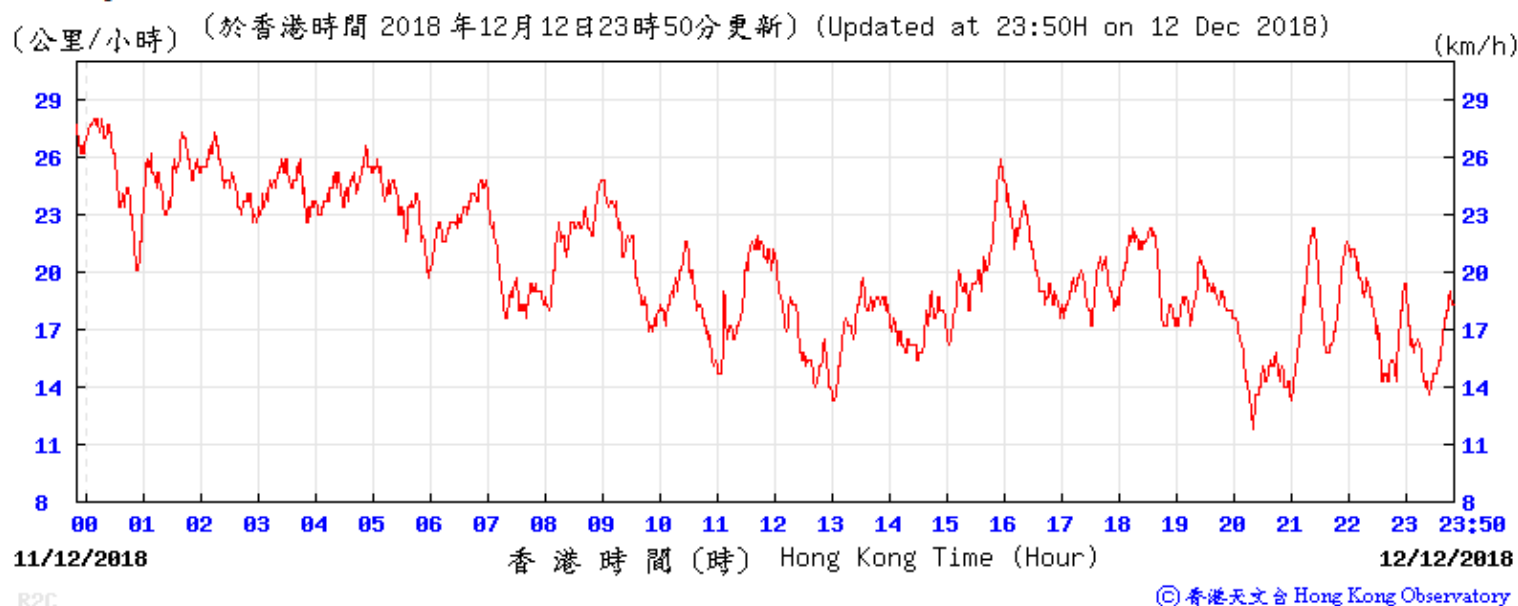
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Wind Direction:



Wind Speed:



APPENDIX 3

A3. PHOTO OF THE SAMPLING LOCATION





CERTIFICATE OF ANALYSIS

CLIENT:	Oscar Bioenergy Joint Venture	WORK ORDER:	HK1864597
CONTACT:	Mr Edwin Wong	LABORATORY:	Hong Kong
ADDRESS:	No. 5, Sham Fung Road, Siu Ho Wan, North Lantau Island, NT, Hong Kong	SUB-BATCH:	0
PROJECT:	Odour Monitoring for the Organic Resources Recovery Centre Phase 1 in Siu Ho Wan	DATE RECEIVED:	11 December 2018
SITE:	Organic Resources Recovery Centre Phase 1 (ORRC1)	DATE OF ISSUE:	14 December 2018
PO:	---	SAMPLE TYPE:	Air
		NO OF SAMPLES:	3

COMMENTS


Air sample(s) were collected by ALS Technichem (HK) staff on 11th December, 2018 at the Organic Resources Recovery Centre Phase 1 (ORRC1) in Siu Ho Wan for Odour Monitoring.

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

NOTES

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


Richard Fung
General Manager - Hong Kong

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METHOD STATEMENT

A. Odour Concentration

1. Odour Sampling

Odour gas sample was collected by passive sampling technique. A Nalophan™ sampling bag was placed inside an air-tight sampler and then drawn to vacuum. Approximately 60 litre of gas sample was collected into the sampling bag for testing.

The odour sample was collected at the Organic Recovery Resources Centre Phase 1 (ORRC1) and sampling location was shown in Appendix A3.

2. Olfactometry Testing

Odour concentration was determined by a Forced-choice Dynamic Olfactometer in accordance with the European Standard Method (EN13725).

This European Standard specifies a method for the objective determination of the odour concentration of a gaseous sample using dynamic olfactometry with human assessors and the emission rate of odours emanating from point sources, area sources with outward flow and area sources without outward flow.

This European Standard is applicable to the measurement of odour concentration of pure substances, defined mixtures and undefined mixtures of gaseous odorants in air or nitrogen, using dynamic olfactometry with a panel of human assessors being the sensor.

The unit of measurement is the odour unit per cubic metre: OU_E/m^3 . The odour concentration is measured by determining the dilution factor required to reach the detection threshold. The odour concentration at the detection threshold is by definition $1 OU_E/m^3$. The odour concentration is then expressed in terms of multiples of the detection threshold. The range of measurement including pre-dilution prior to the olfactometry analysis is typically from $10^1 OU_E/m^3$ to $10^7 OU_E/m^3$.

Olfactometry Testing was performed by using the Scentroid™ SS600 Olfactometer. The testing was performed by at least five qualified panellists who have been selected through an n-butanol screening test.

All testing finished within 24 hours after sample receipt.

**RESULT****1. Odour Concentration**

Sample ID	Location	Sampling Date	Sampling Time	LOR (OU _E /Nm ³)	Odour Concentration (OU _E /Nm ³)	Characteristics of the odour detected of the gas sample	Volumetric Flow Rate (Nm ³ /min)	Emission rate (OU _E /hr)
HK1864597-001	CAPC Unit (With AC Filter)	11-Dec-18	15:34 - 15:38	11	414	Decayed orange	1390.1	34,500,000
HK1864597-002	CAPC Unit (With AC Filter)	11-Dec-18	15:38 - 15:43	11	443	Decayed orange	1390.1	37,000,000
HK1864597-003	Field Blank	11-Dec-18	--	11	<11	--	--	--

Remark:

1. LOR denotes limit of reporting.
2. The collected sample volume of the gas bag is sufficient for olfactometry analysis.
3. Field Blank containing pure nitrogen gas was collected and filled by ALS staff.
4. The volumetric flow rate value for calculation of the emission rate was provided by the client.



APPENDIX 1

A1. SITE CONDITIONS AND OBSERVATION

Location	Date	Time	Ambient Temperature (°C)	Relative Humidity (%)	Ambient Pressure (hPa)	Wind Speed (m/s)	Wind Direction (Degree)	Direction from Source ¹	Duration of Odour	On-Site Observation		Weather Condition
										Odour Nature	Possible Source	
CAPC Unit	11-12-18	15:34 - 15:43	18.3	64.0	1017.6	2.5	281	NA	NA	No odour was smelled.	NA	Sunny

Note:

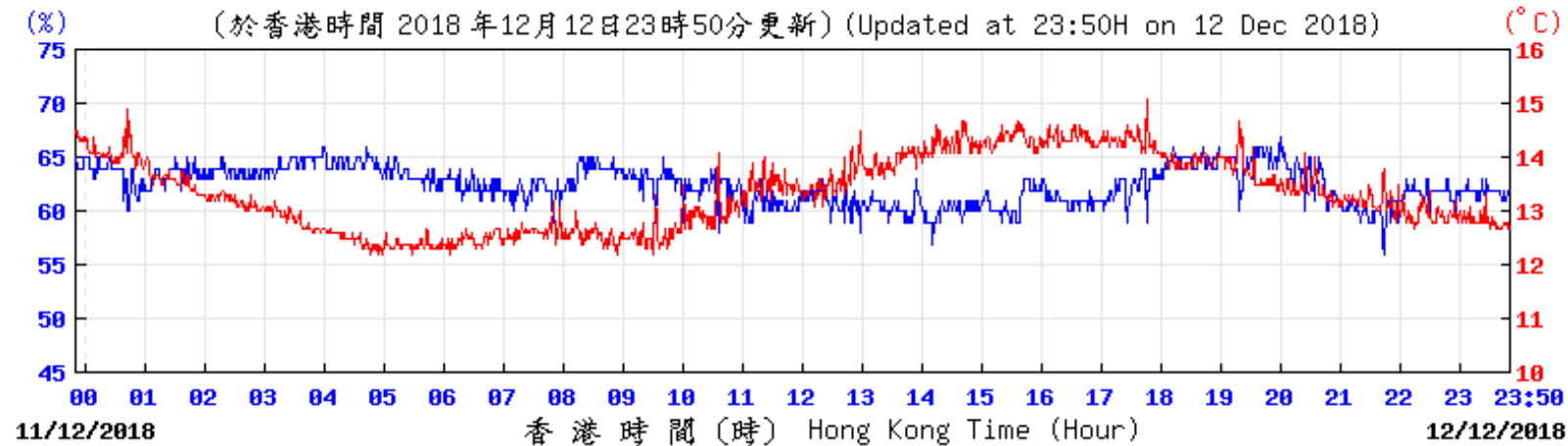
1. It was assumed that the exhaust of the CAPC Unit was from the odour source.



APPENDIX 2

A2. EXTRACT OF METEOROLOGICAL OBSERVATIONS FROM THE HONG KONG AIRPORT OBSERVATORY STATION

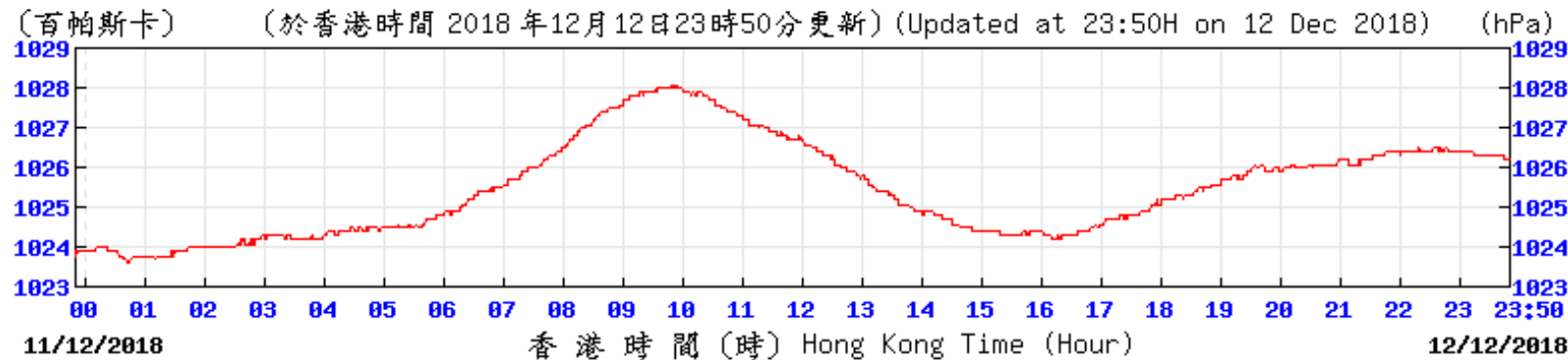
Temperature/Humidity:



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HKA

Pressure:

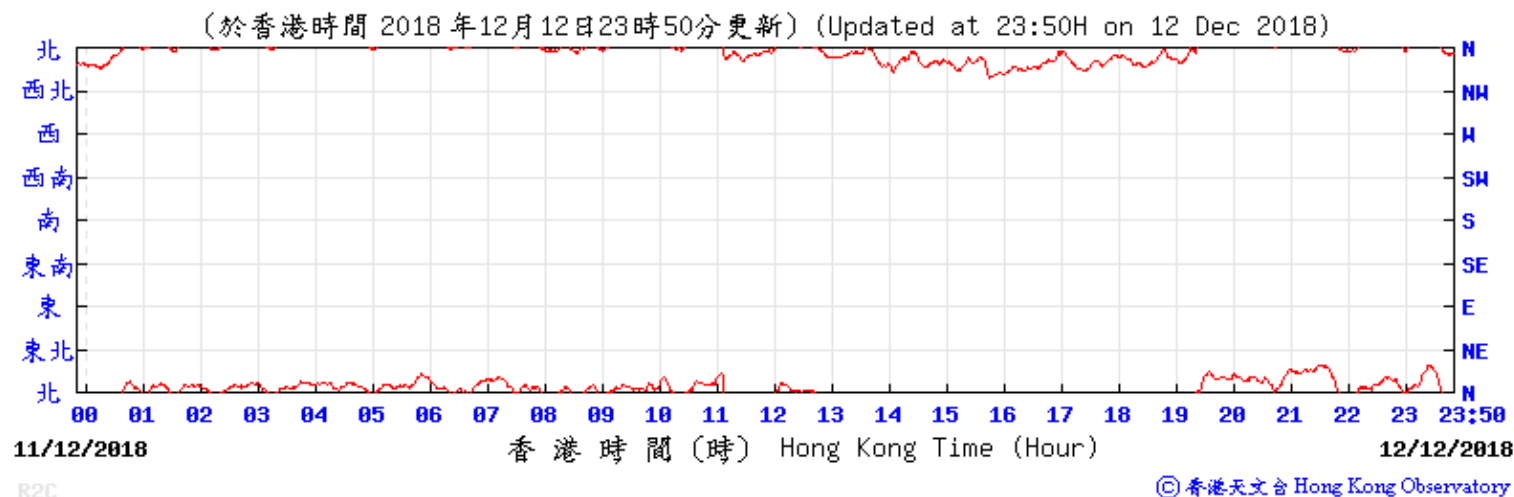


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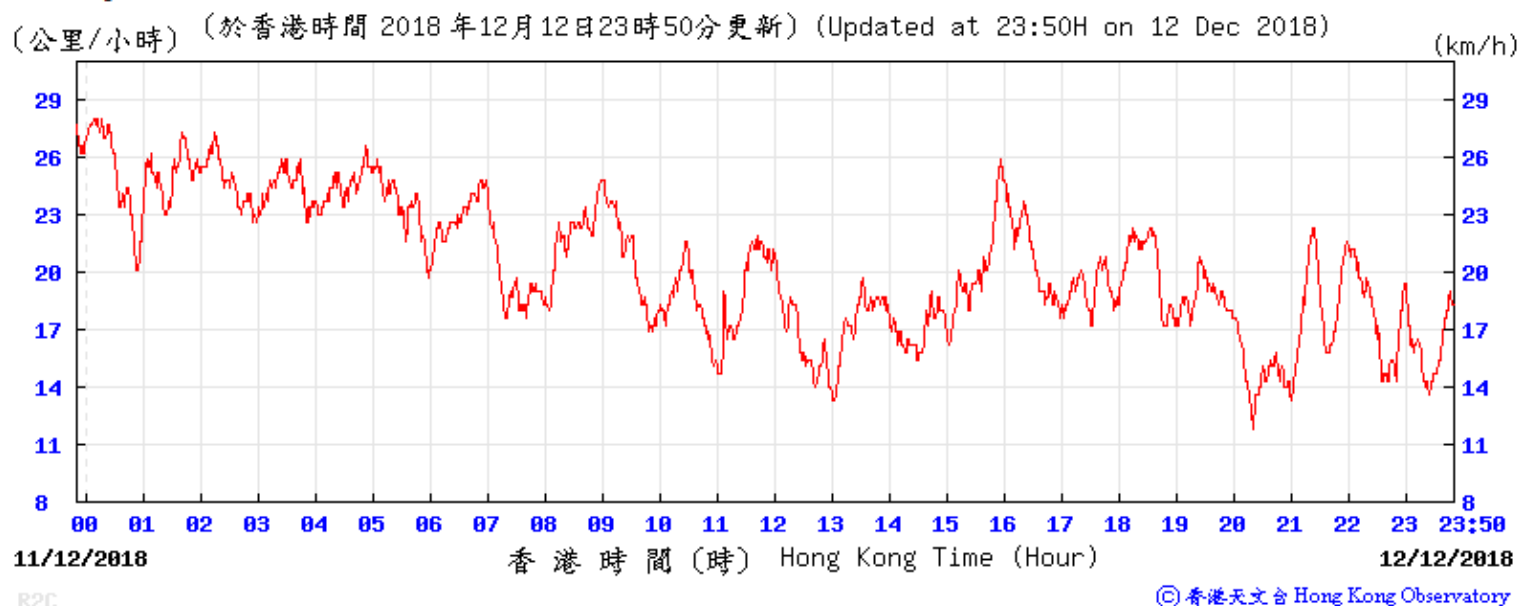
HKA



Wind Direction:



Wind Speed:



APPENDIX 3

A3. PHOTO OF THE SAMPLING LOCATION





CERTIFICATE OF ANALYSIS

CLIENT:	Oscar Bioenergy Joint Venture	WORK ORDER:	HK1866002
CONTACT:	Mr Edwin Wong	LABORATORY:	Hong Kong
ADDRESS:	No. 5, Sham Fung Road, Siu Ho Wan, North Lantau Island, NT, Hong Kong	SUB-BATCH:	0
		DATE RECEIVED:	19 December 2018
PROJECT:	Odour Monitoring for the Organic Resources Recovery Centre Phase 1 in Siu Ho Wan	DATE OF ISSUE:	2 January 2019
		SAMPLE TYPE:	Air
SITE:	Organic Resources Recovery Centre Phase 1 (ORRC1)	NO OF SAMPLES:	3
PO:	---		

COMMENTS

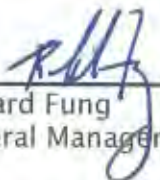
Air sample(s) were collected by ALS Technichem (HK) staff on 19th December, 2018 at the Organic Resources Recovery Centre Phase 1 (ORRC1) in Siu Ho Wan for Odour Monitoring.

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

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.


Richard Fung
General Manager - Hong Kong

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METHOD STATEMENT

A. Odour Concentration

1. Odour Sampling

Odour gas sample was collected by passive sampling technique. A Nalophan™ sampling bag was placed inside an air-tight sampler and then drawn to vacuum. Approximately 60 litre of gas sample was collected into the sampling bag for testing.

The odour sample was collected at the Organic Recovery Resources Centre Phase 1 (ORRC1) and sampling location was shown in Appendix A3.

2. Olfactometry Testing

Odour concentration was determined by a Forced-choice Dynamic Olfactometer in accordance with the European Standard Method (EN13725).

This European Standard specifies a method for the objective determination of the odour concentration of a gaseous sample using dynamic olfactometry with human assessors and the emission rate of odours emanating from point sources, area sources with outward flow and area sources without outward flow.

This European Standard is applicable to the measurement of odour concentration of pure substances, defined mixtures and undefined mixtures of gaseous odorants in air or nitrogen, using dynamic olfactometry with a panel of human assessors being the sensor.

The unit of measurement is the odour unit per cubic metre: OU_E/m^3 . The odour concentration is measured by determining the dilution factor required to reach the detection threshold. The odour concentration at the detection threshold is by definition $1 OU_E/m^3$. The odour concentration is then expressed in terms of multiples of the detection threshold. The range of measurement including pre-dilution prior to the olfactometry analysis is typically from $10^1 OU_E/m^3$ to $10^7 OU_E/m^3$.

Olfactometry Testing was performed by using the Scentroid™ SS600 Olfactometer. The testing was performed by at least five qualified panellists who have been selected through an n-butanol screening test.

All testing finished within 24 hours after sample receipt.

**RESULT****1. Odour Concentration**

Sample ID	Location	Sampling Date	Sampling Time	LOR (OU _E /Nm ³)	Odour Concentration (OU _E /Nm ³)	Characteristics of the odour detected of the gas sample	Volumetric Flow Rate (Nm ³ /min)	Emission rate (OU _E /hr)
HK1866002-001	CAPC Unit (With AC Filter)	19-Dec-18	15:08 - 15:12	11	1164	Musty smell	1856.4	130,000,000
HK1866002-002	CAPC Unit (With AC Filter)	19-Dec-18	15:29 - 15:33	11	1016	Musty smell	1856.4	113,000,000
HK1866002-003	Field Blank	19-Dec-18	--	11	<11	--	--	--

Remark:

1. LOR denotes limit of reporting.
2. The collected sample volume of the gas bag is sufficient for olfactometry analysis.
3. Field Blank containing pure nitrogen gas was collected and filled by ALS staff.
4. The volumetric flow rate value for calculation of the emission rate was provided by the client.



APPENDIX 1

A1. SITE CONDITIONS AND OBSERVATION

Location	Date	Time	Ambient Temperature (°C)	Relative Humidity (%)	Ambient Pressure (hPa)	Wind Speed (m/s)	Wind Direction (Degree)	Direction from Source ¹	Duration of Odour	On-Site Observation		Weather Condition
										Odour Nature	Possible Source	
CAPC Unit	19-12-18	15:08 - 15:33	21.5	72.0	1014.9	3.6	335	Yes	Continuous	Bleaching with musty smell	From the Chimney	Cloudy

Note:

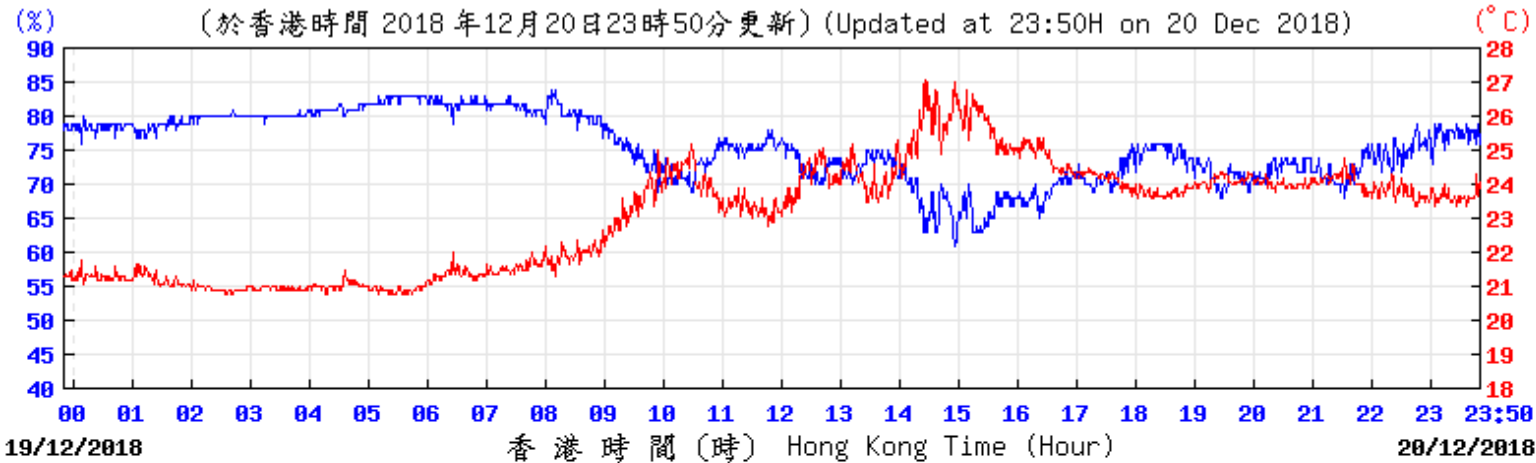
1. It was assumed that the exhaust of the CAPC Unit was from the odour source.



APPENDIX 2

A2. EXTRACT OF METEOROLOGICAL OBSERVATIONS FROM THE HONG KONG AIRPORT OBSERVATORY STATION

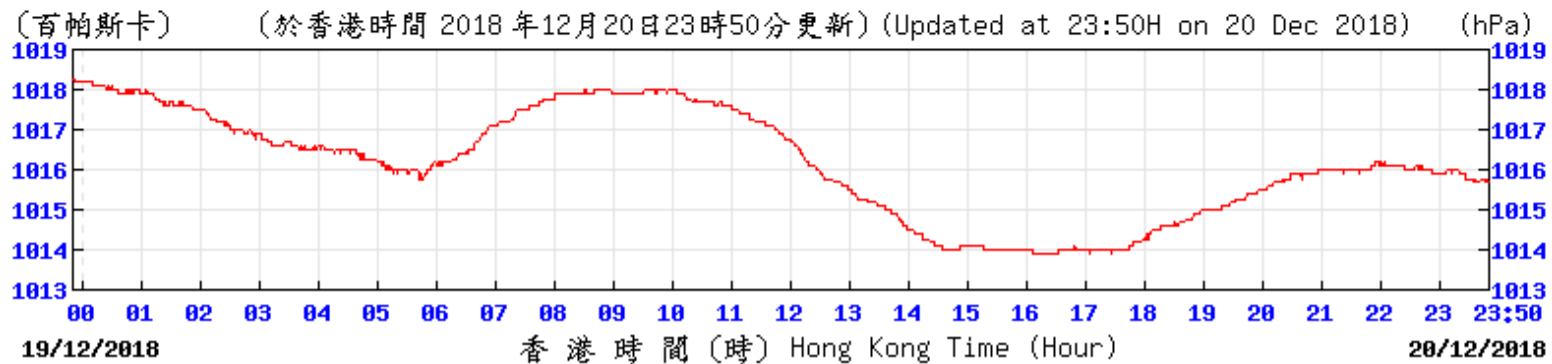
Temperature/Humidity:



HKA

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Pressure:

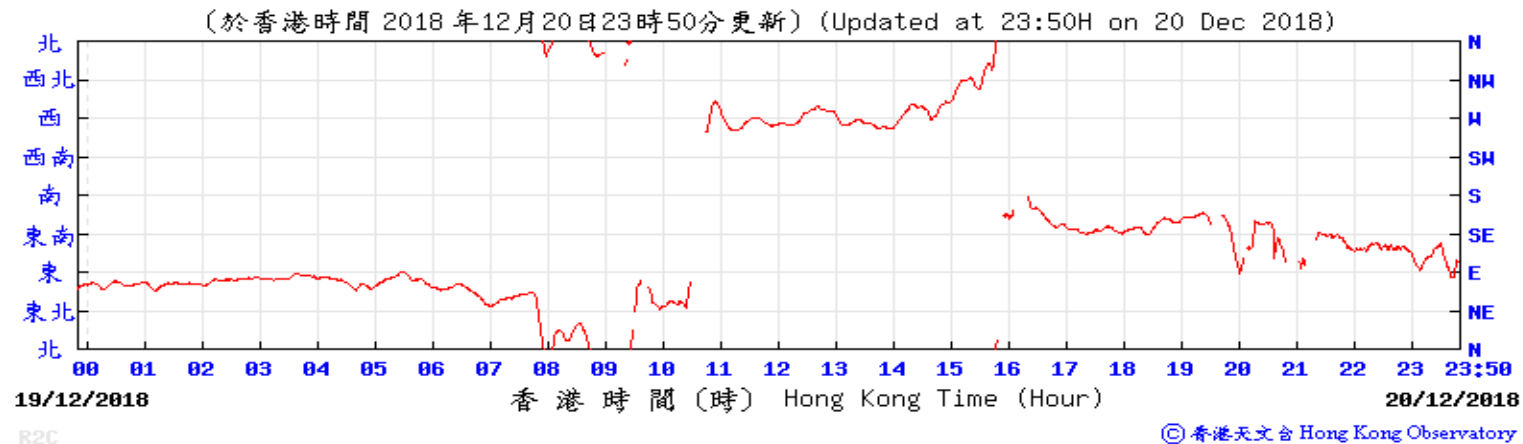


HKA

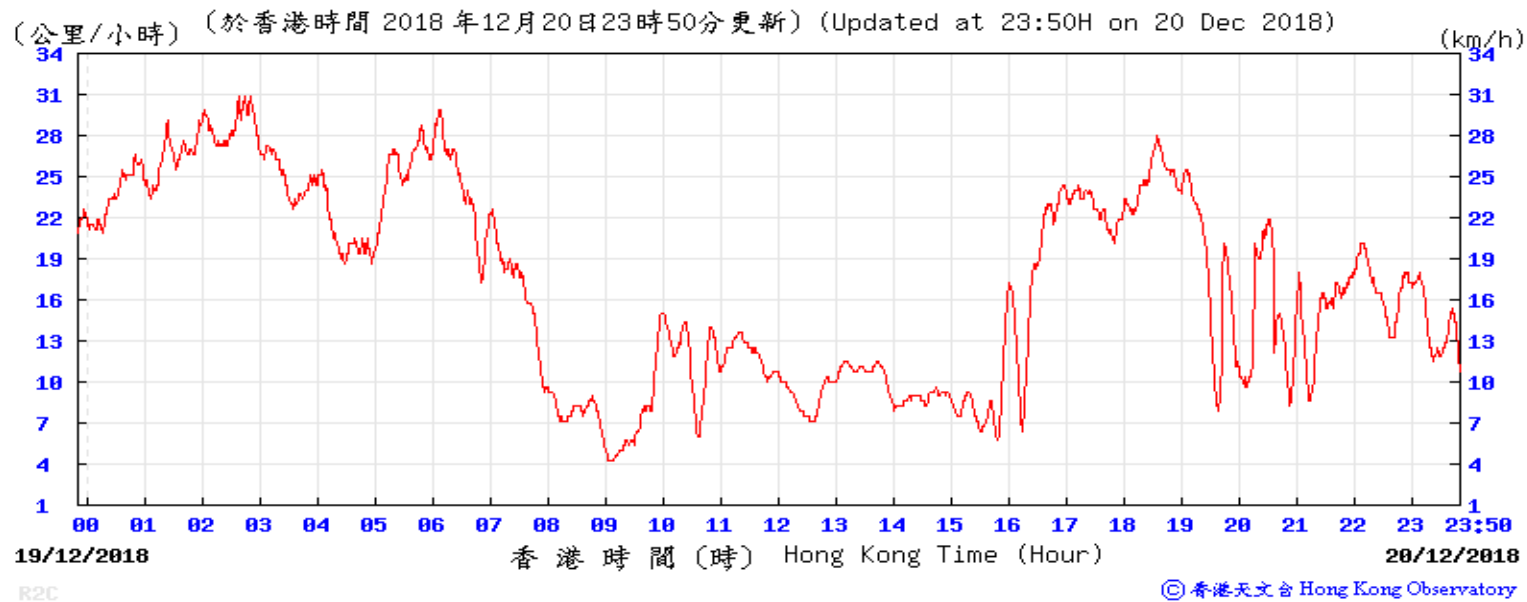
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Wind Direction:



Wind Speed:



APPENDIX 3

A3. PHOTO OF THE SAMPLING LOCATION





CERTIFICATE OF ANALYSIS

CLIENT:	Oscar Bioenergy Joint Venture	WORK ORDER:	HK1866/21
CONTACT:	Mr Edwin Wong	LABORATORY:	Hong Kong
ADDRESS:	No. 5, Sham Fung Road, Siu Ho Wan, North Lantau Island, NT, Hong Kong	SUB-BATCH:	0
		DATE RECEIVED:	27 December 2018
PROJECT:	Odour Monitoring for the Organic Resources Recovery Centre Phase 1 in Siu Ho Wan	DATE OF ISSUE:	2 January 2019
		SAMPLE TYPE:	Air
SITE:	Organic Resources Recovery Centre Phase 1 (ORRC1)	NO OF SAMPLES:	5
PO:	---		

COMMENTS


Air sample(s) were collected by ALS Technichem (HK) staff on 27th December, 2018 at the Organic Resources Recovery Centre Phase 1 (ORRC1) in Siu Ho Wan for Odour Monitoring.

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

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.


Richard Fung
General Manager - Hong Kong

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METHOD STATEMENT

A. Odour Concentration

1. Odour Sampling

Odour gas sample was collected by passive sampling technique. A Nalophan™ sampling bag was placed inside an air-tight sampler and then drawn to vacuum. Approximately 60 litre of gas sample was collected into the sampling bag for testing.

The odour sample was collected at the Organic Recovery Resources Centre Phase 1 (ORRC1) and sampling location was shown in Appendix A3.

2. Olfactometry Testing

Odour concentration was determined by a Forced-choice Dynamic Olfactometer in accordance with the European Standard Method (EN13725).

This European Standard specifies a method for the objective determination of the odour concentration of a gaseous sample using dynamic olfactometry with human assessors and the emission rate of odours emanating from point sources, area sources with outward flow and area sources without outward flow.

This European Standard is applicable to the measurement of odour concentration of pure substances, defined mixtures and undefined mixtures of gaseous odorants in air or nitrogen, using dynamic olfactometry with a panel of human assessors being the sensor.

The unit of measurement is the odour unit per cubic metre: OU_e/m^3 . The odour concentration is measured by determining the dilution factor required to reach the detection threshold. The odour concentration at the detection threshold is by definition 1 OU_e/m^3 . The odour concentration is then expressed in terms of multiples of the detection threshold. The range of measurement including pre-dilution prior to the olfactometry analysis is typically from 10^1 OU_e/m^3 to 10^7 OU_e/m^3 .

Olfactometry Testing was performed by using the Scentroid™ SS600 Olfactometer. The testing was performed by at least five qualified panellists who have been selected through an n-butanol screening test.

All testing finished within 24 hours after sample receipt.

**RESULT****1. Odour Concentration**

Sample ID	Location	Sampling Date	Sampling Time	LOR (OU _E /Nm ³)	Odour Concentration (OU _E /Nm ³)	Characteristics of the odour detected of the gas sample	Volumetric Flow Rate (Nm ³ /min)	Emission rate (OU _E /hr)
HK1866721-001	CAPC Unit (with AC Filter)	27-Dec-18	14:07 - 14:10	11	1026	Bleach with minor garbage smell	1871.6	115,000,000
HK1866721-002	CAPC Unit (with AC Filter)	27-Dec-18	14:11 - 14:14	11	1026	Bleach with minor garbage smell	1871.6	115,000,000
HK1866721-003	CAPC Unit (Bypass AC Filter)	27-Dec-18	14:45 - 14:48	11	1087	Bleach smell	2003.6	131,000,000
HK1866721-004	CAPC Unit (Bypass AC Filter)	27-Dec-18	14:49 - 14:53	11	1087	Bleach smell	2003.6	131,000,000
HK1866721-005	Field Blank	27-Dec-18	--	11	<11	--	--	--

Remark:

1. LOR denotes limit of reporting.
2. The collected sample volume of the gas bag is sufficient for olfactometry analysis.
3. Field Blank containing pure nitrogen gas was collected and filled by ALS staff.
4. The volumetric flow rate value for calculation of the emission rate was provided by the client.



APPENDIX 1

A1. SITE CONDITIONS AND OBSERVATION

Location	Date	Time	Ambient Temperature (°C)	Relative Humidity (%)	Ambient Pressure (hPa)	Wind Speed (m/s)	Wind Direction (Degree)	Direction from Source ¹	Duration of Odour	On-Site Observation		Weather Condition
										Odour Nature	Possible Source	
CAPC Unit	27-12-18	14:07 - 14:53	23.3	68.8	1012.5	0.8	320	NA	NA	No odour was detected.	NA	Sunny

Note:

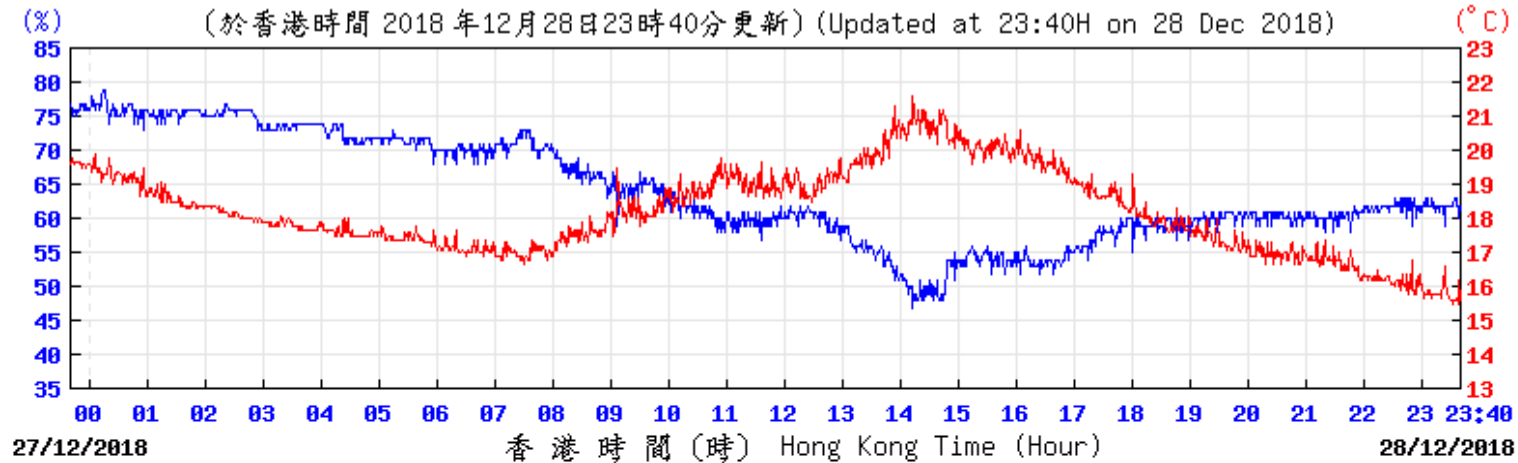
1. It was assumed that the exhaust of the CAPC Unit was from the odour source.



APPENDIX 2

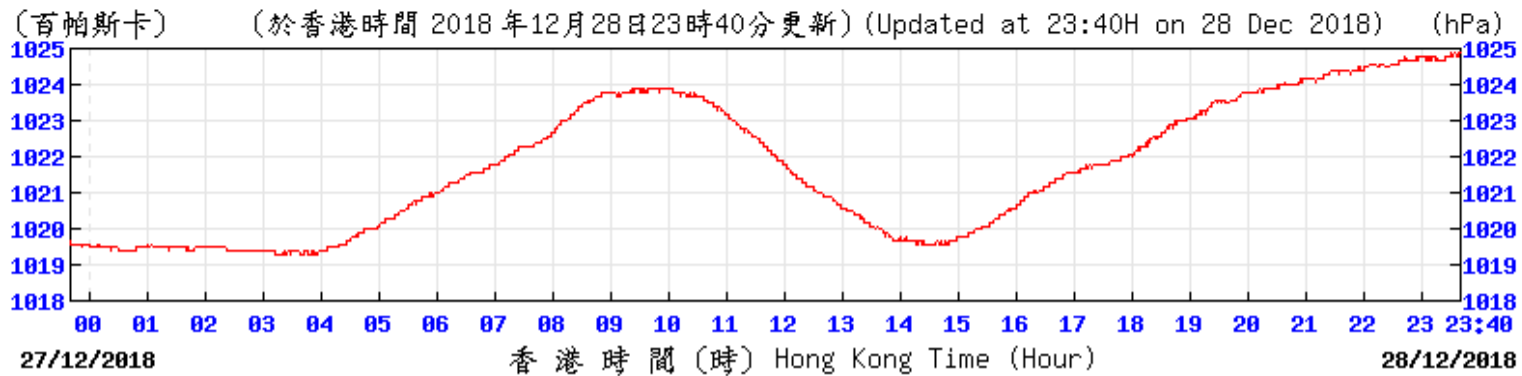
A2. EXTRACT OF METEOROLOGICAL OBSERVATIONS FROM THE HONG KONG AIRPORT OBSERVATORY STATION

Temperature/Humidity:



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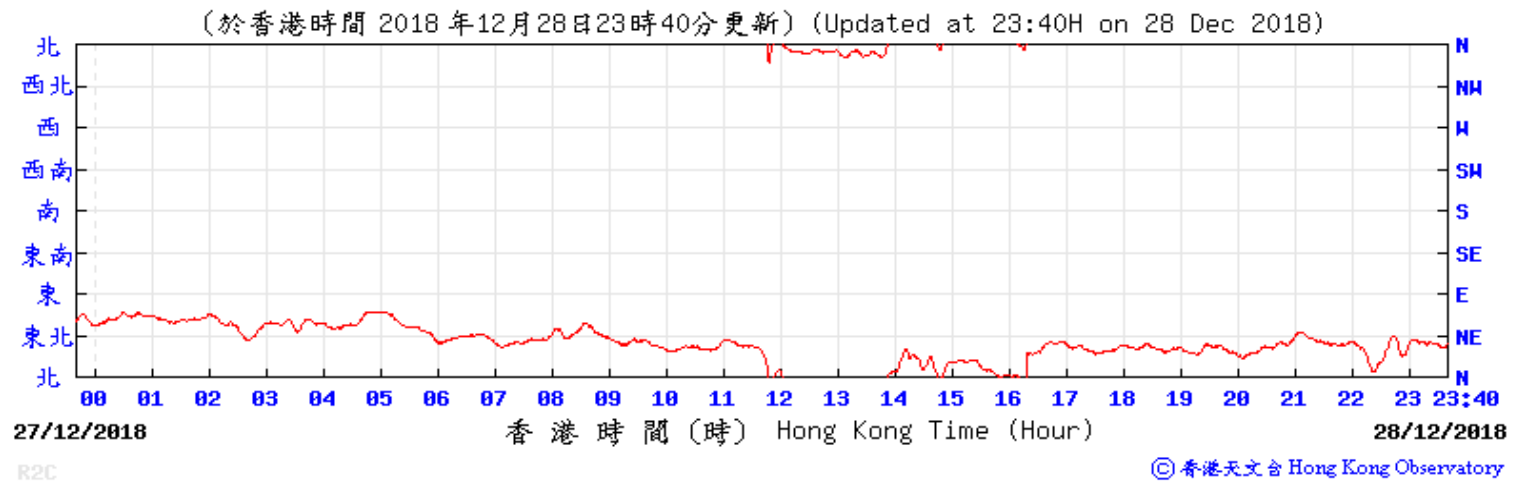
Pressure:



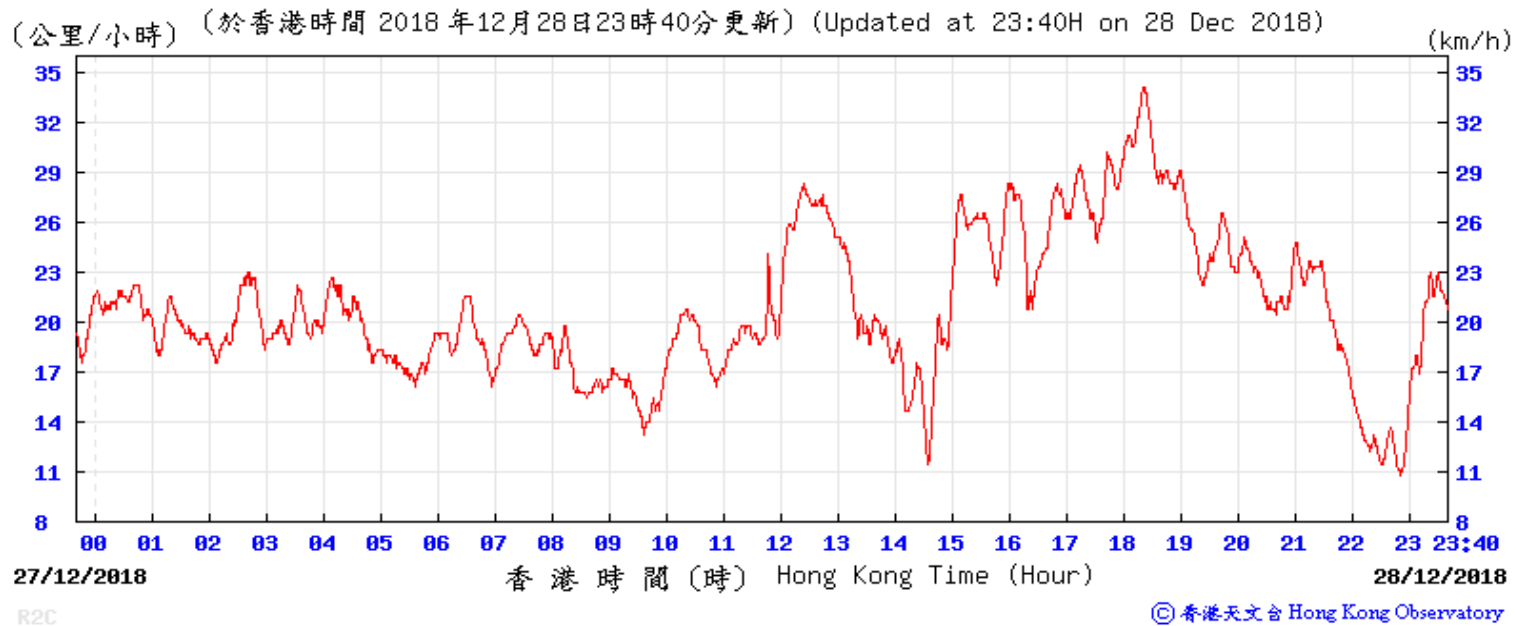
© 香港天文台 Hong Kong Observatory



Wind Direction:



Wind Speed:



APPENDIX 3

A3. PHOTO OF THE SAMPLING LOCATION





CERTIFICATE OF ANALYSIS

CLIENT:	Oscar Bioenergy Joint Venture	WORK ORDER:	HK1902606
CONTACT:	Mr Edwin Wong	LABORATORY:	Hong Kong
ADDRESS:	No. 5, Sham Fung Road, Siu Ho Wan, North Lantau Island, NT, Hong Kong	SUB-BATCH:	0
		DATE RECEIVED:	16 January 2019
		DATE OF ISSUE:	30 January 2019
PROJECT:	Odour Monitoring for the Organic Resources Recovery Centre Phase 1 in Siu Ho Wan	SAMPLE TYPE:	Air
SITE:	Organic Resources Recovery Centre Phase 1 (ORRC1)	NO OF SAMPLES:	3
PO:	---		

COMMENTS


Air sample(s) were collected by ALS Technichem (HK) staff on 16th January, 2019 at the Organic Resources Recovery Centre Phase 1 (ORRC1) in Siu Ho Wan for Odour Monitoring.

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

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.


Richard Fung
General Manager - Hong Kong

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METHOD STATEMENT

A. Odour Concentration

1. Odour Sampling

Odour gas sample was collected by passive sampling technique. A Nalophan™ sampling bag was placed inside an air-tight sampler and then drawn to vacuum. Approximately 60 litre of gas sample was collected into the sampling bag for testing.

The odour sample was collected at the Organic Recovery Resources Centre Phase 1 (ORRC1) and sampling location was shown in Appendix A2.

2. Olfactometry Testing

Odour concentration was determined by a Forced-choice Dynamic Olfactometer in accordance with the European Standard Method (EN13725).

This European Standard specifies a method for the objective determination of the odour concentration of a gaseous sample using dynamic olfactometry with human assessors and the emission rate of odours emanating from point sources, area sources with outward flow and area sources without outward flow.

This European Standard is applicable to the measurement of odour concentration of pure substances, defined mixtures and undefined mixtures of gaseous odorants in air or nitrogen, using dynamic olfactometry with a panel of human assessors being the sensor.

The unit of measurement is the odour unit per cubic metre: OU_E/m^3 . The odour concentration is measured by determining the dilution factor required to reach the detection threshold. The odour concentration at the detection threshold is by definition 1 OU_E/m^3 . The odour concentration is then expressed in terms of multiples of the detection threshold. The range of measurement including pre-dilution prior to the olfactometry analysis is typically from 10^1 ou_E/m^3 to 10^7 ou_E/m^3 .

Olfactometry Testing was performed by using the Scentroid™ SS600 Olfactometer. The testing was performed by at least five qualified panellists who have been selected through an n-butanol screening test.

All testing finished within 24 hours after sample receipt.

**RESULT****Odour Concentration**

Sample ID	Location	Sampling Date	Sampling Time	LOR (ou _E /Nm ³)	Odour Concentration (ou _E /Nm ³)	Characteristics of the odour detected of the gas sample	Volumetric Flow Rate (Nm ³ /min)	Emission rate (ou _E /hr)
HK1902606-001	CAPC Unit (Low ORP)	16-Jan-19	13:42 - 13:45	11	444	Bleaching smell	2289.2	61,000,000
HK1902606-002	CAPC Unit (Low ORP)	16-Jan-19	13:48 - 13:52	11	476	Bleaching smell	2289.2	65,000,000
HK1902606-003	Field Blank	16-Jan-19	--	11	<11	--	--	--

Remark:

1. LOR denotes limit of reporting.
2. The collected sample volume of the gas bag is sufficient for olfactometry analysis.
3. Field Blank containing pure nitrogen gas was collected and filled by ALS staff.
4. The volumetric flow rate value for calculation of the emission rate was provided by the client.



APPENDIX 1

A1. SITE CONDITIONS AND OBSERVATION

Location	Date	Time	Ambient Temperature (°C)	Relative Humidity (%)	Ambient Pressure (hPa)	Wind Speed (m/s)	Wind Direction (Degree)	Direction from Source ¹	Duration of Odour	On-Site Observation		Weather Condition
										Odour Nature	Possible Source	
CAPC Unit	16-1-19	13:42 - 13:52	18.6	70.0	1017.9	2.2	324	NA	NA	No odour was smelled.	NA	Cloudy

Note:

1. It was assumed that the exhaust of the CAPC Unit was from the odour source.

APPENDIX 2

A2. PHOTO OF THE SAMPLING LOCATION





CERTIFICATE OF ANALYSIS

CLIENT:	Oscar Bioenergy Joint Venture	WORK ORDER:	HK1902870
CONTACT:	Mr Edwin Wong	LABORATORY:	Hong Kong
ADDRESS:	No. 5, Sham Fung Road, Siu Ho Wan, North Lantau Island, NT, Hong Kong	SUB-BATCH:	0
		DATE RECEIVED:	16 January 2019
		DATE OF ISSUE:	30 January 2019
PROJECT:	Odour Monitoring for the Organic Resources Recovery Centre Phase 1 in Siu Ho Wan	SAMPLE TYPE:	Air
SITE:	Organic Resources Recovery Centre Phase 1 (ORRC1)	NO OF SAMPLES:	3
PO:	--		

COMMENTS


Air sample(s) were collected by ALS Technichem (HK) staff on 16th January, 2019 at the Organic Resources Recovery Centre Phase 1 (ORRC1) in Siu Ho Wan for Odour Monitoring.

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

NOTES

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


Richard Fung
General Manager - Hong Kong

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METHOD STATEMENT

A. Odour Concentration

1. Odour Sampling

Odour gas sample was collected by passive sampling technique. A Nalophan™ sampling bag was placed inside an air-tight sampler and then drawn to vacuum. Approximately 60 litre of gas sample was collected into the sampling bag for testing.

The odour sample was collected at the Organic Recovery Resources Centre Phase 1 (ORRC1) and sampling location was shown in Appendix A2.

2. Olfactometry Testing

Odour concentration was determined by a Forced-choice Dynamic Olfactometer in accordance with the European Standard Method (EN13725).

This European Standard specifies a method for the objective determination of the odour concentration of a gaseous sample using dynamic olfactometry with human assessors and the emission rate of odours emanating from point sources, area sources with outward flow and area sources without outward flow.

This European Standard is applicable to the measurement of odour concentration of pure substances, defined mixtures and undefined mixtures of gaseous odorants in air or nitrogen, using dynamic olfactometry with a panel of human assessors being the sensor.

The unit of measurement is the odour unit per cubic metre: OU_E/m^3 . The odour concentration is measured by determining the dilution factor required to reach the detection threshold. The odour concentration at the detection threshold is by definition 1 OU_E/m^3 . The odour concentration is then expressed in terms of multiples of the detection threshold. The range of measurement including pre-dilution prior to the olfactometry analysis is typically from 10^1 ou_E/m^3 to 10^7 ou_E/m^3 .

Olfactometry Testing was performed by using the Scentroid™ SS600 Olfactometer. The testing was performed by at least five qualified panellists who have been selected through an n-butanol screening test.

All testing finished within 24 hours after sample receipt.

**RESULT****Odour Concentration**

Sample ID	Location	Sampling Date	Sampling Time	LOR (ou _E /Nm ³)	Odour Concentration (ou _E /Nm ³)	Characteristics of the odour detected of the gas sample	Volumetric Flow Rate (Nm ³ /min)	Emission rate (ou _E /hr)
HK1902870-001	CAPC Unit (High ORP)	16-Jan-19	15:54 - 15:57	11	546	Bleaching smell	2285.2	75,000,000
HK1902870-002	CAPC Unit (High ORP)	16-Jan-19	15:58 - 16:02	11	509	Bleaching smell	2285.2	70,000,000
HK1902870-003	Field Blank	16-Jan-19	--	11	<11	--	--	--

Remark:

1. LOR denotes limit of reporting.
2. The collected sample volume of the gas bag is sufficient for olfactometry analysis.
3. Field Blank containing pure nitrogen gas was collected and filled by ALS staff.
4. The volumetric flow rate value for calculation of the emission rate was provided by the client.



APPENDIX 1

A1. SITE CONDITIONS AND OBSERVATION

Location	Date	Time	Ambient Temperature (°C)	Relative Humidity (%)	Ambient Pressure (hPa)	Wind Speed (m/s)	Wind Direction (Degree)	Direction from Source ¹	Duration of Odour	On-Site Observation		Weather Condition
										Odour Nature	Possible Source	
CAPC Unit	16-1-19	15:54 - 16:02	17.8	63.9	1017.9	1.2	322	NA	NA	No odour was smelled.	NA	Cloudy

Note:

1. It was assumed that the exhaust of the CAPC Unit was from the odour source.

APPENDIX 2

A2. PHOTO OF THE SAMPLING LOCATION





CERTIFICATE OF ANALYSIS

CLIENT:	Oscar Bioenergy Joint Venture	WORK ORDER:	HK1904547
CONTACT:	Mr Edwin Wong	LABORATORY:	Hong Kong
ADDRESS:	No. 5, Sham Fung Road, Siu Ho Wan, North Lantau Island, NT, Hong Kong	SUB-BATCH:	0
		DATE RECEIVED:	29 January 2019
		DATE OF ISSUE:	13 February 2019
PROJECT:	Odour Monitoring for the Organic Resources Recovery Centre Phase 1 in Siu Ho Wan	SAMPLE TYPE:	Air
SITE:	Organic Resources Recovery Centre Phase 1 (ORRC1)	NO OF SAMPLES:	3
PO:	---		

COMMENTS


Air sample(s) were collected by ALS Technichem (HK) staff on 29th January, 2019 at the Organic Resources Recovery Centre Phase 1 (ORRC1) in Siu Ho Wan for Odour Monitoring.

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

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.


Richard Fung
General Manager - Hong Kong

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METHOD STATEMENT

A. Odour Concentration

1. Odour Sampling

Odour gas sample was collected by passive sampling technique. A Nalophan™ sampling bag was placed inside an air-tight sampler and then drawn to vacuum. Approximately 60 litre of gas sample was collected into the sampling bag for testing.

The odour sample was collected at the Organic Recovery Resources Centre Phase 1 (ORRC1) and sampling location was shown in Appendix A2.

2. Olfactometry Testing

Odour concentration was determined by a Forced-choice Dynamic Olfactometer in accordance with the European Standard Method (EN13725).

This European Standard specifies a method for the objective determination of the odour concentration of a gaseous sample using dynamic olfactometry with human assessors and the emission rate of odours emanating from point sources, area sources with outward flow and area sources without outward flow.

This European Standard is applicable to the measurement of odour concentration of pure substances, defined mixtures and undefined mixtures of gaseous odorants in air or nitrogen, using dynamic olfactometry with a panel of human assessors being the sensor.

The unit of measurement is the odour unit per cubic metre: OU_E/m^3 . The odour concentration is measured by determining the dilution factor required to reach the detection threshold. The odour concentration at the detection threshold is by definition $1 OU_E/m^3$. The odour concentration is then expressed in terms of multiples of the detection threshold. The range of measurement including pre-dilution prior to the olfactometry analysis is typically from $10^1 ou_E/m^3$ to $10^7 ou_E/m^3$.

Olfactometry Testing was performed by using the Scentroid™ SS600 Olfactometer. The testing was performed by at least five qualified panellists who have been selected through an n-butanol screening test.

All testing finished within 24 hours after sample receipt.

**RESULT****Odour Concentration**

Sample ID	Location	Sampling Date	Sampling Time	LOR (ou _E /Nm ³)	Odour Concentration (ou _E /Nm ³)	Characteristics of the odour detected of the gas sample	Volumetric Flow Rate (Nm ³ /min)	Emission rate (ou _E /hr)
HK1904547-001	CAPC	29-Jan-19	14:00 - 14:04	11	116	Garbage smell with minor fishy smell	2552.4	17,800,000
HK1904547-002	CAPC	29-Jan-19	14:04 - 14:08	11	93	Garbage smell with minor fishy smell	2552.4	14,200,000
HK1904547-003	Field Blank	29-Jan-19	--	11	<11	--	--	--

Remark:

1. LOR denotes limit of reporting.
2. The collected sample volume of the gas bag is sufficient for olfactometry analysis.
3. Field Blank containing pure nitrogen gas was collected and filled by ALS staff.
4. The volumetric flow rate value for calculation of the emission rate was provided by the client.



APPENDIX 1

A1. SITE CONDITIONS AND OBSERVATION

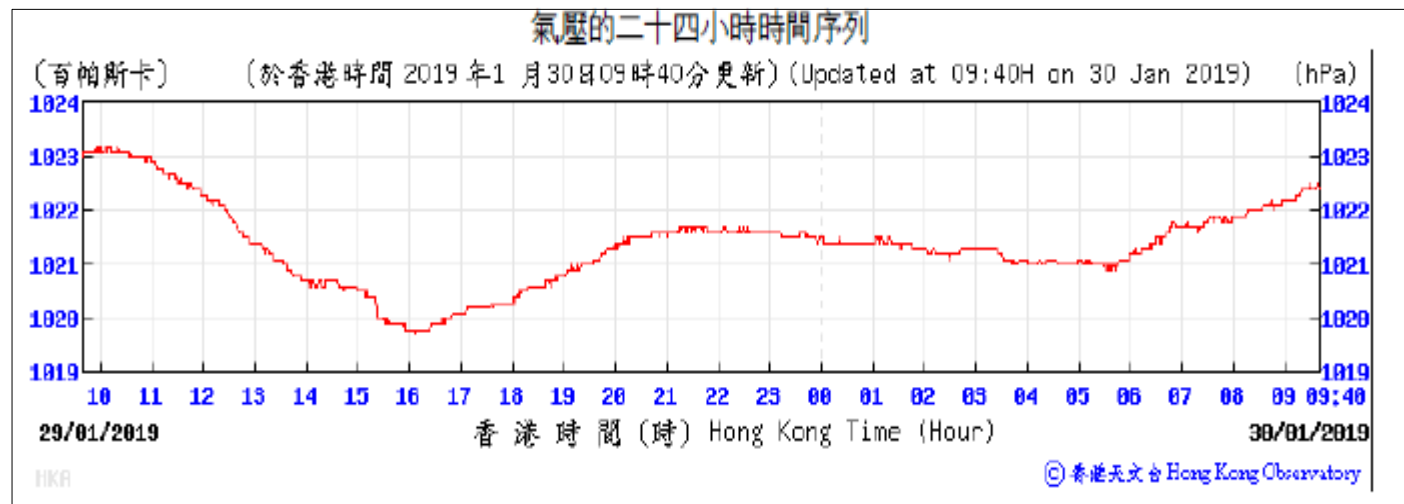
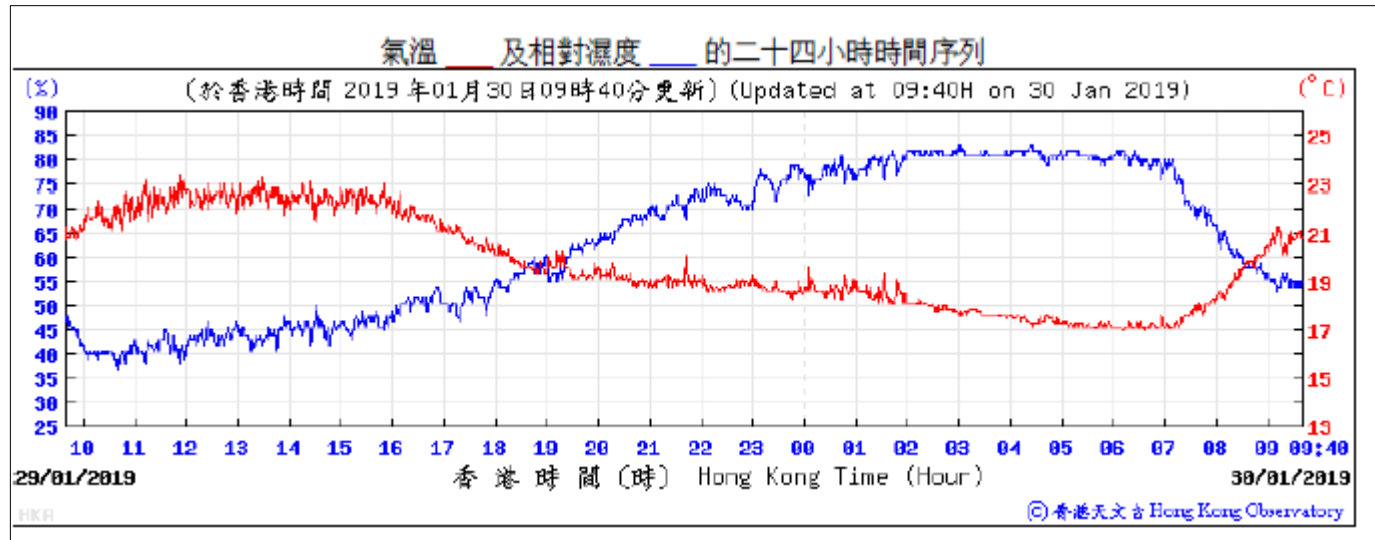
Location	Date	Time	Ambient Temperature (°C)	Relative Humidity (%)	Ambient Pressure (hPa)	Wind Speed (m/s)	Wind Direction (Degree)	Direction from Source ¹	Duration of Odour	On-Site Observation		Weather Condition
										Odour Nature	Possible Source	
CAPC Unit	29-1-19	14:00 - 14:08	19.8	65.5	1018.6	4.8	328	NA	NA	No odour was smelled.	NA	Sunny

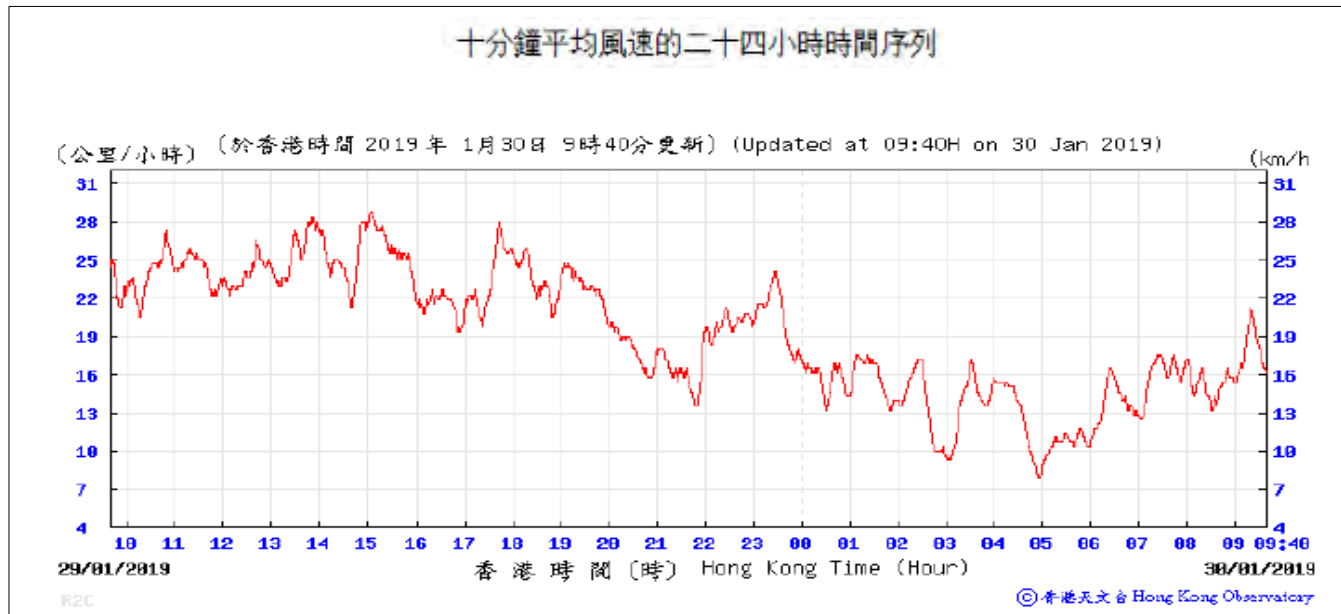
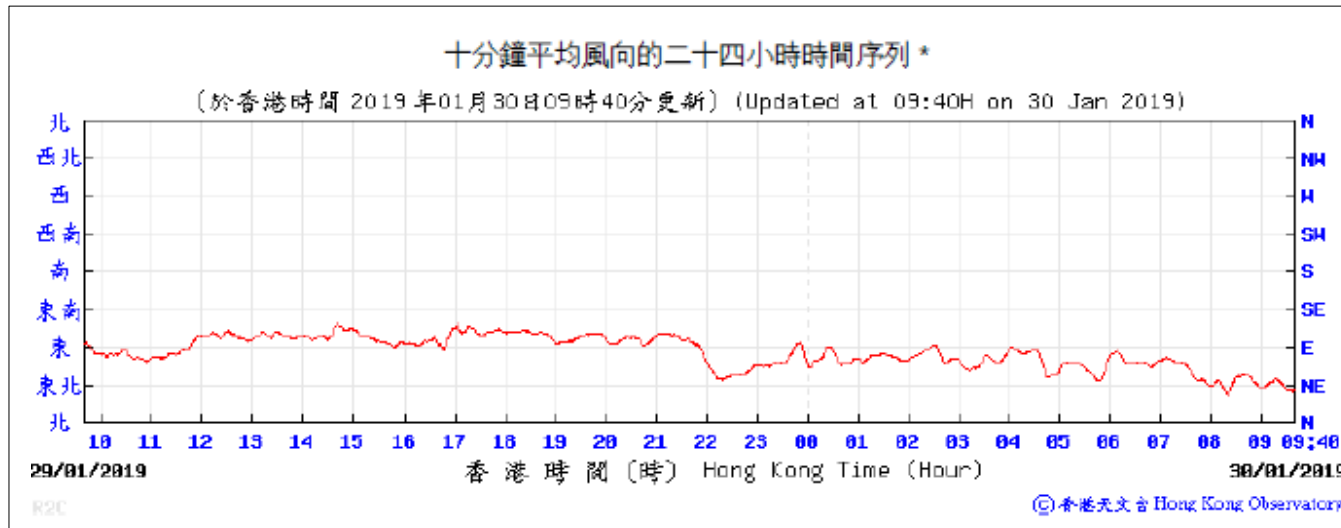
Note:

1. It was assumed that the exhaust of the CAPC Unit was from the odour source.

APPENDIX 2

A2. EXTRACT OF METEOROLOGICAL OBSERVATIONS FROM THE HONG KONG AIRPORT OBSERVATORY STATION





APPENDIX 3

A3. PHOTO OF THE SAMPLING LOCATION





CERTIFICATE OF ANALYSIS

CLIENT:	Oscar Bioenergy Joint Venture	WORK ORDER:	HK1904548
CONTACT:	Mr Edwin Wong	LABORATORY:	Hong Kong
ADDRESS:	No. 5, Sham Fung Road, Siu Ho Wan, North Lantau Island, NT, Hong Kong	SUB-BATCH:	0
		DATE RECEIVED:	29 January 2019
		DATE OF ISSUE:	13 February 2019
PROJECT:	Odour Monitoring for the Organic Resources Recovery Centre Phase 1 in Siu Ho Wan	SAMPLE TYPE:	Air
SITE:	Organic Resources Recovery Centre Phase 1 (ORRC1)	NO OF SAMPLES:	3
PO:	---		

COMMENTS


Air sample(s) were collected by ALS Technichem (HK) staff on 29th January, 2019 at the Organic Resources Recovery Centre Phase 1 (ORRC1) in Siu Ho Wan for Odour Monitoring.

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

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.


Richard Fung
General Manager - Hong Kong

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METHOD STATEMENT

A. Odour Concentration

1. Odour Sampling

Odour gas sample was collected by passive sampling technique. A Nalophan™ sampling bag was placed inside an air-tight sampler and then drawn to vacuum. Approximately 60 litre of gas sample was collected into the sampling bag for testing.

The odour sample was collected at the Organic Recovery Resources Centre Phase 1 (ORRC1) and sampling location was shown in Appendix A2.

2. Olfactometry Testing

Odour concentration was determined by a Forced-choice Dynamic Olfactometer in accordance with the European Standard Method (EN13725).

This European Standard specifies a method for the objective determination of the odour concentration of a gaseous sample using dynamic olfactometry with human assessors and the emission rate of odours emanating from point sources, area sources with outward flow and area sources without outward flow.

This European Standard is applicable to the measurement of odour concentration of pure substances, defined mixtures and undefined mixtures of gaseous odorants in air or nitrogen, using dynamic olfactometry with a panel of human assessors being the sensor.

The unit of measurement is the odour unit per cubic metre: OU_E/m^3 . The odour concentration is measured by determining the dilution factor required to reach the detection threshold. The odour concentration at the detection threshold is by definition $1 OU_E/m^3$. The odour concentration is then expressed in terms of multiples of the detection threshold. The range of measurement including pre-dilution prior to the olfactometry analysis is typically from $10^1 ou_E/m^3$ to $10^7 ou_E/m^3$.

Olfactometry Testing was performed by using the Scentroid™ SS600 Olfactometer. The testing was performed by at least five qualified panellists who have been selected through an n-butanol screening test.

All testing finished within 24 hours after sample receipt.

**RESULT****Odour Concentration**

Sample ID	Location	Sampling Date	Sampling Time	LOR (ou _E /Nm ³)	Odour Concentration (ou _E /Nm ³)	Characteristics of the odour detected of the gas sample	Volumetric Flow Rate (Nm ³ /min)	Emission rate (ou _E /hr)
HK1904548-001	CAPC	29-Jan-19	15:03 - 15:07	11	93	Garbage smell with minor fishy smell	1961.5	10,900,000
HK1904548-002	CAPC	29-Jan-19	15:07 - 15:11	11	154	Garbage smell with minor fishy smell	1961.5	18,100,000
HK1904548-003	Field Blank	29-Jan-19	--	11	<11	--	--	--

Remark:

1. LOR denotes limit of reporting.
2. The collected sample volume of the gas bag is sufficient for olfactometry analysis.
3. Field Blank containing pure nitrogen gas was collected and filled by ALS staff.
4. The volumetric flow rate value for calculation of the emission rate was provided by the client.



APPENDIX 1

A1. SITE CONDITIONS AND OBSERVATION

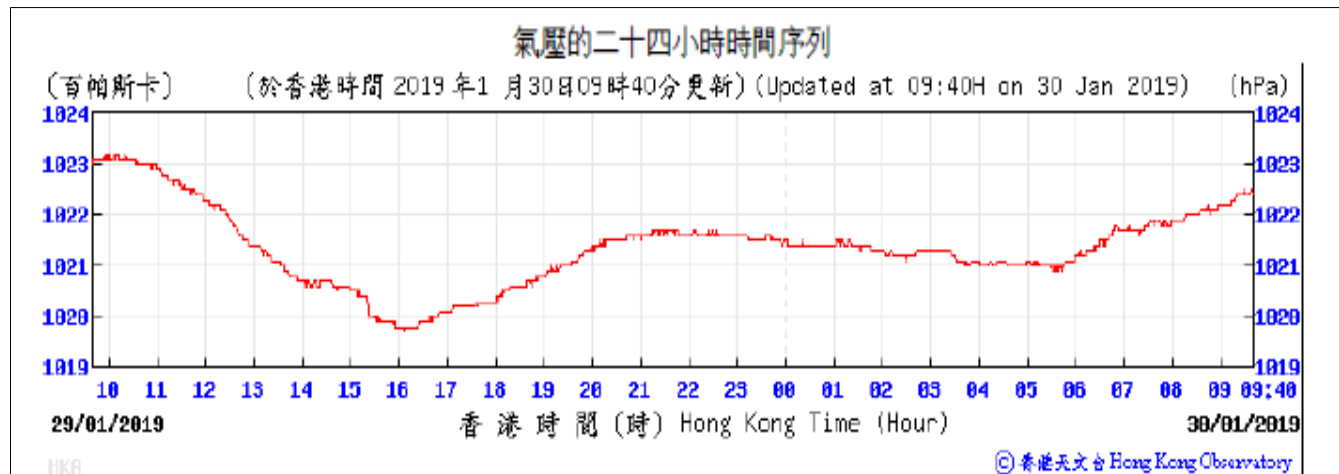
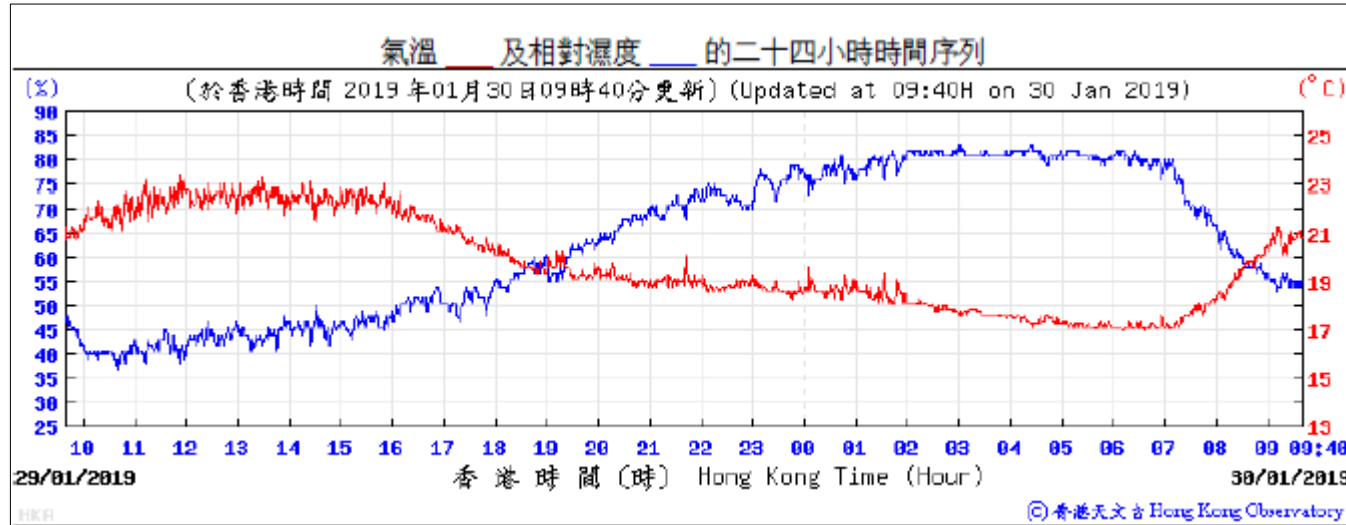
Location	Date	Time	Ambient Temperature (°C)	Relative Humidity (%)	Ambient Pressure (hPa)	Wind Speed (m/s)	Wind Direction (Degree)	Direction from Source ¹	Duration of Odour	On-Site Observation		Weather Condition
										Odour Nature	Possible Source	
CAPC Unit	29-1-19	15:03 - 15:11	19.9	66.5	1018.5	3.3	314	NA	NA	No odour was smelled.	NA	Sunny

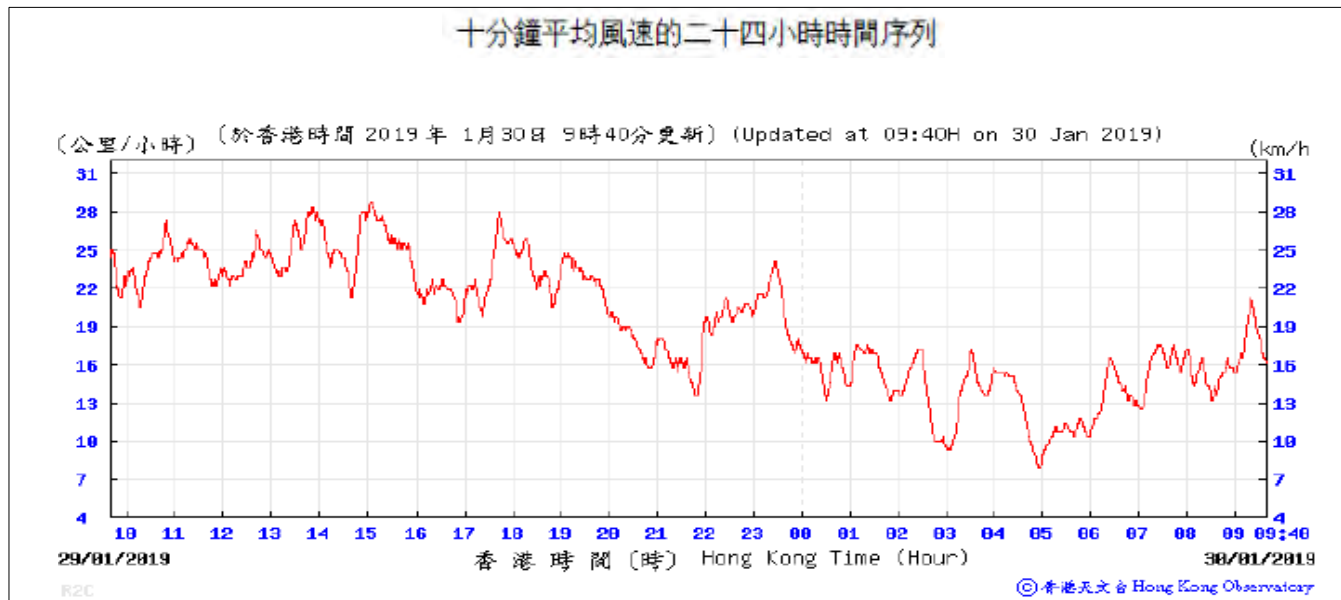
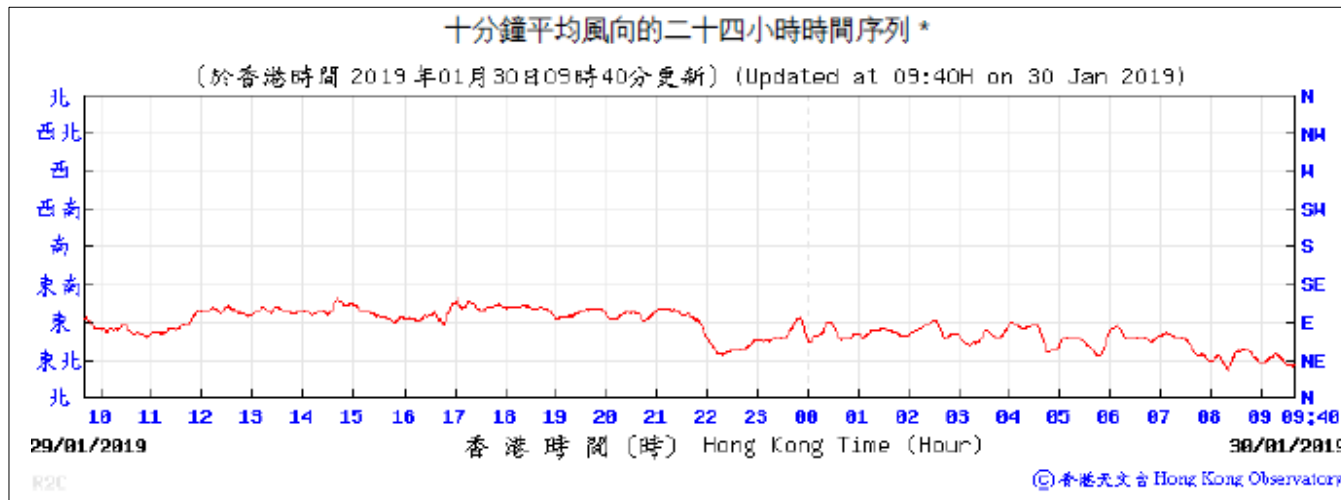
Note:

1. It was assumed that the exhaust of the CAPC Unit was from the odour source.

APPENDIX 2

A2. EXTRACT OF METEOROLOGICAL OBSERVATIONS FROM THE HONG KONG AIRPORT OBSERVATORY STATION





APPENDIX 3

A3. PHOTO OF THE SAMPLING LOCATION



Annex J4

Action and Limit Levels for Odour Nuisance

Odour Intensity Level

Level	Odour Intensity
0	Not detected. No odour perceived or an odour so weak that it cannot be easily
1	Slight identifiable odour, and slight chance to have odour
2	Moderate identifiable odour, and moderate chance to have odour
3	Strong identifiable, likely to have odour nuisance
4	Extreme severe odour, and unacceptable odour level

Action and Limit Levels for Odour Nuisance

Parameter	Action Level	Limit Level
Odour Nuisance (from odour patrol)	When one documented compliant is received ⁽¹⁾ , or Odour Intensity of 2 is measured from odour patrol.	Two or more documented complaints are received ⁽¹⁾ within a week; or Odour intensity of 3 or above is measured from odour patrol.

Note:

- (1) Once the compliant is received by the Project Proponent (EPD), the Project Proponent would investigate and verify the complaint whether it is related to the potential odour emission from the OWTF and its on-site wastewater treatment unit.

Event and Action Plan for Odour Monitoring

EVENT	ACTION	
	Person-in-charge of Odour	Project Proponent ⁽¹⁾
ACTION LEVEL		
Exceedance of action level (Odour Patrol)	<ol style="list-style-type: none"> 1. Identify source/reason of exceedance; 2. Repeat odour patrol to confirm finding. 	<ol style="list-style-type: none"> 1. Carry out investigation to identify the source/reason of exceedance. Investigation should be completed within 2 weeks; 2. Rectify any unacceptable practice; 3. Implement more mitigation measures if necessary; 4. Inform DSD or the operator of the Siu Ho Wan Sewage Treatment Works (SHWSTW) if exceedance is considered to be caused by the operation of the SHWSTW. 5. Inform North Lantau Refuse Transfer Station (NLTS) operator if exceedance is considered to be caused by the operation of NLTS.

EVENT	ACTION	
	Person-in-charge of Odour	Project Proponent ⁽¹⁾
Exceedance of action level (Odour Complaints)	<ol style="list-style-type: none"> 1. Identify source/reason of exceedance; 2. Carry out odour patrol to determinate odour intensity. 	<ol style="list-style-type: none"> 1. Carry out investigation and verify the complaint whether it is related to potential odour emission from the nearby SHWSTW; 2. Carry out investigation to identify the source/reason of exceedance. Investigation should be completed within 2 weeks; 3. Rectify any unacceptable practice; 4. Implement more mitigation measures if necessary; 5. Inform DSD or the operator of the SHWSTW if exceedance is considered to be caused by the operation of the SHWSTW.

EVENT	ACTION	
	Person-in-charge of Odour	Project Proponent ⁽¹⁾
LIMIT LEVEL		
Exceedance of Limit level	<ol style="list-style-type: none"> 1. Identify source/reason of exceedance; 2. Inform EPD; 3. Repeat odour patrol to confirm findings; 4. Increase odour patrol frequency to bi-weekly; 5. Assess effectiveness of remedial action and keep EPD informed of the results; 6. If exceedance stops, cease additional odour patrol. 	<ol style="list-style-type: none"> 1. Carry out investigation to identify the source/reason of exceedance. Investigation should be completed within 2 week; 2. Rectify any unacceptable practice; 3. Formulate remedial actions; 4. Ensure remedial actions properly implemented; 5. If exceedance continues, consider what more/enhanced mitigation measures should be implemented;

Note: ⁽¹⁾Project Proponent shall identify an implementation agent

Annex K

Investigation Report

Annex K1

Investigation Report –
Odour Sampling
Exceedances

Investigation Report of Odour Sampling Exceedances

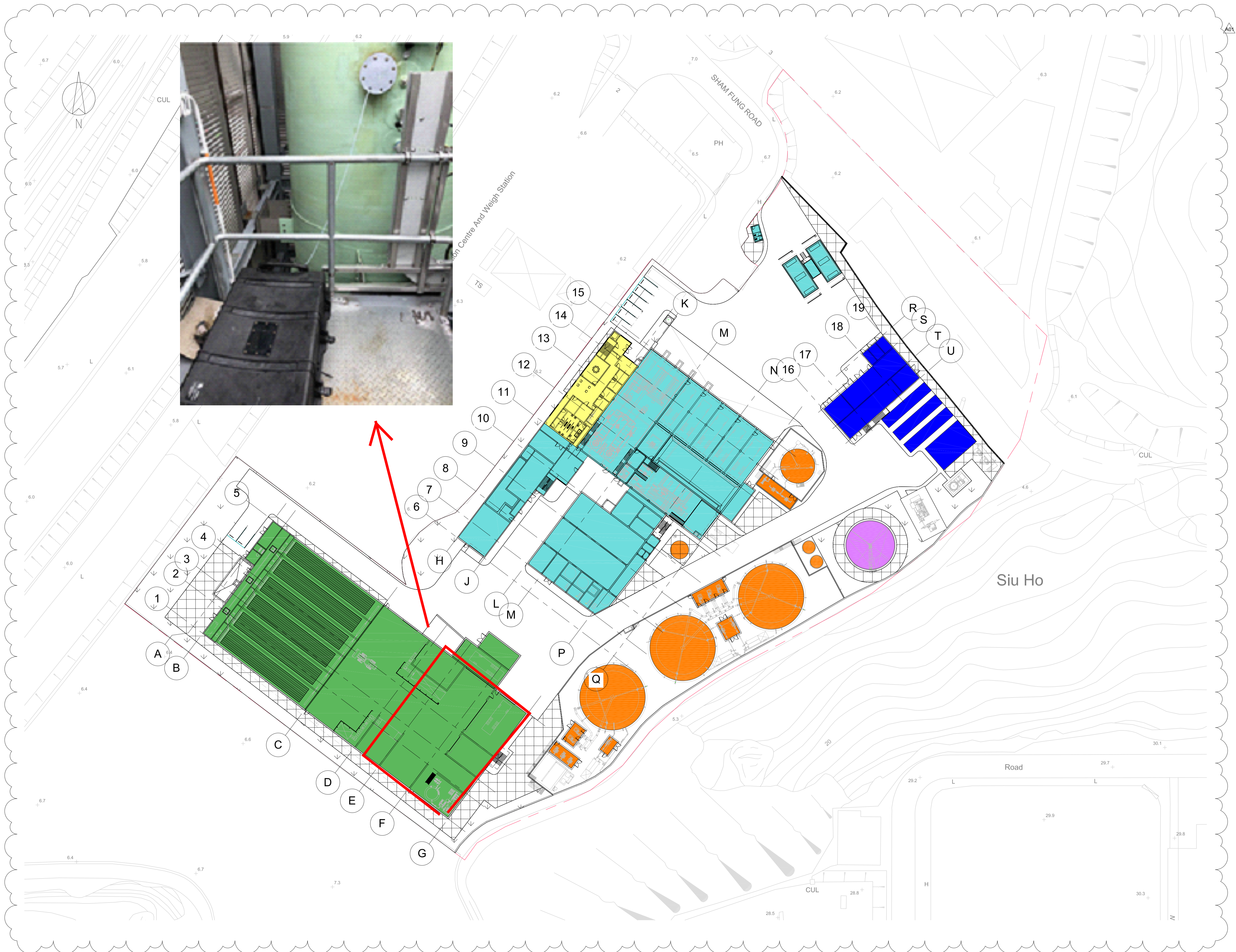
Date	10, 11, 19 and 27 December 2018; 16 January 2019
Time	Sampling times were shown in Appendix B .
Monitoring Location	Centralized Air Pollution Control System (CAPCS) ((Detailed location and photos shown on the marked drawing DR-OAP-20-0-CA-1001 attached as Appendix A)
Weather	Fine
Parameter	Odour
Exceedance Description	<ol style="list-style-type: none"> 1. On 10, 11, 19 and 27 December 2018 and 16 and 29 January 2019, air samples were collected from the outlet of the CAPCS by ALS for measurement of the odour concentration (in term of Odour Unit (OU) by olfactometry analysis at the laboratory. The EM&A Manual, has set an odour limit of 220 OU/Nm³ for the CAPCS stack. The odour concentrations of the odour samples collected from the CAPCS on 10, 11, 19 and 27 December 2018; 16 January 2019 have exceeded the odour limits. The odour analysis results are shown in Appendix B. 2. According to the Contractor, the plant was operated normally. Odour emitting activities, including waste reception and pretreatment process, AD process, wastewater treatment plant, sludge dewatering and composting process were operating on the sampling days. The CAPCS was operating during the odour sampling periods. 3. The plant received an average of 100 tonnes of SSOW daily in the reporting period. 4. The Contractor reported that the chemical dosing system of the CAPCS have some problems resulting in a high concentration of odorous gases H₂S and NH₃ in the exhaust air, which led to exceedances of the odour limit. In addition, the Contractor reported that the prepared of the chemical dosing system took longer than anticipated resulting in a prolonged exceedances recorded during December 2018.
Action Taken / Action to be Taken	Once it was identified that there was a problem with the chemical dosing system, the Contractor added the chemical to the system manually to minimise the exceedances. The Contractor has also contacted the supplier of the chemical dosing system to carry out repairing work so that the system can function properly.
Remedial Works and Follow-up Actions	The Contractor is recommended to closely monitor the operation of the chemical dosing system to avoid the reoccurrence of similar problem. The system is fixed and the odour concentration of the air sample taken on 29 January 2019 showed compliance with the odour limit.

OSCAR Bioenergy Joint Venture
EP/SP/61/10 – Organic Resources Recovery Centre Phase 1

Prepared by: Bonia Leung, ET Representatives
Date 09-Apr-2019

Appendix A

Monitoring Location



A01	05/03/15	CW	MB	IMTECH BACKGROUNDS UPDATED
A00	18/02/15	CW	MB	DRAFT ISSUE
REV	DATE	BY	APP	DESCRIPTION

CLIENT
EP ENVIRONMENTAL PROTECTION DEPARTMENT
 GOVERNMENT OF THE HKSAR

CLIENT'S CONSULTANT
AECOM
 AECOM ASIA CO. LTD.

CONTRACTOR
Suez SITA ATAL RosRoca
 OSCAR BIOENERGY JV

LEAD DESIGNER
ARUP
 Ove Arup & Partners Hong Kong Limited

ENVIRONMENTAL TEAM
ERM
 ERM HONG KONG LIMITED

INDEPENDENT CONSULTANTS
MEINHARDT
 Meinhardt Infrastructure and Environment Limited
 邁達基建築環保工程顧問有限公司

PROJECT
 ORGANIC WASTE TREATMENT FACILITIES
 PHASE 1
 EP/SP/61/10

STATUS
 DRAFT ISSUE

DRAWING TITLE
 SITE LAYOUT

DRAWN CW	CHECKED RS	APPROVED DP
SCALE 1:500@A1 / 1:1000@A3	DATE 12/02/15	
JOB NO. 239956	DRAWING NO. DR-OAP-20-0-CA-1001	REV. A01

Appendix B

Odour Sampling Results Summary

OSCAR Bioenergy Joint Venture
 EP/SP/61/10 – Organic Resources Recovery Centre Phase 1

Sampling Date	Sampling Time	Odour Concentration (OU /Nm ³) ^{Note}
10 Dec 2018	11:36-11:41	828
10 Dec 2018	11:41-11:46	886
10 Dec 2018	11:56-12:02	773
10 Dec 2018	12:02-12:07	674
11 Dec 2018	15:13-15:17	476
11 Dec 2018	15:19-15:23	510
11 Dec 2018	15:34-15:38	414
11 Dec 2018	15:38-15:43	443
19 Dec 2018	15:08-15:12	1164
19 Dec 2018	15:29-15:33	1016
27 Dec 2018	14:07-14:10	1026
27 Dec 2018	14:11-14:14	1026
27 Dec 2018	14:45-14:48	1087
27 Dec 2018	14:49-14:53	1087
16 Jan 2019	13:42-13:45	444
16 Jan 2019	13:48-13:52	476
16 Jan 2019	15:54-15:57	546
16 Jan 2019	15:58-16:02	509
29 Jan 2019	14:00-14:04	116
29 Jan 2019	14:04-14:08	93
29 Jan 2019	15:03-15:07	93
29 Jan 2019	15:03-15:07	154

Note: According to the EM&A Manual and EP requirements, it is considered an exceedance if the odour level is more than 220 OU/Nm³.

Annex K2

Investigation Report – Stack Monitoring Exceedances

Investigation Report of CEMS Exceedances

Date	1 - 31 March 2019
Time	Sampling times were shown in Annex G of the EM&A Report.
Monitoring Location	Continuous Environmental Monitoring System (CEMS)
Parameter	Various emission parameters of the Centralised Air Pollution Control System (CAPCS), Cogeneration Units (CHP) and Ammonia Stripping Plan (ASP)
Exceedance Description	<p>1. Continuous monitoring was carried out for CAPCS, CHP and ASP throughout the reporting period using the CEMS. According to the EM&A Manual, exceedance is considered if the emission concentration of the concerned pollutants is higher than the emission limits stated in Tables 2.2, 2.3 and 2.5 of the EM&A Manual (Version E) for CAPCS, CHP and ASP respectively. The concentration of the concerned air pollutants were monitored on-line by the CEMS. Exceedances of various emission parameters were recorded on the CEMS including:</p> <ul style="list-style-type: none"> • Odour in the CAPCS; • SO₂ in the CHP; and • CO, NO_x, SO₂, VOCs and NH₃ in the ASP. <p>The detail monitoring results are shown in <i>Annex G</i> of the EM&A Report.</p> <p>2. According to the Contractor, the plant was receiving around 100 tonnes of SSOW daily and was operated normally.</p> <p>3. The exceedances of odour in CAPCS was due to problems in the chemical dosing system resulting in high concentrations of odorous gases H₂S and NH₃ in the exhaust air.</p> <p>4. According to the Contractor, the SO₂ exceedances recorded in the CHP and ASP could be due to the tripping of the circulation pump resulting in incomplete desulphurisation of biogas in previous process.</p> <p>5. The Contractor explained that the exceedances recorded in CO, NO_x, VOCs and NH₃ in the ASP was because the thermal combustion unit of the ASP still require tuning to optimise the combustion efficiency. In addition, the Contractor reported that the tuning of the thermal combustion unit took longer than anticipated resulting in the many exceedances recorded during the reporting period.</p>
Action Taken / Action to be Taken	<ul style="list-style-type: none"> • Once it was identified that there was a problem with the chemical dosing system, the Contractor added the chemicals to the system manually to minimise the exceedances. The Contractor has also contacted the supplier of the chemical dosing system to carry out

	<p>repairing works so that the system can function properly.</p> <ul style="list-style-type: none"> • The Contractor put on-line additional activated carbon filters to counter the incomplete desulphurisation process. • Tuning of the thermal combustion unit was carried out to optimise the combustion efficiency in order to remove the pollutants in the biogas.
<p>Remedial Works and Follow-up Actions</p>	<p>The Contractor is recommended to closely monitor the processes, including the chemical dosing system in the CAPCS, the desulphurisation process, and combustion of biogas in the ASP to avoid the reoccurrence of similar problems. MT will carry out follow-up audit regarding the progress next month.</p>

Prepared by: Bonia Leung, MT Representative
 Date: 29-Apr-2019