OSCAR Bioenergy Joint Venture

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

1 July 2018 – 31 July 2018

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Meinhardt Infrastructure and Environment Limited

Organic Resources Recovery Centre, Phase I

Monthly EM&A Report

(1 July 2018 – 31 July 2018)

(October 2018)

Verified by: Helen Cochrane

Position: Independent Environmental Checker

Date: 16 Oct 2018

OSCAR Bioenergy Joint Venture

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

1 July 2018 – 31 July 2018

Reference 0279222

For and on behalf of ERM-Hong Kong, Limited

Approved by: Frank Wan

Signed: 

Position: Partner

Certified by: 
(Environmental Team Leader – Mandy To)

Certified by: 
(Registered Landscape Architect No. R-150 - Albert Chung)

Date: 12 October 2018

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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 38th monthly Environmental Monitoring and Audit (EM&A) report presenting the EM&A works carried out during the period from 1 to 31 July 2018 in accordance with the EM&A Manual.

Summary of Construction Works undertaken during the Reporting Month

Works undertaken in the reporting month included:

- Building 1 – ABWF/finishing work and BS installation ;
- Building 2 & 3 – ABWF/finishing work and BS installation ;
- Electrical installation (cable trays, Local Control panels/switch installation, general cabling works, instrumentation and control installation, lighting , ELV and SCADA installation) ;
- BS works (MVAC, FS, P/D) ;
- Landscaping works.
- Systems being operated – waste reception, pre-treatment, CAPCS extraction, the digesters, the centrifuge, the desulphurisation, the emergency flare, the CHPs, the ASP and the biological wastewater treatment plant;
- Process commission in progress-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 50-60 t/d SSOW input).
-

Environmental Monitoring and Audit Progress

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

- Joint Environmental Site Inspection 5 times
- Landscape & Visual Monitoring 3 times

Odour

Odour patrol were conducted by representatives of the Contractor, the ER and Employer (EPD Project Team) on 3, 4, 6, 10, 12, 13, 16, 18, 20, 23, 25, 27 and 30 July 2018. The Independent Odour Patrol Team, ALS Technichem (HK) Pty Ltd (ALS), has also joined the odour patrol on 27 July 2018. No Level 2 Odour Intensity was recorded during this monitoring period.

On 27 July 2018, air samples were also collected from the outlet of the Centralised Air Pollution Control (CAPC) unit by an independent laboratory (ALS_) for measurement of the Odour Intensity by olfactometry analysis at the laboratory. During this reporting period, no exceedance was observed..

Waste Management

Waste generated from this 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, 93.99 tonnes of inert C&D material were generated from the Project, of which 42.00 tonnes were reused in this Contract. The 51.99 tonnes of inert C&D material were disposed of as public fill to the Fill Banks at Tuen Mun Area 38.

Non-inert C&D materials (construction wastes) include metals, paper / cardboard packaging waste, plastics and other wastes such as general refuse. 11,220.00 kg of metals, 6,200.00 kg of papers/ cardboard packing and 0.00 kg of plastics were sent to recyclers for recycling during the reporting period. 59.77 tonnes of general refuse was disposed of at the landfill.

0.00 L of chemical waste was collected by licenced waste collector.

Environmental Site Inspection

Four weekly joint environmental site inspections were carried out by the representatives of the Contractor, ER, IC and the Environmental Team (ET). The IEC was also present at the joint inspection on 18 July 2018. Details of the audit findings and implementation status of the mitigation measures are presented in *Section 6.1*.

Landscape & Visual

Onsite inspections on landscape and visual mitigation measures were performed on 3, 16 and 30 July 2018. Details of the audit findings and implementation status of the mitigation measures are presented in *Sections 6.2*.

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

No exceedance was recorded during the reporting period.

One incident occurred during reporting period. The Investigation Report is provided in *Annex I*. The incident did not lead to adverse environmental impact.

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

Future Key Issues

Works to be undertaken in the next reporting month include:

- Building 1 - ABWF/finishing work and BS installation ;
- Building 2 & 3 - ABWF/finishing work and BS installation ;
- Electrical installation (cable trays, Local Control panels/switch installation, general cabling works, instrumentation and control installation, lighting , ELV and SCADA installation) ;
- BS works (MVAC, FS, P/D) ;
- Landscaping works.
- Process commissioning in progress.

Environmental impacts arising from the above construction activities are mainly associated with dust, construction noise, site runoffs, waste management and landscaping issues.

1 INTRODUCTION

ERM-Hong Kong, Limited (ERM) was appointed by OSCAR Bioenergy Joint Venture (the Contractor) as the Environmental Team (ET) to undertake the 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.

1.1 PURPOSE OF THE REPORT

This is the 38th EM&A report which summarises the monitoring results and audit findings for the EM&A programme during the reporting period from **1** to **31 July 2018**.

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 organization, construction programme, construction works undertaken and status of the Environmental Permits (EP)/licences over the construction phase of the Project.

Section 3: **Environmental Monitoring Requirements**
It summarises the environmental monitoring requirements including monitoring parameters, programmes, methodologies, frequency, locations, Action and Limit Levels, Event/Action Plans, environmental mitigation measures as recommended in the EM&A Manual and approved EIA report.

Section 4: **Implementation Status on Environmental Mitigation Measures**
It summarises the implementation of environmental protection measures during the reporting period.

Section 5: **Waste Management**
It summarises the quantity of public fill and construction waste generated in the reporting period

Section 6: **Environmental Site Inspection**
It summarises the audit findings of the weekly site inspections undertaken within the reporting period.

Section 7: **Environmental Non-conformance**

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

Section 8: **Further Key Issues**
It summarises the impact forecast and monitoring schedule for the next reporting month.

Section 9: **Conclusions**

2 PROJECT INFORMATION

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 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 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 Environmental Protection Department (EPD) to the EPD, 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 EPD to the OSCAR on 16 February 2015. Variation to both EPs No. EP-395/2010/B and No. FEP-01/395/2010/B were made in December 2015. The latest EPs, No. EP-395/2010/C and No. FEP-01/395/2010/C, were issued by the EPD 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 Agreement No. CE7/2008 (EP) EM&A Manual (hereinafter referred to as EM&A Manual) is required to be implemented. ERM-Hong Kong, Ltd (ERM) has been appointed by OSCAR as the Environmental Team (ET) to undertake the EM&A programme for the Contract.

The construction works commenced on 21 May 2015 and are scheduled for completion by October 2018.

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*.

2.3 CONSTRUCTION ACTIVITIES

A summary of the major construction activities undertaken in the reporting period is shown in *Table 2.1*. The locations of the construction activities are shown in *Annex B*. The construction programme of the Project is presented in *Annex C*.

Table 2.1 Summary of Construction Activities Undertaken in the Reporting Period

Construction Activities Undertaken
• Building 1 – ABWF/finishing work and BS installation ; • Building 2 & 3 – ABWF/finishing work and BS installation ; • Electrical installation (cable trays, Local Control panels/switch installation, general cabling works, instrumentation and control installation, lighting , ELV and SCADA installation) ; • BS works (MVAC, FS, P/D) ; • Landscaping works. • Systems being operated – waste reception, pre-treatment, CAPCS extraction, the digesters, the centrifuge, the desulphurization, the emergency flare, the CHPs, the ASP and the biological waste water treatment plant; • Process commissioning in progress - 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 50-60 t/d SSOW input).

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 Pollution Control (Construction Dust) Regulation	Ref No. 386715	Throughout the Contract	-
Effluent Discharge License	WT00021482-2015	21 May 2015 – 31 May 2020	Approved on 21 May 2015
Construction Noise Permit – P1&P2	GW-RW0637-17 (Superseded CNP GW-RW0351-17)	21 January 2018– 20 July 2018	Approved on 14 December 2017
Construction Noise Permit – P1&P2	GW-RW0229-18 (Superseded CNP GW- RW0637-17)	21 July 2018 - 20 January 2019	Approved on 19 June 2018

Permit/ Licences/ Notification	Reference	Validity Period	Remarks
Construction Noise Permit – P3	GW-RW0184-18 (Superseded CNP GW-RW0565-17)	1 June 2018 – 30 November 2018	Approved on 17 May 2018
Construction Noise Permit – P5 (Slope)	GW-RW0107-18	30 March 2018 – 29 September 2018	Approved on 20 March 2018
Chemical Waste Producer Registration	WPN 5213-961-O2231-01	Throughout the Contract	Approved on 29 April 2015
Waste Disposal Billing Account	Account number: 702310	Throughout the Contract	-

3 *ENVIRONMENTAL MONITORING REQUIREMENT, ENVIRONMENTAL MITIGATION MEASURES*

All the relevant environmental mitigation measures listed in the EIA Report and EM&A Manual are summarised in *Annex E*.

According to the EM&A Manual and EP requirement, no air quality, noise and water quality monitoring is required during the construction phase.

According to the EM&A Manual and EP requirement, odour monitoring is required during the commissioning phase.

The odour patrols shall be conducted by an odour patrol team. The odour patrol team will patrol and sniff along an odour patrol route at the site boundary. The implementation of the odour patrol shall be subject to the prevailing weather forecast condition and no odour patrol should be carried out during rainy day. The odour patrol team should be comprised of at least two independent trained personnel / competent persons, who should pass a set of screening tests.

Odour patrol were conducted by representatives of the Contractor, the ER and Employer (EPD Project Team) on 3, 4, 6, 10, 12, 13, 16, 18, 20, 23, 25, 27 and 30 July 2018. The Independent Odour Patrol Team, ALS Technichem (HK) Pty Ltd (ALS), has also joined the odour patrol on 27 July 2018. According to the EM&A Manual and EP requirement, 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 H*.

On 27 July 2018, air samples were also collected from the outlet of the Centralised Air Pollution Control (CAPC) unit by ALS for measurement of the Odour Intensity by olfactometry analysis at the laboratory. According to the EM&A Manual and EP requirements, it is considered an exceedance if the odour level is more than 200 OU/Nm^3. During this reporting period, no exceedance was observed. The laboratory results are shown in *Annex H*.

Bi-weekly landscape and visual audit is required to ensure that the design, implementation and maintenance of landscape and visual mitigation measures recommended in the EIA Report are fully achieved.

4 *IMPLEMENTATION STATUS ON ENVIRONMENTAL PROTECTION REQUIREMENTS*

The Contractor has implemented environmental mitigation measures and requirements as stated in the approved EIA Report and EM&A Manual. The implementation status of the measures during the reporting period is summarised in *Annex E*.

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 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 F*). 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 5.1*.

Table 5.1 Quantities of Waste Generated from 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
July 2018	93.99 tonnes	17,420.00 kg	59.77 tonnes	0.00 L

Notes:

(a) Inert C&D materials (public fill) include bricks, concrete, building debris, rubble and excavated spoil. In total, 93.99 tonnes of inert C&D material were generated from the Project, of which 42.00 tonnes were reused in this Contract and the 51.99 tonnes were disposed as public fill to the Fill Bank at Tuen Mun Area 38. The detailed waste flow is presented in *Annex F*.

(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) 11,220.00 kg of metals, 6,200.00 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.

6 ENVIRONMENTAL INSPECTIONS

6.1 WEEKLY SITE AUDITS

Joint site inspections were conducted by representatives of the Contractor, the ER, IC and the ET on 3, 10, 18, 24 and 31 July 2018. The IEC was also present at the joint inspection on 18 July 2018. 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:

3 *July 2018*

- Stagnant water and general refuse were observed in the drains and surface channel, and the contractor was advised to clean all the drains and surface channel on site.

10 July 2018

- Open stockpile was observed near the slope and the contractor was advised to cover the stockpile with impervious tarpaulin properly to avoid dust emission.

- Stagnant water and general refuse were still observed in the drains and surface channel, and the contractor was further advised to clean all the drains and surface channel on site

18 July 2018

- Stagnant water was observed near Building 2, and the contractor was advised to remove the stagnant water to prevent mosquito breeding and avoid any potential surface runoff to the nearby U-channel.

- Stagnant water and muddy material were still observed in the drains and surface channel, and the contractor was further advised to clean all the drains and surface channel on site.

24 July 2018

- Chemical container was observed in Building 2 and the contractor was advised to provide drip tray or move the container to designated storage area according to the Code of Practice.

- Pipe leakage was observed near Building 2 and the contractor was advised to replace the pipe to avoid water wastage.

31 July 2018

- Non-treated effluent was observed near Intermediate Digestion Tank. The effluent was immediately stopped. The waste water was properly collected and treated before discharge to DSD nullah, which no spillage was observed. This case was identified as near-miss. The contractor was

advised to collect and treat the effluent properly before discharging.

- Chemical container was observed in Building 2 and the contractor was advised to provide drip tray or move the container to designated storage area according to the Code of Practice.

6.2 LANDSCAPE AND VISUAL AUDIT

In accordance with the EM&A Manual, bi-weekly landscape and visual inspection is required to ensure that the design, implementation and maintenance of landscape and visual mitigation measures recommended in the EIA Report are fully achieved. Onsite inspections of the landscape and visual mitigation measures were performed on 3, 16 and 30 July 2018.

It was confirmed that the necessary landscape and visual mitigation measures as summarised in *Annex E* were generally implemented by the Contractor. No specific observation was found during site inspections 3, 16 and 30 July 2018.

7 ENVIRONMENTAL NON-CONFORMANCE

7.1 SUMMARY OF ENVIRONMENTAL NON-COMPLIANCE

One incident occurred during the reporting period.

The incident occurred at Suspension Buffer Tank (SBT) at P1 Building1 of the Site, which a spillage of foam within the bund wall of SBT was observed. The incident had been investigated and the agreed remedial works and follow-up actions will be completed by the Contractor shortly. The Investigation Report is shown in *Annex I*.

7.2 SUMMARY OF ENVIRONMENTAL COMPLAINT

No complaint was received during the reporting period. The cumulative environmental complaint log is shown in *Annex G*.

7.3 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 G*.

8 FUTURE KEY ISSUES

8.1 KEY ISSUES FOR THE COMING MONTH

Works to be undertaken for the coming monitoring period are summarised in *Table 8.1*.

Table 8.1 Construction Works to be undertaken in the Next Reporting Period

Construction Activities Undertaken
• Building 1 – ABWF/finishing work and BS installation ;
• Building 2 & 3 – ABWF/finishing work and BS installation ;
• Electrical installation (cable trays, Local Control panels/switch installation, general cabling works, instrumentation and control installation, lighting , ELV and SCADA installation) ;
• BS works (MVAC, FS, P/D) ;
• Landscaping works.
• Process commissioning in progress.

Potential environmental impacts arising from the above construction activities will be mainly associated with dust, construction noise, site runoffs, waste management and landscaping issues.

8.2 CONSTRUCTION PROGRAMME

The most up-to-date construction programme for the Project is presented in *Annex C*.

9 CONCLUSIONS

This EM&A Report presents the EM&A programme undertaken during the reporting period from 1 to 31 July 2018 in accordance with EM&A Manual and requirements of EP (FEP-01/395/2010/C).

No air quality, noise and water quality monitoring is required during the construction phase.

Odour patrol and monitoring are required during the commissioning phase. No exceedance of odour intensity limit for all odour patrol events. Air samples were also collected at the CAPC unit for olfactometry analysis at the laboratory. The result are shown in Annex H.

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

One incident occurred during reporting period. The Investigation Report is provided in *Annex I*. The incident did not lead to adverse environmental impact.

No complaint and summons/prosecution was received during the reporting period.

The ET will keep track of the EM&A programme to ensure compliance of environmental requirements and the proper implementation of all the necessary mitigation measures in the coming periods.

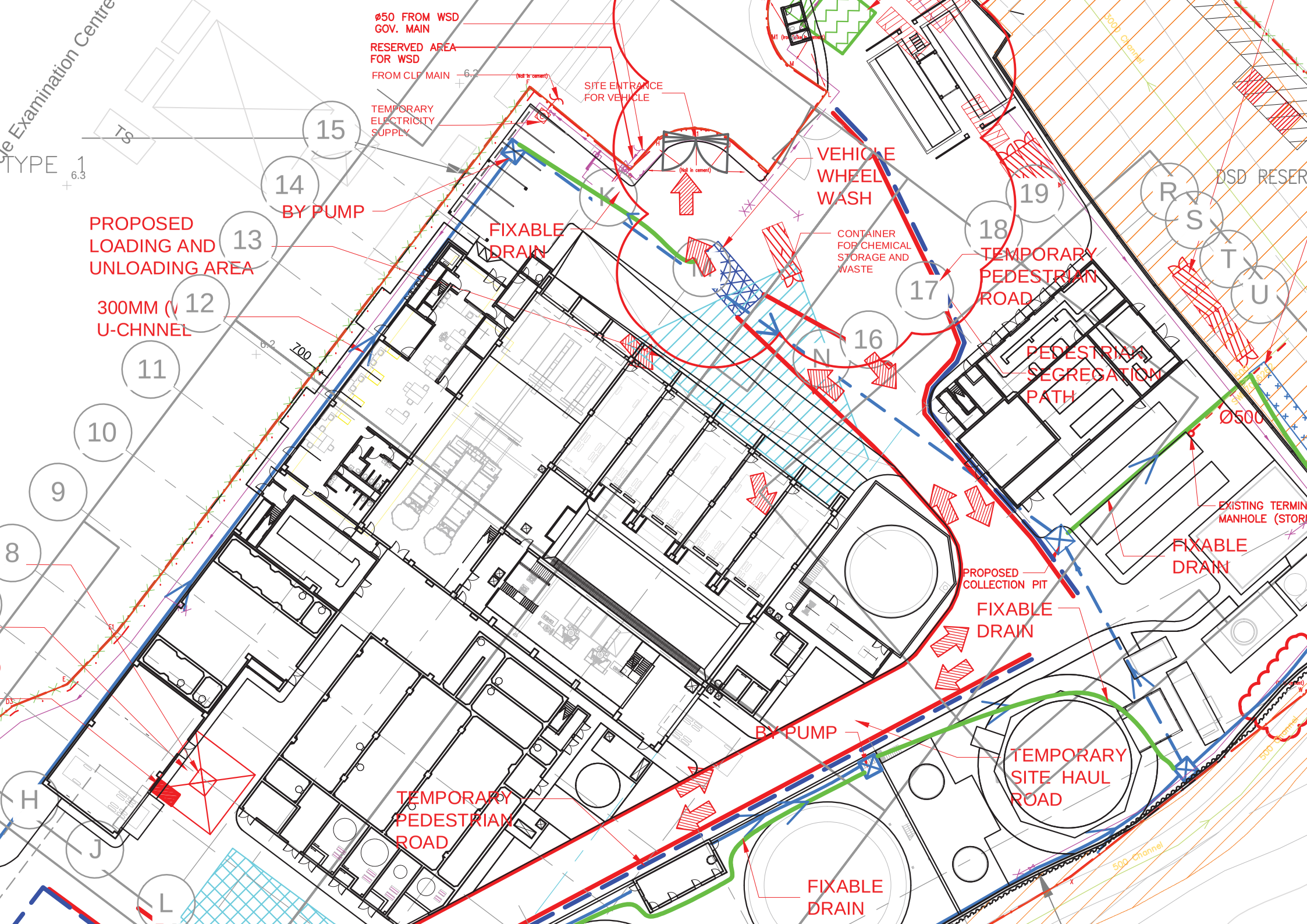
Annex A

Project Layout


TS
6.3
6.2
15
14
13
12
11
10
9
8
J
L
M
P
K
M
N
16
17
18
19
R
S
T
U

Annex B

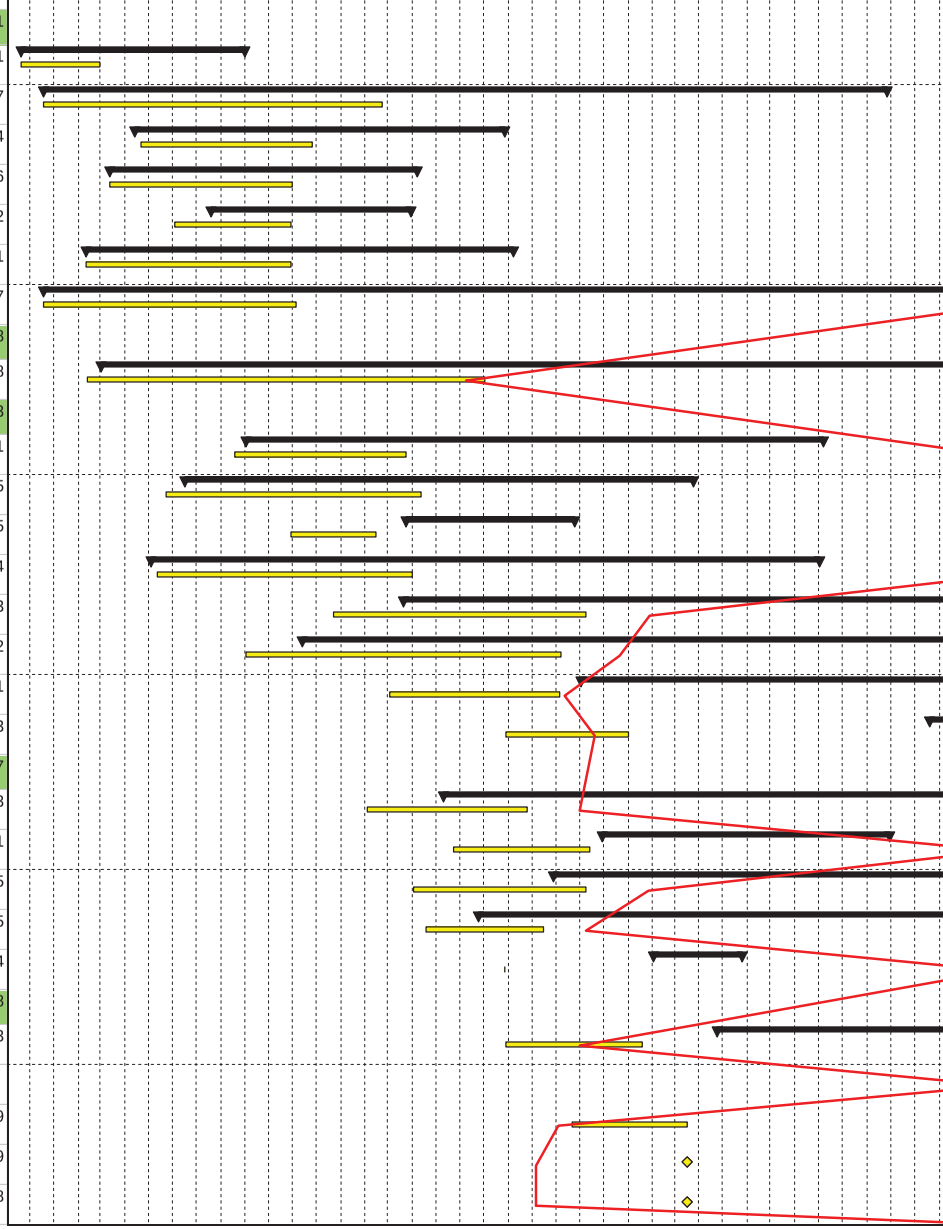
Works Location


Ø50 FROM WSD GOV. MAIN
RESERVED AREA FOR WSD
FROM CLP MAIN
TEMPORARY ELECTRICITY SUPPLY
SITE ENTRANCE FOR VEHICLE
VEHICLE WHEEL WASH
CONTAINER FOR CHEMICAL STORAGE AND WASTE
PROPOSED LOADING AND UNLOADING AREA
300MM (W) U-CHNNEL
FIXABLE DRAIN
BY PUMP
TEMPORARY PEDESTRIAN ROAD
PEDESTRIAN SEGREGATION PATH
Ø500
EXISTING TERMIN MANHOLE (STOR
PROPOSED COLLECTION PIT
FIXABLE DRAIN
BY PUMP
TEMPORARY SITE HAUL ROAD
FIXABLE DRAIN
TEMPORARY PEDESTRIAN ROAD
FIXABLE DRAIN
DSD RESER
500 Channel
TYPE 1
700

Annex C

Construction Programme of the Project

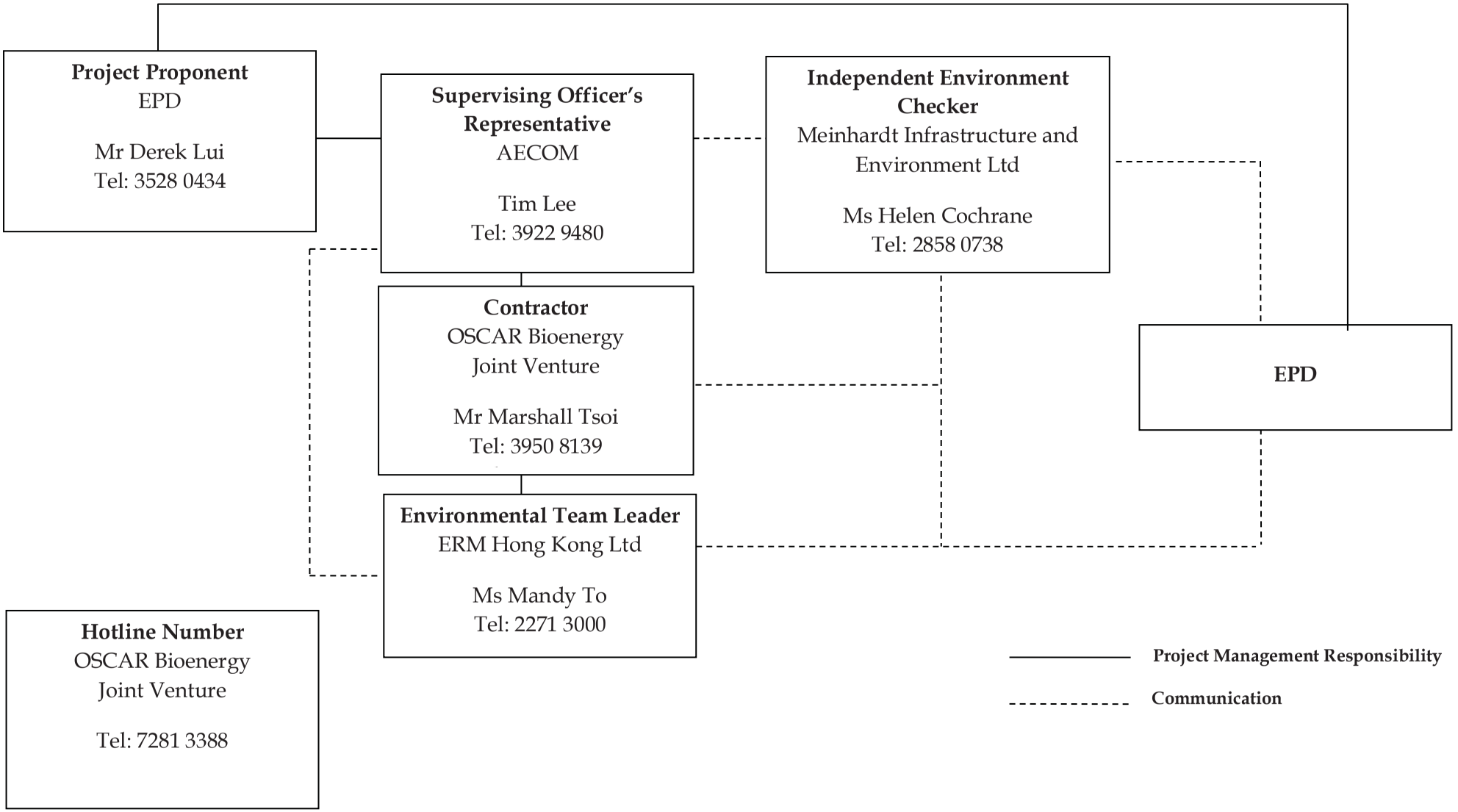
	372	20-Nov-14	23-Feb-16	0	20-Nov-14 A	05-Mar-18 A		-601
n Preparation	80	20-Nov-14	27-Feb-15	0	20-Nov-14 A	01-Sep-15 A	100%	-151
on (DDS) - General, Civil, ABWF and Landscape	289	19-Dec-14	23-Feb-16	0	18-Dec-14 A	27-Nov-17 A	100%	-437
on (DDS) - Building 1	151	21-Apr-15	25-Nov-15	0	13-Apr-15 A	27-Jul-16 A	100%	-164
on (DDS) - Building 2	158	12-Mar-15	30-Oct-15	0	12-Mar-15 A	07-Apr-16 A	100%	-106
on (DDS) - Building 3	103	03-Jun-15	29-Oct-15	0	20-Jul-15 A	30-Mar-16 A	100%	-102
on (DDS) - Auxilliary Buildings & Facilities	177	10-Feb-15	29-Oct-15	0	11-Feb-15 A	08-Aug-16 A	100%	-191
on (DDS) - E&M and BS	216	18-Dec-14	04-Nov-15	0	18-Dec-14 A	05-Mar-18 A	100%	-577
	507	12-Feb-15	02-Jul-16	25	01-Mar-15 A	11-May-18		-678
ing, F.A.T., Shipment & Delivery of E&M Systems	507	12-Feb-15	02-Jul-16	25	01-Mar-15 A	11-May-18	99.94%	-678
	489	13-May-15	31-Dec-16	135	04-May-15 A	26-Sep-18		-513
1 (Waste Receiving, Pre-treatment & Administration)	178	19-Aug-15	23-Mar-16	0	02-Sep-15 A	06-Sep-17 A	100%	-431
2 (Composting & Maturation, and Link Bridge)	262	23-May-15	11-Apr-16	0	16-Jun-15 A	24-Mar-17 A	100%	-285
3 (Energy Centre)	87	30-Oct-15	15-Feb-16	0	24-Mar-16 A	24-Oct-16 A	100%	-205
Buildings & Facilities	263	13-May-15	31-Mar-16	0	04-May-15 A	02-Sep-17 A	100%	-424
ng-out Works to Building #1, #2, #3 and Auxiliary Buildings	259	23-Dec-15	08-Nov-16	21	21-Mar-16 A	11-May-18	97.1%	-443
and Roadworks	326	02-Sep-15	07-Oct-16	34	13-Nov-15 A	28-May-18	98.5%	-482
rks (excl. Lifting Platform)	148	04-Mar-16	06-Oct-16	102	02-Nov-16 A	17-Aug-18	99.4%	-551
ping	129	29-Jul-16	31-Dec-16	135	20-Jan-18 A	26-Sep-18	3%	-513
s Installation	229	04-Feb-16	12-Nov-16	59	11-May-16 A	27-Jun-18		-477
nical	164	04-Feb-16	25-Aug-16	50	11-May-16 A	15-Jun-18	99.6%	-533
	144	24-May-16	12-Nov-16	0	28-Nov-16 A	30-Nov-17 A	100%	-311
cal, Instrumentation & Control	181	02-Apr-16	08-Nov-16	23	28-Sep-16 A	14-May-18	99.9%	-445
tion (excl. EEC)	125	18-Apr-16	14-Sep-16	59	24-Jun-16 A	27-Jun-18	86.9%	-525
ards / MCC with SAT	1	28-Jul-16	28-Jul-16	0	02-Feb-17 A	26-May-17 A	100%	-244
and Completion	232	29-Jul-16	17-Mar-17	193	24-Apr-17 A	27-Oct-18		-588
	144	29-Jul-16	19-Jan-17	81	24-Apr-17 A	06-Jul-18	61.2%	-533
	0			50	11-May-18	29-Jun-18	0%	
Performance & Acceptance Testing	119	22-Oct-16	16-Mar-17	127	23-May-18	26-Sep-18	0%	-559
and the Works including Testing and Commissioning te: 10-Jun-2017 noon)	0		16-Mar-17	0		26-Oct-18	0%	-589
peration	0	17-Mar-17		0	27-Oct-18*		0%	-588



Annex D

Project Organization Chart with Contact Details

Project Organization During Construction Phase (with contact details)



Annex E

Implementation Schedule of Mitigation Measures

Annex E Summary of Mitigation Measures Implementation Schedule

EIA Ref.	EM&A Log Ref.	Environmental Protection Measures	Location/ Timing	Status
Summary of Environmental Mitigation Measures in the EIA and EM&A Manual				
A. Air Quality				
3.73	2.5	<u>*Air Pollution Control (Construction Dust) Regulation & Good Site Practices*</u> • 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	<u>*Construction Phase*</u>	Construction Site / During	√

EIA Ref.	EM&A Log Ref.	Environmental Protection Measures	Location/ Timing	Status
		• The number of workers on site during construction stage should be kept at the same level as the assessment. • 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.	Construction Period	
C. Water Quality				
5.44	4.5	*Construction site run-off and general construction activities:* The mitigation measures as outlined in the ProPECC PN 1/94 Construction Site Drainage should be adopted where applicable.	Construction Site / During Construction Period	<>
5.45	4.5	*Excavation of Soil Materials* 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	Construction Site / During Construction Period	<>

EIA Ref.	EM&A Log Ref.	Environmental Protection Measures	Location/ Timing	Status
		stockpiles should be covered with tarpaulin or impervious sheets at all times. The stockpiles of materials should be 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	*Accidental spillage of chemicals:* 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: • 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		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	√

EIA Ref.	EM&A Log Ref.	Environmental Protection Measures	Location/ Timing	Status
5.51	4.5	*Sewage Effluent* 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.	Work site/During the 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	*Nullah Decking* To minimize the potential water quality impacts from the nullah reconstruction works, the practices outlined below should be adopted where applicable: • 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
D. Waste Management				

EIA Ref.	EM&A Log Ref.	Environmental Protection Measures	Location/ Timing	Status
6.41	5.4	*Good Site Practices* Recommendations for good site practices during the construction phase would include: • 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.	Work Site / During Construction Period	<>
6.42	5.5	*Waste Reduction Measures* 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: • 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	*Excavated and C&D Materials* 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: • A WMP, which becomes part of the Environmental Management Plan (EMP), should be	Work Site/During Design & Construction Period	√

EIA Ref.	EM&A Log Ref.	Environmental Protection Measures	Location/ Timing	Status
		prepared in accordance with ETWB TCW No.19/2005; • 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	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. 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.	Work Site/During Design & Construction Period	√
6.47	5.10	*Chemical Waste* 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.	Work Site / During Construction Period	<>
6.48	5.11	*General Refuse* 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.	Work Site / During Construction Period	√
E. Landscape and Visual				
7.99 &	Table 6.1	*Construction Phase*	Work site/During Design &	√

EIA Ref.	EM&A Log Ref.	Environmental Protection Measures	Location/ Timing	Status
Table 7.7		• Topsoil, where identified, should be stripped and stored for re-use in the construction of the soft landscape works, where practical • 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	Construction Stages	
F. Noise				
8.25	7.3	Good Site Practice: • 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 F

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

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
January 2017	2150.92	503.60	0.00	0.00	1647.32	31240.00	21051.00	3630.00	0.00	127.43
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 (See Note 4)	42.00	0.00	0.00	51.99	11220.00	6200.00	0.00	0.00	59.77
Total	62744.48	7672.28	0	0.00	55166.19	580781.00	378571.3	83600.00	4815	2417.88

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.
(4) In total, 93.99 tonnes of inert C&D material were generated from the Project, of which the 51.99 tonnes were disposed as public fill to Fill Bank at Tuen Mun Area 38 in reporting period and the 42.00 tonnes were reused in this contract.

Annex G

Environmental Complaint, Environmental Summons and Persecution Log

Annex G 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
Overall Total	**0**	**0**

Annex H

Odour Monitoring Result

Annex H1

Odour Patrol Result

6. Appendix

Organic Resources Recovery Centre (Phase 1)

Odour Patrol Record Log Sheet

Parameter	**Observations**
Date	3 July 2018
Start & End Time (24hr)	From 14:03 To 14:27
Type of Patrol	~~Weekly / Monthly / Ac hoc / Follow-up~~ / T&C Period Patrol
Weather Condition	Sunny / (Cloudy) / Windy / Humid / Foggy /
Temperature (℃)	29°C
Relative Humidity (%)	80%
Monitoring Point	1 / 2 / 3 / 4 / 5 / 6 / (7) / 8
Intensity of Odour	~~0 / 1 / 2 / 3 / 4~~ Between 0-1.
Characteristic of Odour	minor smell of foodwaste
Possible Source of Odour	Foodwaste receiving / Possible from pretreatment hall / and opening the Bay 3
Monitoring Point	1 / 2 / 3 / 4 / 5 / 6 / 7 / (8)
Intensity of Odour	(0) / 1 / 2 / 3 / 4
Characteristic of Odour	
Possible Source of Odour	
Monitoring Point	1 / 2 / 3 / 4 / 5 / 6 / 7 / 8
Intensity of Odour	0 / 1 / 2 / 3 / 4
Characteristic of Odour	
Possible Source of Odour	
Monitoring Point	1 / 2 / 3 / 4 / 5 / 6 / 7 / 8
Intensity of Odour	0 / 1 / 2 / 3 / 4
Characteristic of Odour	
Possible Source of Odour	
Monitoring Point	1 / 2 / 3 / 4 / 5 / 6 / 7 / 8
Intensity of Odour	0 / 1 / 2 / 3 / 4
Characteristic of Odour	
Possible Source of Odour	
Monitoring Point	1 / 2 / 3 / 4 / 5 / 6 / 7 / 8
Intensity of Odour	0 / 1 / 2 / 3 / 4
Characteristic of Odour	
Possible Source of Odour	
Follow-up Actions	

	EPD Representative	**Employer Representative**	**Independent Odour Patrol Team**	**OSCAR Bioenergy JV**
Name	Fiona LAM	Patrick Yam		Terence CHAN
Signature	[signature]	[signature]	N/A	[signature]
Date	3/7/2018	03/07/2018		3/7/2018

6. Appendix

Organic Resources Recovery Centre (Phase 1)

Odour Patrol Record Log Sheet

Parameter	Observations
Date	3 July 2018
Start & End Time (24hr)	From 14:03 To 14:27
Type of Patrol	~~Weekly / Monthly / Ad-hoc / Follow-up~~ / T&C Period Patrol
Weather Condition	Sunny / (Cloudy) / Windy / Humid / Foggy /
Temperature (℃)	29°C
Relative Humidity (%)	80%
Monitoring Point	(1) / 2 / 3 / 4 / 5 / 6 / 7 / 8
Intensity of Odour	(0) / 1 / 2 / 3 / 4
Characteristic of Odour	
Possible Source of Odour	
Monitoring Point	1 / (2) / 3 / 4 / 5 / 6 / 7 / 8
Intensity of Odour	(0) / 1 / 2 / 3 / 4
Characteristic of Odour	Smell of Hot air / plastic
Possible Source of Odour	Gas Holder Outlet of PRV
Monitoring Point	1 / 2 / (3) / 4 / 5 / 6 / 7 / 8
Intensity of Odour	(0) / 1 / 2 / 3 / 4
Characteristic of Odour	
Possible Source of Odour	
Monitoring Point	1 / 2 / 3 / (4) / 5 / 6 / 7 / 8
Intensity of Odour	(0) / 1 / 2 / 3 / 4
Characteristic of Odour	
Possible Source of Odour	
Monitoring Point	1 / 2 / 3 / 4 / (5) / 6 / 7 / 8
Intensity of Odour	(0) / 1 / 2 / 3 / 4
Characteristic of Odour	
Possible Source of Odour	
Monitoring Point	1 / 2 / 3 / 4 / 5 / (6) / 7 / 8
Intensity of Odour	(0) / 1 / 2 / 3 / 4
Characteristic of Odour	
Possible Source of Odour	
Follow-up Actions	

	EPD Representative	Employer Representative	Independent Odour Patrol Team	OSCAR Bioenergy JV
Name	FIONA LAM	Patrick Yam		Terence CHAN
Signature	FLAM	P	N/A	Terence
Date	3/7/2018	03/07/2018		3/7/2018

6. Appendix

Organic Resources Recovery Centre (Phase 1)

Odour Patrol Record Log Sheet

Parameter	Observations
Date	4 July 2018
Start & End Time (24hr)	From 11:08 To
Type of Patrol	Weekly / Monthly / Ac hoc / Follow-up /
Weather Condition	Sunny / Cloudy / Windy / Humid / Foggy /
Temperature (°C)	29 °C
Relative Humidity (%)	69 %
Monitoring Point	1 / 2 / 3 / 4 / 5 / 6 / 7 / 8
Intensity of Odour	0 / 1 / 2 / 3 / 4
Characteristic of Odour	
Possible Source of Odour	
Monitoring Point	1 / 2 / 3 / 4 / 5 / 6 / 7 / 8
Intensity of Odour	0 / 1 / 2 / 3 / 4
Characteristic of Odour	PLASTIC
Possible Source of Odour	membrane material.
Monitoring Point	1 / 2 / 3 / 4 / 5 / 6 / 7 / 8
Intensity of Odour	0 / 1 / 2 / 3 / 4
Characteristic of Odour	
Possible Source of Odour	
Monitoring Point	1 / 2 / ~~3~~ / 4 / 5 / 6 / 7 / 8
Intensity of Odour	0 / 1 / 2 / 3 / 4
Characteristic of Odour	
Possible Source of Odour	
Monitoring Point	1 / 2 / 3 / 4 / 5 / 6 / 7 / 8
Intensity of Odour	0 / 1 / 2 / 3 / 4
Characteristic of Odour	
Possible Source of Odour	
Monitoring Point	1 / 2 / 3 / 4 / 5 / 6 / 7 / 8
Intensity of Odour	0 / 1 / 2 / 3 / 4
Characteristic of Odour	
Possible Source of Odour	
Follow-up Actions	

	EPD Representative	Employer Representative	Independent Odour Patrol Team	OSCAR Bioenergy JV
Name	FIONA LAM	Patrick Yan		FRANCO WONG
Signature				
Date	4/7/2018	04/07/2018		4 Jul. 2018

7 B
0 0

6. Appendix

Organic Resources Recovery Centre (Phase 1)

Odour Patrol Record Log Sheet

Parameter	Observations
Date	6 July 2018
Start & End Time (24hr)	From 15:17 To 15:33
Type of Patrol	~~Weekly / Monthly / Ac hoc / Follow-up~~ / T&C Period Patrol
Weather Condition	(Sunny) / Cloudy / Windy / Humid / Foggy /
Temperature (℃)	24°C
Relative Humidity (%)	80%
Monitoring Point	(1) / 2 / 3 / 4 / 5 / 6 / 7 / 8
Intensity of Odour	(0) / 1 / 2 / 3 / 4
Characteristic of Odour	
Possible Source of Odour	
Monitoring Point	1 / (2) / 3 / 4 / 5 / 6 / 7 / 8
Intensity of Odour	~~0 / 1 / 2 / 3 / 4~~ Betwee 0–1
Characteristic of Odour	Smell of Hot plastic.
Possible Source of Odour	Outlet of PRV
Monitoring Point	1 / 2 / (3) / 4 / 5 / 6 / 7 / 8
Intensity of Odour	(0) / 1 / 2 / 3 / 4
Characteristic of Odour	
Possible Source of Odour	
Monitoring Point	1 / 2 / 3 / (4) / 5 / 6 / 7 / 8
Intensity of Odour	(0) / 1 / 2 / 3 / 4
Characteristic of Odour	
Possible Source of Odour	
Monitoring Point	1 / 2 / 3 / 4 / (5) / 6 / 7 / 8
Intensity of Odour	(0) / 1 / 2 / 3 / 4
Characteristic of Odour	
Possible Source of Odour	
Monitoring Point	1 / 2 / 3 / 4 / 5 / (6) / 7 / 8
Intensity of Odour	(0) / 1 / 2 / 3 / 4
Characteristic of Odour	
Possible Source of Odour	
Follow-up Actions	

Point 7:
Between 1–2
Smell of food waste
Door opening [illegible]
Point 8:
0

Extra monitor Point:
- Near Contractor office Emergency Exit Door
- Between 1–2
- Doors open
- Smell from Retreat system.

	EPD Representative	Employer Representative	Independent Odour Patrol Team	OSCAR Bioenergy JV
Name	Daniel Choi	Patrick Yim		Terence CHAN
Signature	[signature]	[signature]	N/A	[signature]
Date	6.7.2018	06/07/2018		6/7/2018

6. Appendix

Organic Resources Recovery Centre (Phase 1)

Odour Patrol Record Log Sheet

Parameter	Observations
Date	10 July 2018
Start & End Time (24hr)	From 14:10 To 14:44
Type of Patrol	~~Weekly / Monthly / Ac hoc / Follow-up~~ / T&C Period Patrol
Weather Condition	(Sunny) / Cloudy / Windy / Humid / Foggy /
Temperature (℃)	33°C
Relative Humidity (%)	70%
Monitoring Point	(1) / 2 / 3 / 4 / 5 / 6 / 7 / 8
Intensity of Odour	(0) / 1 / 2 / 3 / 4
Characteristic of Odour	
Possible Source of Odour	
Monitoring Point	1 / (2) / 3 / 4 / 5 / 6 / 7 / 8
Intensity of Odour	~~0 / 1 / 2 / 3 / 4~~ 0-1
Characteristic of Odour	Smell of Hot Plastic
Possible Source of Odour	PRV of Gas Holder
Monitoring Point	1 / 2 / (3) / 4 / 5 / 6 / 7 / 8
Intensity of Odour	(0) / 1 / 2 / 3 / 4
Characteristic of Odour	
Possible Source of Odour	
Monitoring Point	1 / 2 / 3 / (4) / 5 / 6 / 7 / 8
Intensity of Odour	(0) / 1 / 2 / 3 / 4
Characteristic of Odour	
Possible Source of Odour	
Monitoring Point	1 / 2 / 3 / 4 / (5) / 6 / 7 / 8
Intensity of Odour	(0) / 1 / 2 / 3 / 4
Characteristic of Odour	
Possible Source of Odour	
Monitoring Point	1 / 2 / 3 / 4 / 5 / (6) / 7 / 8
Intensity of Odour	(0) / 1 / 2 / 3 / 4
Characteristic of Odour	
Possible Source of Odour	
Follow-up Actions	

Note 1: 4 Doors Between 6-7
0 – 1
Smell from Pretreatment Food waste

Point 7: 0

Point 8: 0

Note 2: Front Door of ORRC Car Park: Smell of waste / food waste.

	EPD Representative	Employer Representative	Independent Odour Patrol Team	OSCAR Bioenergy JV
Name	Teresa Ng	Patrick Yun		Terence CHAN
Signature	[signature]	[signature]	N/A	[signature]
Date	10.7.2018	10/7/18		10/7/2018

Note 1 & 2: Not the monitoring Points.

6. Appendix

Organic Resources Recovery Centre (Phase 1)

Odour Patrol Record Log Sheet

Parameter	Observations
Date	12 July 2018
Start & End Time (24hr)	From 14:08 To 14:36
Type of Patrol	~~Weekly / Monthly / Ac hoc / Follow-up~~ / T&C Period Patrol
Weather Condition	(Sunny) / Cloudy / Windy / Humid / Foggy /
Temperature (℃)	34°C
Relative Humidity (%)	67%
Monitoring Point	1 / (2) / 3 / 4 / 5 / 6 / 7 / 8
Intensity of Odour	~~0 / 1 / 2 / 3 / 4~~ Between 0-1
Characteristic of Odour	Smell of Hot Plastic
Possible Source of Odour	PRV of Biogas.
Monitoring Point	1 / 2 / (3) / 4 / 5 / 6 / 7 / 8
Intensity of Odour	(0) / 1 / 2 / 3 / 4
Characteristic of Odour	
Possible Source of Odour	
Monitoring Point	1 / 2 / 3 / (4) / 5 / 6 / 7 / 8
Intensity of Odour	(0) / 1 / 2 / 3 / 4
Characteristic of Odour	
Possible Source of Odour	
Monitoring Point	1 / 2 / 3 / 4 / 5 / (6) / 7 / 8
Intensity of Odour	(0) / 1 / 2 / 3 / 4
Characteristic of Odour	
Possible Source of Odour	
Monitoring Point	1 / 2 / 3 / 4 / 5 / 6 / (7) / 8
Intensity of Odour	(0) / 1 / 2 / 3 / 4
Characteristic of Odour	
Possible Source of Odour	
Monitoring Point	1 / 2 / 3 / 4 / 5 / 6 / 7 / (8)
Intensity of Odour	(0) / 1 / 2 / 3 / 4
Characteristic of Odour	
Possible Source of Odour	
~~Follow-up Actions~~ Remarks:	

- Between 6-7 / outside contractor office / Near Emergency exit → No odour detected
- Outside main Door / Car Park → Smell of from pretreatment.

	EPD Representative	Employer Representative	Independent Odour Patrol Team	OSCAR Bioenergy JV
Name	FIONA LAM	Patrick Yim		Terence CHAN
Signature	[signature]	[signature]	N/A	[signature]
Date	12/7/2018	12/07/18		12/7/2018

6. Appendix

Organic Resources Recovery Centre (Phase 1)

Odour Patrol Record Log Sheet

Parameter	Observations
Date	13 July 2018
Start & End Time (24hr)	~~From~~ ~~To~~ N/A
Type of Patrol	~~Weekly / Monthly / Ac hoc / Follow-up~~ / T&C Period Patrol
Weather Condition	~~Sunny / Cloudy / Windy / Humid / Foggy~~ / Rainy
Temperature (℃)	
Relative Humidity (%)	
Monitoring Point	1 / 2 / 3 / 4 / 5 / 6 / 7 / 8
Intensity of Odour	0 / 1 / 2 / 3 / 4
Characteristic of Odour	
Possible Source of Odour	
Monitoring Point	1 / 2 / 3 / 4 / 5 / 6 / 7 / 8
Intensity of Odour	0 / 1 / 2 / 3 / 4
Characteristic of Odour	
Possible Source of Odour	
Monitoring Point	1 / 2 / 3 / 4 / 5 / 6 / 7 / 8
Intensity of Odour	0 / 1 / 2 / 3 / 4
Characteristic of Odour	
Possible Source of Odour	
Monitoring Point	1 / 2 / 3 / 4 / 5 / 6 / 7 / 8
Intensity of Odour	0 / 1 / 2 / 3 / 4
Characteristic of Odour	
Possible Source of Odour	
Monitoring Point	1 / 2 / 3 / 4 / 5 / 6 / 7 / 8
Intensity of Odour	0 / 1 / 2 / 3 / 4
Characteristic of Odour	
Possible Source of Odour	
Monitoring Point	1 / 2 / 3 / 4 / 5 / 6 / 7 / 8
Intensity of Odour	0 / 1 / 2 / 3 / 4
Characteristic of Odour	
Possible Source of Odour	

~~Follow-up Actions~~ Remark:

The patrol was cancelled due to the rainy weather

	EPD Representative	Employer Representative	Independent Odour Patrol Team	OSCAR Bioenergy JV
Name	FIONA LAM	Patrick Yim		Terence CHAN
Signature	Fiona	[signature]	N/A	Terence
Date	13/7/2018	13/7/18		13/7/2018

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Organic Resources Recovery Centre (Phase 1)

Odour Patrol Record Log Sheet

Parameter	Observations
Date	16 July 2018
Start & End Time (24hr)	From 11:03 To 11:16
Type of Patrol	~~Weekly / Monthly / Ac hoc / Follow-up~~ / T&C Period Patrol
Weather Condition	Sunny / Cloudy / Windy / Humid / Foggy /
Temperature (℃)	32°C
Relative Humidity (%)	74%
Monitoring Point	1 / (2) / 3 / 4 / 5 / 6 / 7 / 8
Intensity of Odour	~~0 / 1 / 2 / 3 / 4~~ Between 0-1
Characteristic of Odour	Smell of Hot Plastic
Possible Source of Odour	PSV of Gas Holder
Monitoring Point	1 / 2 / (3) / 4 / 5 / 6 / 7 / 8
Intensity of Odour	(0) / 1 / 2 / 3 / 4
Characteristic of Odour	
Possible Source of Odour	
Monitoring Point	1 / 2 / 3 / (4) / 5 / 6 / 7 / 8
Intensity of Odour	(0) / 1 / 2 / 3 / 4
Characteristic of Odour	
Possible Source of Odour	
Monitoring Point	1 / 2 / 3 / 4 / (5) / 6 / 7 / 8
Intensity of Odour	(0) / 1 / 2 / 3 / 4
Characteristic of Odour	
Possible Source of Odour	
Monitoring Point	1 / 2 / 3 / 4 / 5 / 6 / (7) / 8
Intensity of Odour	(0) / 1 / 2 / 3 / 4
Characteristic of Odour	
Possible Source of Odour	
Monitoring Point	1 / 2 / 3 / 4 / 5 / 6 / 7 / (8)
Intensity of Odour	(0) / 1 / 2 / 3 / 4
Characteristic of Odour	
Possible Source of Odour	
~~**Follow-up Actions**~~ Remark:	

	EPD Representative	Employer Representative	Independent Odour Patrol Team	OSCAR Bioenergy JV
Name	Teresa Ng	Patrick Yun		Terence CHAN
Signature			N/A	
Date	16/7/2018	16/07/18		16/7/2018

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Organic Resources Recovery Centre (Phase 1)

Odour Patrol Record Log Sheet

Parameter	Observations
Date	18 July 2018
Start & End Time (24hr)	From 15:30 To 15:47
Type of Patrol	~~Weekly / Monthly / Ac hoc / Follow-up~~ / T&C Period Patrol
Weather Condition	Sunny / (Cloudy) / Windy / Humid / Foggy /
Temperature (℃)	31°C
Relative Humidity (%)	75%
Monitoring Point	1 / (2) / 3 / 4 / 5 / 6 / 7 / 8
Intensity of Odour	0 / (1) / 2 / 3 / 4
Characteristic of Odour	Smell of hot Plastic
Possible Source of Odour	PRV of Biogas Holder
Monitoring Point	1 / 2 / (3) / 4 / 5 / 6 / 7 / 8
Intensity of Odour	(0) / 1 / 2 / 3 / 4
Characteristic of Odour	
Possible Source of Odour	
Monitoring Point	1 / 2 / 3 / (4) / 5 / 6 / 7 / 8
Intensity of Odour	(0) / 1 / 2 / 3 / 4
Characteristic of Odour	
Possible Source of Odour	
Monitoring Point	1 / 2 / 3 / 4 / 5 / (6) / 7 / 8
Intensity of Odour	(0) / 1 / 2 / 3 / 4
Characteristic of Odour	
Possible Source of Odour	
Monitoring Point	1 / 2 / 3 / 4 / 5 / 6 / (7) / 8
Intensity of Odour	(0) / 1 / 2 / 3 / 4
Characteristic of Odour	
Possible Source of Odour	
Monitoring Point	1 / 2 / 3 / 4 / 5 / 6 / 7 / (8)
Intensity of Odour	(0) / 1 / 2 / 3 / 4
Characteristic of Odour	
Possible Source of Odour	
Follow-up Actions	

	EPD Representative	Employer Representative	Independent Odour Patrol Team	OSCAR Bioenergy JV
Name	FIONA LAM	Patrick Yam		Terence CHAN
Signature			N/A	
Date	18/7/2018	18/7/18		18/7/2018

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Organic Resources Recovery Centre (Phase 1)

Odour Patrol Record Log Sheet

Parameter	Observations
Date	20 July 2018
Start & End Time (24hr)	From 15:05 To 15:23
Type of Patrol	~~Weekly / Monthly / Ac hoc / Follow-up~~ / T&C Period Patrol
Weather Condition	Sunny / Cloudy / Windy / Humid / Foggy /
Temperature (℃)	33°C
Relative Humidity (%)	76%
Monitoring Point	(1) / 2 / 3 / 4 / 5 / 6 / 7 / 8
Intensity of Odour	(0) / 1 / 2 / 3 / 4
Characteristic of Odour	
Possible Source of Odour	
Monitoring Point	1 / (2) / 3 / 4 / 5 / 6 / 7 / 8
Intensity of Odour	~~0 / 1 / 2 / 3 / 4~~ Between 0-1
Characteristic of Odour	Hot Plastic Smell
Possible Source of Odour	PSV of Gas Holder
Monitoring Point	1 / 2 / (3) / 4 / 5 / 6 / 7 / 8
Intensity of Odour	(0) / 1 / 2 / 3 / 4
Characteristic of Odour	
Possible Source of Odour	
Monitoring Point	1 / 2 / 3 / (4) / 5 / 6 / 7 / 8
Intensity of Odour	(0) / 1 / 2 / 3 / 4
Characteristic of Odour	
Possible Source of Odour	
Monitoring Point	1 / 2 / 3 / 4 / (5) / 6 / 7 / 8
Intensity of Odour	(0) / 1 / 2 / 3 / 4
Characteristic of Odour	
Possible Source of Odour	
Monitoring Point	1 / 2 / 3 / 4 / 5 / (6) / 7 / 8
Intensity of Odour	(0) / 1 / 2 / 3 / 4
Characteristic of Odour	
Possible Source of Odour	
~~Follow-up Actions~~	Remark.

- Between Pont 4-5, Exhaust ~~fan~~ Louver / Window next to polymer storage tank., smell of digestate.
- In front of main lobby, car park, Smell of food waste.,

	EPD Representative	Employer Representative	Independent Odour Patrol Team	OSCAR Bioenergy JV
Name	Daniel Chen	Patrick Yau		Terence CHAN
Signature			N/A	
Date	20.7.2018	20/7/2018		20/7/2018

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Organic Resources Recovery Centre (Phase 1)

Odour Patrol Record Log Sheet

Parameter	Observations
Date	20 July 2018
Start & End Time (24hr)	From 15:05 To 15:23
Type of Patrol	~~Weekly / Monthly / Ac hoc / Follow-up~~ / T&C Period Patrol
Weather Condition	(Sunny) / Cloudy / Windy / Humid / Foggy /
Temperature (℃)	33
Relative Humidity (%)	76%
Monitoring Point	1 / 2 / 3 / 4 / 5 / 6 / (7) / 8
Intensity of Odour	(0) / 1 / 2 / 3 / 4
Characteristic of Odour	
Possible Source of Odour	
Monitoring Point	1 / 2 / 3 / 4 / 5 / 6 / 7 / (8)
Intensity of Odour	(0) / 1 / 2 / 3 / 4
Characteristic of Odour	
Possible Source of Odour	
Monitoring Point	1 / 2 / 3 / 4 / 5 / 6 / 7 / 8
Intensity of Odour	0 / 1 / 2 / 3 / 4
Characteristic of Odour	
Possible Source of Odour	
Monitoring Point	1 / 2 / 3 / 4 / 5 / 6 / 7 / 8
Intensity of Odour	0 / 1 / 2 / 3 / 4
Characteristic of Odour	
Possible Source of Odour	
Monitoring Point	1 / 2 / 3 / 4 / 5 / 6 / 7 / 8
Intensity of Odour	0 / 1 / 2 / 3 / 4
Characteristic of Odour	
Possible Source of Odour	
Monitoring Point	1 / 2 / 3 / 4 / 5 / 6 / 7 / 8
Intensity of Odour	0 / 1 / 2 / 3 / 4
Characteristic of Odour	
Possible Source of Odour	
~~Follow-up Actions~~	

	EPD Representative	Employer Representative	Independent Odour Patrol Team	OSCAR Bioenergy JV
Name	Dennie Choi	Patrick Yim		Terence CHAN
Signature	[signature]	[signature]	N/A	[signature]
Date	20.7.2018	20/07/18		20/7/2018

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Organic Resources Recovery Centre (Phase 1)

Odour Patrol Record Log Sheet

Parameter	Observations
Date	23 July 2018
Start & End Time (24hr)	From 14:03 To 14:24
Type of Patrol	~~Weekly / Monthly / Ac hoc / Follow-up~~ / T&C Period Patrol
Weather Condition	Sunny / (Cloudy) / Windy / Humid / Foggy /
Temperature (℃)	32°C
Relative Humidity (%)	87%
Monitoring Point	(1) / 2 / 3 / 4 / 5 / 6 / 7 / 8
Intensity of Odour	(0) / 1 / 2 / 3 / 4
Characteristic of Odour	Hot odor, Smell of running engine
Possible Source of Odour	CHP running
Monitoring Point	1 / (2) / 3 / 4 / 5 / 6 / 7 / 8
Intensity of Odour	0 / (1) / 2 / 3 / 4
Characteristic of Odour	Hot plastic smell
Possible Source of Odour	PSV of biogas Holder
Monitoring Point	1 / 2 / (3) / 4 / 5 / 6 / 7 / 8
Intensity of Odour	(0) / 1 / 2 / 3 / 4
Characteristic of Odour	
Possible Source of Odour	
Monitoring Point	1 / 2 / 3 / (4) / 5 / 6 / 7 / 8
Intensity of Odour	(0) / 1 / 2 / 3 / 4
Characteristic of Odour	
Possible Source of Odour	
Monitoring Point	1 / 2 / 3 / 4 / (5) / 6 / 7 / 8
Intensity of Odour	(0) / 1 / 2 / 3 / 4
Characteristic of Odour	
Possible Source of Odour	
Monitoring Point	1 / 2 / 3 / 4 / 5 / (6) / 7 / 8
Intensity of Odour	(0) / 1 / 2 / 3 / 4
Characteristic of Odour	
Possible Source of Odour	
~~**Follow-up Actions**~~ Remarks	

- Lower next to polymer storage tank at Bld 2., Smell of digestate
- Car Park, main Lobby of bld 1, smell of food waste.

	EPD Representative	Employer Representative	Independent Odour Patrol Team	OSCAR Bioenergy JV
Name	Teresa Ng	Patrick Yim		Terence CHAN
Signature			NA	
Date	23/7/2018	23/07/18		23/7/2018

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Organic Resources Recovery Centre (Phase 1)

Odour Patrol Record Log Sheet

Parameter	Observations
Date	23 July 2018
Start & End Time (24hr)	From 14:03 To 14:24
Type of Patrol	~~Weekly / Monthly / Ac hoc / Follow-up~~ / T&C Period Patrol
Weather Condition	Sunny / (Cloudy) / Windy / Humid / Foggy /
Temperature (℃)	32°C
Relative Humidity (%)	87%
Monitoring Point	1 / 2 / 3 / 4 / 5 / 6 / (7) / 8
Intensity of Odour	(0) / 1 / 2 / 3 / 4
Characteristic of Odour	
Possible Source of Odour	
Monitoring Point	1 / 2 / 3 / 4 / 5 / 6 / 7 / (8)
Intensity of Odour	(0) / 1 / 2 / 3 / 4
Characteristic of Odour	
Possible Source of Odour	
Monitoring Point	1 / 2 / 3 / 4 / 5 / 6 / 7 / 8
Intensity of Odour	0 / 1 / 2 / 3 / 4
Characteristic of Odour	
Possible Source of Odour	
Monitoring Point	1 / 2 / 3 / 4 / 5 / 6 / 7 / 8
Intensity of Odour	0 / 1 / 2 / 3 / 4
Characteristic of Odour	
Possible Source of Odour	
Monitoring Point	1 / 2 / 3 / 4 / 5 / 6 / 7 / 8
Intensity of Odour	0 / 1 / 2 / 3 / 4
Characteristic of Odour	
Possible Source of Odour	
Monitoring Point	1 / 2 / 3 / 4 / 5 / 6 / 7 / 8
Intensity of Odour	0 / 1 / 2 / 3 / 4
Characteristic of Odour	
Possible Source of Odour	
Follow-up Actions	

	EPD Representative	Employer Representative	Independent Odour Patrol Team	OSCAR Bioenergy JV
Name	Teresa Ng	Patrick Jim		Terence CHAN
Signature	[signature]	[signature]	NA	[signature]
Date	23/7/2018	23/07/18		23/7/2018

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Organic Resources Recovery Centre (Phase 1)

Odour Patrol Record Log Sheet

Parameter	Observations
Date	25 July 2018
Start & End Time (24hr)	From 14:07 To 14:35
Type of Patrol	~~Weekly / Monthly / Ac hoc / Follow-up~~ / T&C Period Patrol
Weather Condition	**Sunny** / Cloudy / Windy / Humid / Foggy /
Temperature (℃)	33°C
Relative Humidity (%)	73%
Monitoring Point	**1** / 2 / 3 / 4 / 5 / 6 / 7 / 8
Intensity of Odour	**0** / 1 / 2 / 3 / 4
Characteristic of Odour	
Possible Source of Odour	
Monitoring Point	1 / **2** / 3 / 4 / 5 / 6 / 7 / 8
Intensity of Odour	~~0 / 1 / 2 / 3 / 4~~ Between 0-1
Characteristic of Odour	Hot plastic smell
Possible Source of Odour	PRV of Biogas Holder
Monitoring Point	1 / 2 / **3** / 4 / 5 / 6 / 7 / 8
Intensity of Odour	**0** / 1 / 2 / 3 / 4
Characteristic of Odour	
Possible Source of Odour	
Monitoring Point	1 / 2 / 3 / **4** / 5 / 6 / 7 / 8
Intensity of Odour	**0** / 1 / 2 / 3 / 4
Characteristic of Odour	
Possible Source of Odour	
Monitoring Point	1 / 2 / 3 / 4 / **5** / 6 / 7 / 8
Intensity of Odour	**0** / 1 / 2 / 3 / 4
Characteristic of Odour	
Possible Source of Odour	
Monitoring Point	1 / 2 / 3 / 4 / 5 / **6** / 7 / 8
Intensity of Odour	**0** / 1 / 2 / 3 / 4
Characteristic of Odour	
Possible Source of Odour	

~~Follow-up Actions~~ Remarks:
- Louver next to polymer storage tank at building 2, smell of digestate
- outside contractor office, Emergency exit, some smell of foodwaste, intermittent.

	EPD Representative	Employer Representative	Independent Odour Patrol Team	OSCAR Bioenergy JV
Name	FIONA LAM	Patrick Yim		Terence CHAN
Signature	[signature]	[signature]	N/A	[signature]
Date	25/7/2018	25/7/18		25/7/2018

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Organic Resources Recovery Centre (Phase 1)

Odour Patrol Record Log Sheet

Parameter	Observations
Date	25 July 2018
Start & End Time (24hr)	From 14:07 To 14:35
Type of Patrol	~~Weekly / Monthly / Ac hoc / Follow-up~~ / T&C Period Patrol
Weather Condition	(Sunny) / Cloudy / Windy / Humid / Foggy /
Temperature (℃)	33°C
Relative Humidity (%)	73%
Monitoring Point	1 / 2 / 3 / 4 / 5 / 6 / (7) / 8
Intensity of Odour	(0) / 1 / 2 / 3 / 4
Characteristic of Odour	Intermittent smell of food waste
Possible Source of Odour	
Monitoring Point	1 / 2 / 3 / 4 / 5 / 6 / 7 / (8)
Intensity of Odour	(0) / 1 / 2 / 3 / 4
Characteristic of Odour	
Possible Source of Odour	
Monitoring Point	1 / 2 / 3 / 4 / 5 / 6 / 7 / 8
Intensity of Odour	0 / 1 / 2 / 3 / 4
Characteristic of Odour	
Possible Source of Odour	
Monitoring Point	1 / 2 / 3 / 4 / 5 / 6 / 7 / 8
Intensity of Odour	0 / 1 / 2 / 3 / 4
Characteristic of Odour	
Possible Source of Odour	
Monitoring Point	1 / 2 / 3 / 4 / 5 / 6 / 7 / 8
Intensity of Odour	0 / 1 / 2 / 3 / 4
Characteristic of Odour	
Possible Source of Odour	
Monitoring Point	1 / 2 / 3 / 4 / 5 / 6 / 7 / 8
Intensity of Odour	0 / 1 / 2 / 3 / 4
Characteristic of Odour	
Possible Source of Odour	

~~Follow-up Actions~~ Remarks:

– Outside main Lobby, car park, smell of ~~digest~~ food waste, intermittent smell

	EPD Representative	Employer Representative	Independent Odour Patrol Team	OSCAR Bioenergy JV
Name	FIONA LAM	Patrick Lam		Terence CHAN
Signature	Fiona	[signature]	NA	[signature]
Date	25/7/2018	25/7/18		25/7/2018

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Organic Resources Recovery Centre (Phase 1)

Odour Patrol Record Log Sheet

Parameter	Observations
Date	27 July 2018
Start & End Time (24hr)	From 17:57 To 18:21
Type of Patrol	~~Weekly / Monthly / Ac hoc / Follow-up~~ / T&C Period Patrol
Weather Condition	(Sunny) / Cloudy / Windy / Humid / Foggy /
Temperature (℃)	~30°C
Relative Humidity (%)	~77%
Monitoring Point	(1) / 2 / 3 / 4 / 5 / 6 / 7 / 8
Intensity of Odour	0 / (1) / 2 / 3 / 4
Characteristic of Odour	垃圾 味
Possible Source of Odour	outside the facility.
Monitoring Point	1 / (2) / 3 / 4 / 5 / 6 / 7 / 8
Intensity of Odour	0 / (1) / 2 / 3 / 4
Characteristic of Odour	plastic
Possible Source of Odour	Biogas Holder Relief valve
Monitoring Point	1 / 2 / (3) / 4 / 5 / 6 / 7 / 8
Intensity of Odour	(0) / 1 / 2 / 3 / 4
Characteristic of Odour	
Possible Source of Odour	
Monitoring Point	1 / 2 / 3 / (4) / 5 / 6 / 7 / 8
Intensity of Odour	(0) / 1 / 2 / 3 / 4
Characteristic of Odour	
Possible Source of Odour	
Monitoring Point	1 / 2 / 3 / 4 / (5) / 6 / 7 / 8
Intensity of Odour	0 / (1) / 2 / 3 / 4
Characteristic of Odour	up st from wood
Possible Source of Odour	Process hall
Monitoring Point	1 / 2 / 3 / 4 / 5 / (6) / 7 / 8
Intensity of Odour	(0) / 1 / 2 / 3 / 4
Characteristic of Odour	
Possible Source of Odour	
~~**Follow-up Actions**~~ Remarks	
No extra monitoring points measured.	

* This log is only a copy record. Detail shall refer to the patrol report of ALS.

	EPD Representative	Employer Representative	Independent Odour Patrol Team	OSCAR Bioenergy JV
Name		Philip Cheung	PAN YUEN Tsz Kin	Terence CHAN
Signature	N/A			
Date		27/7/2018	27/7/2018	27/7/2018

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Organic Resources Recovery Centre (Phase 1)

Odour Patrol Record Log Sheet

Parameter	Observations
Date	27 July 2018
Start & End Time (24hr)	From 17:57 To 18:21
Type of Patrol	~~Weekly / Monthly / Ac hoc / Follow-up~~ / T&C Period Patrol
Weather Condition	(Sunny) / Cloudy / Windy / Humid / Foggy /
Temperature (℃)	~30℃
Relative Humidity (%)	~77%
Monitoring Point	1 / 2 / 3 / 4 / 5 / 6 / (7) / 8
Intensity of Odour	(0) / 1 / 2 / 3 / 4
Characteristic of Odour	
Possible Source of Odour	
Monitoring Point	1 / 2 / 3 / 4 / 5 / 6 / 7 / (8)
Intensity of Odour	(0) / 1 / 2 / 3 / 4
Characteristic of Odour	
Possible Source of Odour	
Monitoring Point	1 / 2 / 3 / 4 / 5 / 6 / 7 / 8
Intensity of Odour	0 / 1 / 2 / 3 / 4
Characteristic of Odour	
Possible Source of Odour	
Monitoring Point	1 / 2 / 3 / 4 / 5 / 6 / 7 / 8
Intensity of Odour	0 / 1 / 2 / 3 / 4
Characteristic of Odour	
Possible Source of Odour	
Monitoring Point	1 / 2 / 3 / 4 / 5 / 6 / 7 / 8
Intensity of Odour	0 / 1 / 2 / 3 / 4
Characteristic of Odour	
Possible Source of Odour	
Monitoring Point	1 / 2 / 3 / 4 / 5 / 6 / 7 / 8
Intensity of Odour	0 / 1 / 2 / 3 / 4
Characteristic of Odour	
Possible Source of Odour	
~~**Follow-up Actions**~~ Remarks	

No extra monitory points measured.

* This log is only a copy record. Detail shall refer to the patrol report from ALS

	EPD Representative	**Employer Representative**	**Independent Odour Patrol Team**	**OSCAR Bioenergy JV**
Name		Philip Chung	PAN YUEN Tszkin Ho	Terence CHAN
Signature	N/A	[signature]	[signature]	[signature]
Date	~~27/7/2018~~	27/7/2018	27/7/2018	27/7/2018

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6. Appendix

Organic Resources Recovery Centre (Phase 1)

Odour Patrol Record Log Sheet

Parameter	Observations
Date	27 July 2018
Start & End Time (24hr)	From 10:11 To 10:56
Type of Patrol	~~Weekly / Monthly / Ac hoc / Follow-up~~ / T&C Period Patrol
Weather Condition	(Sunny) / Cloudy / Windy / Humid / Foggy /
Temperature (℃)	32°C
Relative Humidity (%)	73%
Monitoring Point	(1) / 2 / 3 / 4 / 5 / 6 / 7 / 8
Intensity of Odour	(0) / 1 / 2 / 3 / 4
Characteristic of Odour	~~Plastic~~ Tar
Possible Source of Odour	
Monitoring Point	1 / (2) / 3 / 4 / 5 / 6 / 7 / 8
Intensity of Odour	0 / (1) / 2 / 3 / 4
Characteristic of Odour	Plastic
Possible Source of Odour	Biogas holder Relief valves
Monitoring Point	1 / 2 / (3) / 4 / 5 / 6 / 7 / 8
Intensity of Odour	(0) / 1 / 2 / 3 / 4
Characteristic of Odour	
Possible Source of Odour	
Monitoring Point	1 / 2 / 3 / (4) / 5 / 6 / 7 / 8
Intensity of Odour	(0) / 1 / 2 / 3 / 4
Characteristic of Odour	
Possible Source of Odour	
Monitoring Point	1 / 2 / 3 / 4 / (5) / 6 / 7 / 8
Intensity of Odour	~~0 / 1 / 2 / 3 / 4~~ 0.81
Characteristic of Odour	Vegetable.
Possible Source of Odour	Vegetable
Monitoring Point	1 / 2 / 3 / 4 / 5 / (6) / 7 / 8
Intensity of Odour	(0) / 1 / 2 / 3 / 4
Characteristic of Odour	
Possible Source of Odour	
~~**Follow-up Actions**~~ Remarks.	
No extra monitoring points measures.	

* This log is just a copy record of External Odour Patrol. Detail shall refer to External Record from ALS.

	EPD Representative	Employer Representative	Independent Odour Patrol Team	OSCAR Bioenergy JV
Name		Patrick Yim	PAN YUEN Tsz Kin Ho	Terence CHAN
Signature	Tess CHAN			
Date	27/7/2018	27/7/2018	27/7/2018	27/7/2018

Page 1 of 2

6. Appendix

Organic Resources Recovery Centre (Phase 1)

Odour Patrol Record Log Sheet

Parameter	Observations
Date	27 July 2018
Start & End Time (24hr)	From 10:11 To 10:56
Type of Patrol	~~Weekly / Monthly / Ac hoc / Follow-up~~ / T&C Period Patrol
Weather Condition	(Sunny) / Cloudy / Windy / Humid / Foggy /
Temperature (℃)	32°C
Relative Humidity (%)	73%
Monitoring Point	1 / 2 / 3 / 4 / 5 / 6 / (7) / 8
Intensity of Odour	~~0 / 1 / 2 / 3 / 4~~ 0.81
Characteristic of Odour	Refuse
Possible Source of Odour	Waste track / Building 1
Monitoring Point	1 / 2 / 3 / 4 / 5 / 6 / 7 / (8)
Intensity of Odour	(0) / 1 / 2 / 3 / 4
Characteristic of Odour	
Possible Source of Odour	
Monitoring Point	1 / 2 / 3 / 4 / 5 / 6 / 7 / 8
Intensity of Odour	0 / 1 / 2 / 3 / 4
Characteristic of Odour	
Possible Source of Odour	
Monitoring Point	1 / 2 / 3 / 4 / 5 / 6 / 7 / 8
Intensity of Odour	0 / 1 / 2 / 3 / 4
Characteristic of Odour	
Possible Source of Odour	
Monitoring Point	1 / 2 / 3 / 4 / 5 / 6 / 7 / 8
Intensity of Odour	0 / 1 / 2 / 3 / 4
Characteristic of Odour	
Possible Source of Odour	
Monitoring Point	1 / 2 / 3 / 4 / 5 / 6 / 7 / 8
Intensity of Odour	0 / 1 / 2 / 3 / 4
Characteristic of Odour	
Possible Source of Odour	
~~Follow-up Actions~~ Remarks	

No extra monitoring points measure

* This log is just a copy record of External odour Patrol. Detail shall refer to External Record from ALS.

	EPD Representative	Employer Representative	Independent Odour Patrol Team	OSCAR Bioenergy JV
Name	TESS CHAN	Patrick Yuen	PAN YUEN Tsz-kin HO	Terence CHAN
Signature	(signed)	(signed)	(signed)	(signed)
Date	27/7/2018	27/7/2018	27/7/2018	27/7/2018

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6. Appendix

Organic Resources Recovery Centre (Phase 1)

Odour Patrol Record Log Sheet

Parameter	Observations
Date	30 July 2018
Start & End Time (24hr)	From 14:10 To 14:45
Type of Patrol	~~Weekly / Monthly / Ad hoc / Follow-up~~ / T&C Period Patrol
Weather Condition	Sunny / Cloudy / Windy / Humid / Foggy /
Temperature (℃)	~33°C
Relative Humidity (%)	~74%
Monitoring Point	(1) / 2 / 3 / 4 / 5 / 6 / 7 / 8
Intensity of Odour	(0) / 1 / 2 / 3 / 4
Characteristic of Odour	
Possible Source of Odour	
Monitoring Point	1 / (2) / 3 / 4 / 5 / 6 / 7 / 8
Intensity of Odour	0 / (1) / 2 / 3 / 4
Characteristic of Odour	Hot Plastic smell
Possible Source of Odour	PSV of Gas Holder
Monitoring Point	1 / 2 / (3) / 4 / 5 / 6 / 7 / 8
Intensity of Odour	(0) / 1 / 2 / 3 / 4
Characteristic of Odour	
Possible Source of Odour	
Monitoring Point	1 / 2 / 3 / (4) / 5 / 6 / 7 / 8
Intensity of Odour	(0) / 1 / 2 / 3 / 4
Characteristic of Odour	
Possible Source of Odour	
Monitoring Point	1 / 2 / 3 / 4 / (5) / 6 / 7 / 8
Intensity of Odour	(0) / 1 / 2 / 3 / 4
Characteristic of Odour	
Possible Source of Odour	
Monitoring Point	1 / 2 / 3 / 4 / 5 / (6) / 7 / 8
Intensity of Odour	(0) / 1 / 2 / 3 / 4
Characteristic of Odour	
Possible Source of Odour	
~~**Follow-up Actions**~~ Remarks	

	EPD Representative	Employer Representative	Independent Odour Patrol Team	OSCAR Bioenergy JV
Name	Teresa Ng	Patrick Yim		Terence CHAN
Signature			N/A	
Date	30/7/2018	30/7/2018		30/7/2018

6. Appendix

Organic Resources Recovery Centre (Phase 1)

Odour Patrol Record Log Sheet

Parameter	Observations
Date	30 July 2018
Start & End Time (24hr)	From 14:10 To 14:45
Type of Patrol	~~Weekly / Monthly / Ac hoc / Follow-up~~ / T&C Period Patrol
Weather Condition	(Sunny) / Cloudy / Windy / Humid / Foggy /
Temperature (℃)	~33°C
Relative Humidity (%)	~74%
Monitoring Point	1 / 2 / 3 / 4 / 5 / 6 / (7) / 8
Intensity of Odour	(0) / 1 / 2 / 3 / 4
Characteristic of Odour	
Possible Source of Odour	
Monitoring Point	1 / 2 / 3 / 4 / 5 / 6 / 7 / (8)
Intensity of Odour	(0) / 1 / 2 / 3 / 4
Characteristic of Odour	
Possible Source of Odour	
Monitoring Point	1 / 2 / 3 / 4 / 5 / 6 / 7 / 8
Intensity of Odour	0 / 1 / 2 / 3 / 4
Characteristic of Odour	
Possible Source of Odour	
Monitoring Point	1 / 2 / 3 / 4 / 5 / 6 / 7 / 8
Intensity of Odour	0 / 1 / 2 / 3 / 4
Characteristic of Odour	
Possible Source of Odour	
Monitoring Point	1 / 2 / 3 / 4 / 5 / 6 / 7 / 8
Intensity of Odour	0 / 1 / 2 / 3 / 4
Characteristic of Odour	
Possible Source of Odour	
Monitoring Point	1 / 2 / 3 / 4 / 5 / 6 / 7 / 8
Intensity of Odour	0 / 1 / 2 / 3 / 4
Characteristic of Odour	
Possible Source of Odour	
~~Follow-up Actions~~ Remarks	

	EPD Representative	Employer Representative	Independent Odour Patrol Team	OSCAR Bioenergy JV
Name	Teresa Ng	Patrick Yam		Terence CHAN
Signature	[signature]	[signature]	N/A	[signature]
Date	30/7/2018	30/7/2018		30/7/2018

Page 2 of 2

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

CERTIFICATE OF ANALYSIS

CLIENT:	Oscar Bioenergy Joint Venture	WORK ORDER:	HK1842748
CONTACT:	Edwin Wong		
ADDRESS:	No. 5, Sham Fung Road, Siu Ho Wan, North Lantau Island, NT, Hong Kong	LABORATORY:	Hong Kong
		SUB-BATCH:	0
		DATE OF PATROL:	27 July 2018
		DATE OF ISSUE:	10 August 2018
PROJECT:	Odour Patrol for the Organic Resources Recovery Centre Phase 1 in Siu Ho Wan		
SITE:	Organic Resources Recovery Centre Phase 1 (ORRC1)		

COMMENTS

Date of Odour Patrol: 27 July 2018.
Odour Patrols were conducted by ALS Technichem (HK) Pty Ltd staff during 10:11 - 10:56 and 17:57 - 18:21.

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

1. Summary of Work

The odour patrol was conducted during daytime and evening / night time.

2. Odour Patrol

Odour patrolling is a process to make use of the calibrated olfactory senses (ie the nasal sense) of the patrol members to evaluate the odour and its intensity during a patrol exercise at the site.

Two odour patrol team members from ALS Technichem (HK) Pty Ltd were sent to conduct the patrol work during each session. All members are free from any respiratory diseases during patrol day. None of the members has been working or living in the area in the vicinity of the inspection area.

The odour patrol was conducted during daytime and evening / night time.

The patrol team was required to move slowly from one to the other monitoring locations and use their olfactory senses to detect odour at each location.
The location of odour sources and the areas to be affected by the odour nuisance were identified as much as possible.

During the patrolling, the meteorological and surrounding information are recorded:

- the prevailing weather condition;
- the wind direction;
- the wind speed;
- location where odour is spotted;
- possible source of odour;
- perceived intensity of the odour;
- duration of odour; and
- characteristics of the odour detected

The perceived intensity is to be divided into 5 levels which are ranked in an ascending order as follows:

0	Not detected	No odour perceives or an odour so weak that it cannot be easily characterised or described
1	Slight	Identifiable odour, slight
2	Moderate	Identifiable odour, moderate
3	Strong	Identifiable odour, strong
4	Extreme	Severe odour

The odour patrol location is shown in Appendix 1.

Result:

1. Odour Patrol:

1.1. Daytime:

Location	Panellist	Weather	Time	T (°C)	RH (%)	WS (m/s)	WD (Degree)	Odour Intensity	Duration of Odour	Direction from Source	On-Site Observation	
											Odour Characteristics	Potential Odour Source
1	1	Sunny	10:11	31.7	73.8	0.8	099	0	NA	NA	NA	NA
	2							0				
2	1	Sunny	10:21	32.0	73.9	0.5	099	1	Intermittent	Upwind	Plastic	Biogas Holder Tank Relief Valve
	2							1	Intermittent	Upwind	Plastic	Biogas Holder Tank Relief Valve
3	1	Sunny	10:30	33.0	67.3	0.6	113	0	NA	NA	NA	NA
	2							0				
4	1	Sunny	10:35	32.9	65.3	0.5	137	0	NA	NA	NA	NA
	2							0				
5	1	Sunny	10:39	34.0	69.3	0	NA	0	NA	NA	Grassy	Tree and grass
	2							1	Continuous	NA		

Location	Panellist	Weather	Time	T (°C)	RH (%)	WS (m/s)	WD (Degree)	Odour Intensity	Duration of Odour	Direction from Source	On-Site Observation	
											Odour Characteristics	Potential Odour Source
6	1	Sunny	10:45	34.3	64.1	0.6	111	0	NA	NA	NA	NA
	2							0				
7	1	Sunny	10:50	32.1	69.4	1.1	101	0	NA	NA	NA	NA
	2							1	Intermittent	Sidewind	Refuse	Waste truck; Building 1
8	1	Sunny	10:56	34.7	66.1	0	NA	0	NA	NA	NA	NA
	2							0				

Remark:
T: Air Temperature;
RH: Relative Humidity;
WD: Wind Direction;
WS: Wind Speed.

1.2. Evening / Night time:

Location	Panellist	Weather	Time	T (°C)	RH (%)	WS (m/s)	WD (Degree)	Odour Intensity	Duration of Odour	Direction from Source	On-Site Observation	
											Odour Characteristics	Potential Odour Source
1	1	Fine	17:57	30.1	78.7	0.3	092	1	Intermittent	Downwind	Mosquito Repellent	Outside the boundary of ORRC1
	2							1	Intermittent	Downwind		
2	1	Fine	18:02	30.4	77.2	1.3	107	1	Intermittent	Upwind	Plastic	Biogas Holder Tank Relief Valve
	2							1	Intermittent	Upwind	Plastic	Biogas Holder Tank Relief Valve
3	1	Fine	18:05	30.7	77.7	0.4	111	0	NA	NA	NA	NA
	2							0				
4	1	Fine	18:08	30.7	76.3	0.4	140	0	NA	NA	NA	NA
	2							0				
5	1	Fine	18:11	30.5	77.7	0.7	117	1	Intermittent	Sidewind	Musty from wood	Process Hall
	2							1	Intermittent	Sidewind		

Location	Panellist	Weather	Time	T (°C)	RH (%)	WS (m/s)	WD (Degree)	Odour Intensity	Duration of Odour	Direction from Source	On-Site Observation	
											Odour Characteristics	Potential Odour Source
6	1	Fine	18:15	30.0	79.5	1.2	117	0	NA	NA	NA	NA
	2							0				
7	1	Fine	18:18	30.7	79.3	0.8	119	0	NA	NA	NA	NA
	2							0				
8	1	Fine	18:21	30.4	79.1	0.8	125	0	NA	NA	NA	NA
	2							0				

Remark:
T: Air Temperature;
RH: Relative Humidity;
WD: Wind Direction;
WS: Wind Speed.

APPENDIX 1
Odour Patrol Route

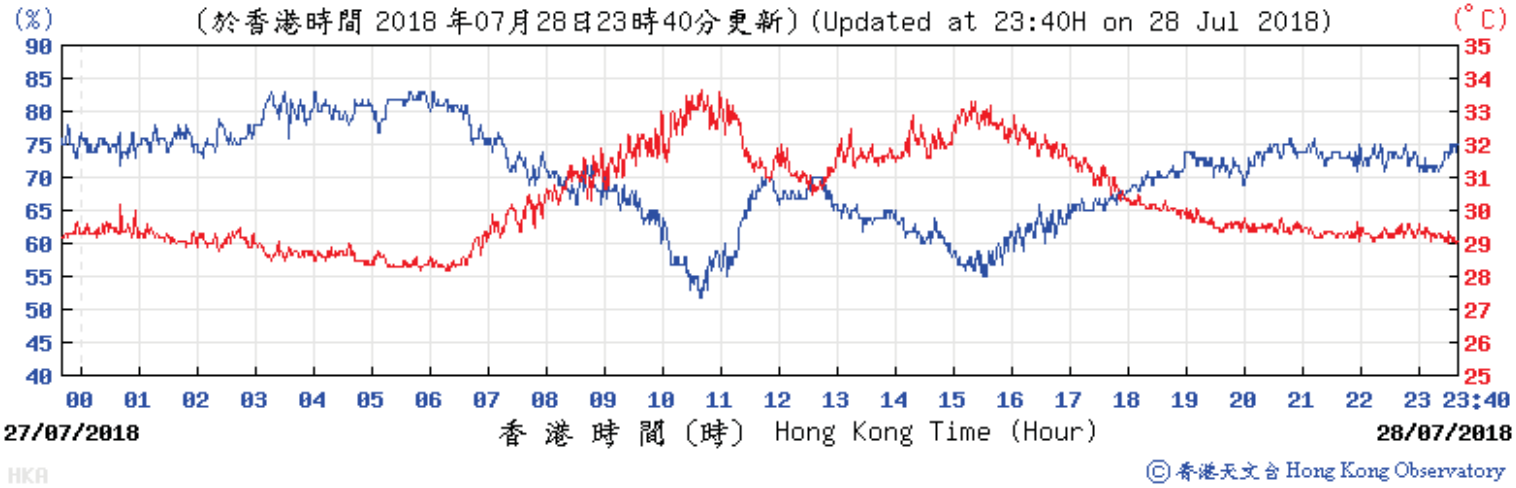
Proposed Patrol Route

Possible Odour Sources (No.) / Checkpoint

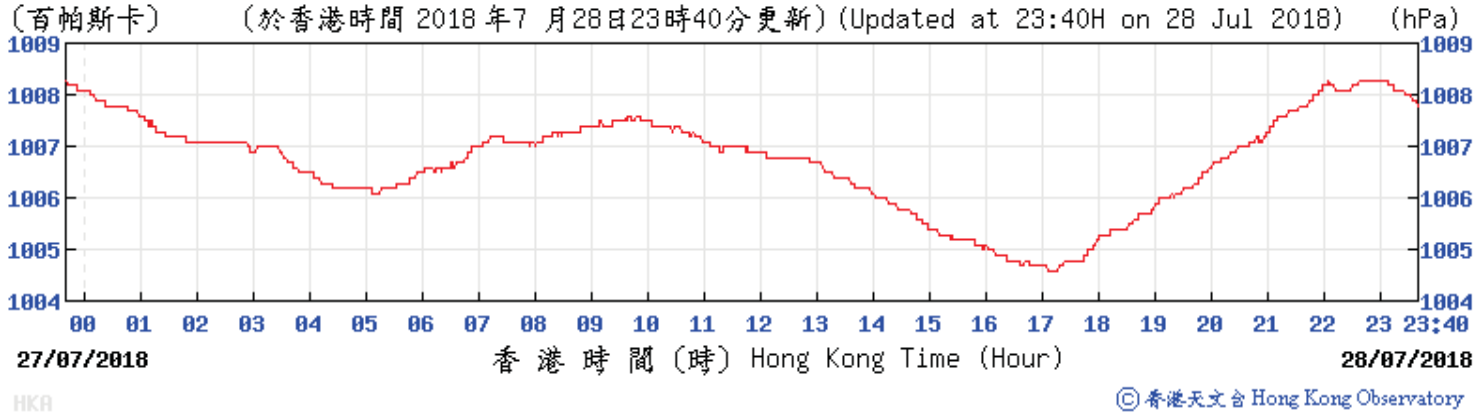
Assumed Odour Potential (normal operation)
From 1 (min.) to 3 (max.)

APPENDIX 2
Extract Of Meteorological Observations From Hong Kong Airport Observatory Station

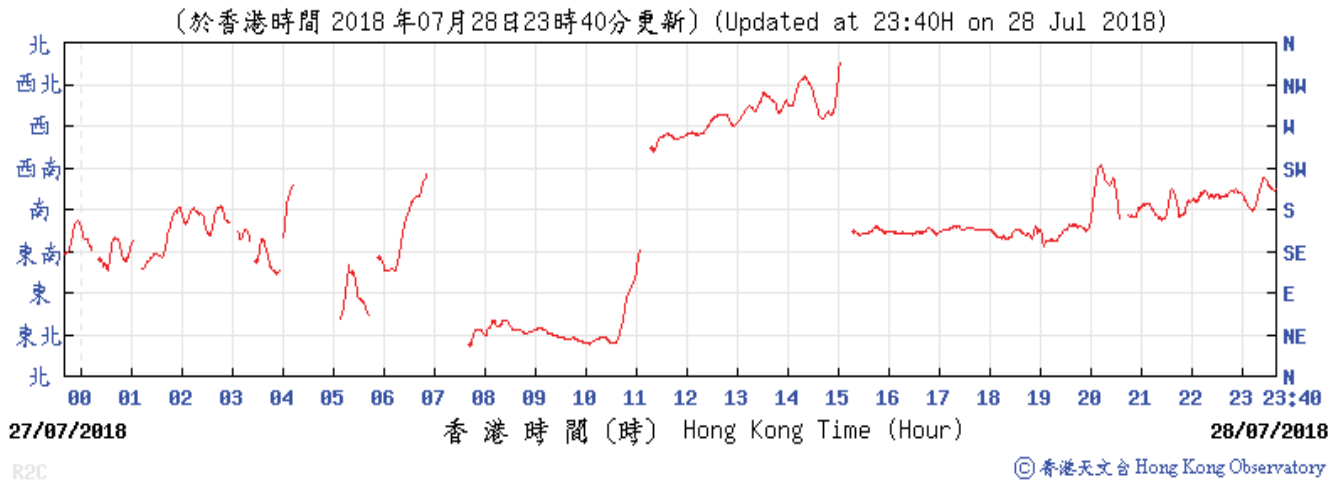
Tempearture/Humidity:



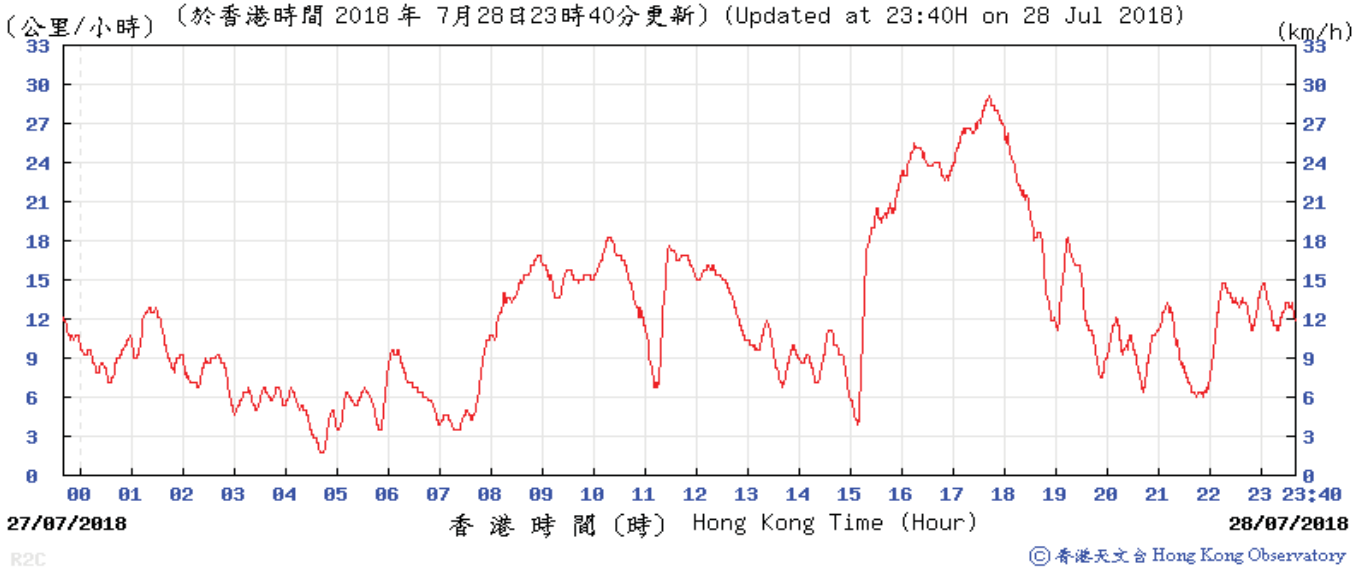
Pressure:



Wind Direction:

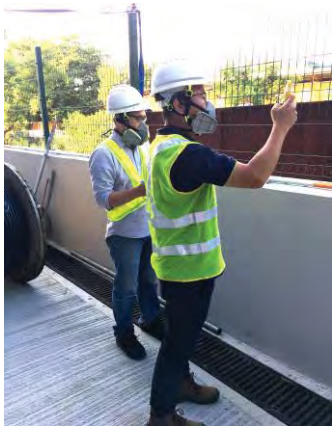


Wind Speed:



APPENDIX 3

A3.1. Odour Patrol at Different Locations – Daytime



Location: 1

Location: 2

Location: 3

Location: 4

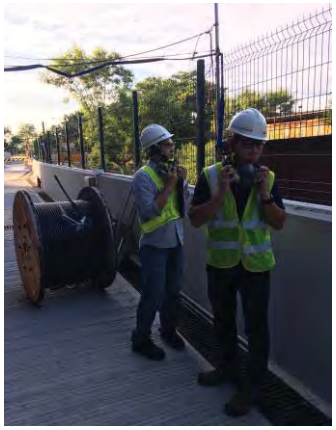
Location: 5

Location: 6

Location: 7

Location: 8

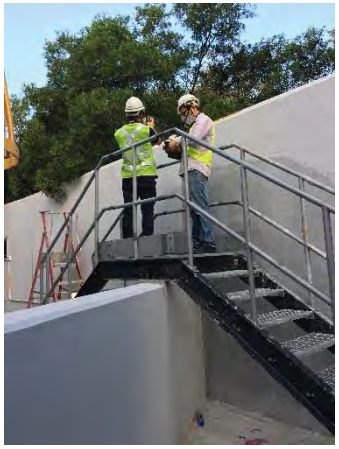
A3.2. Odour Patrol at Different Locations – Evening / Night time



Location: 1

Location: 2

Location: 3



Location: 4

Location: 5

Location: 6

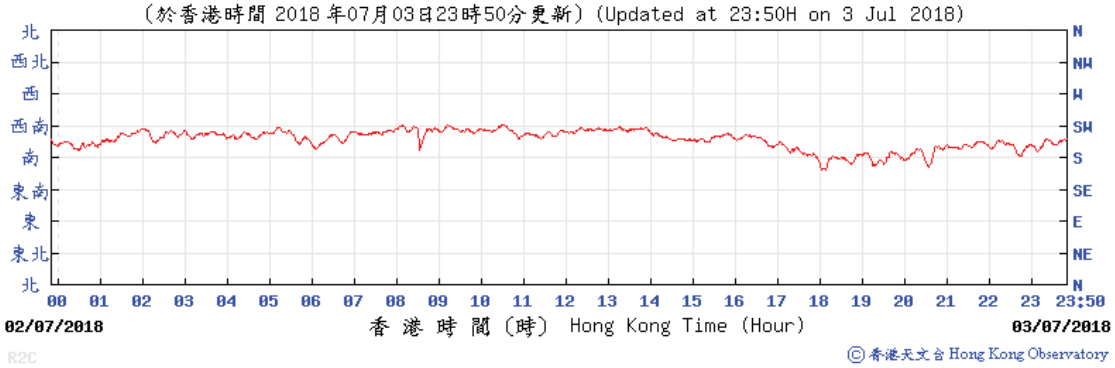
Location: 7

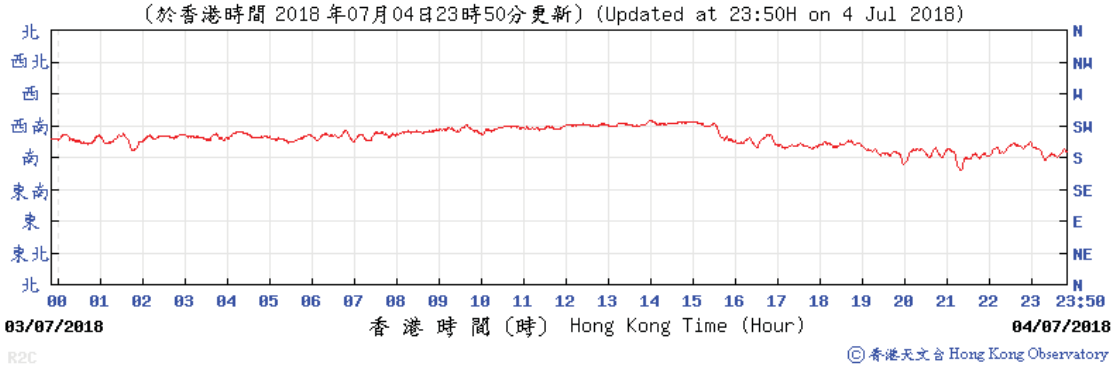
Location: 8

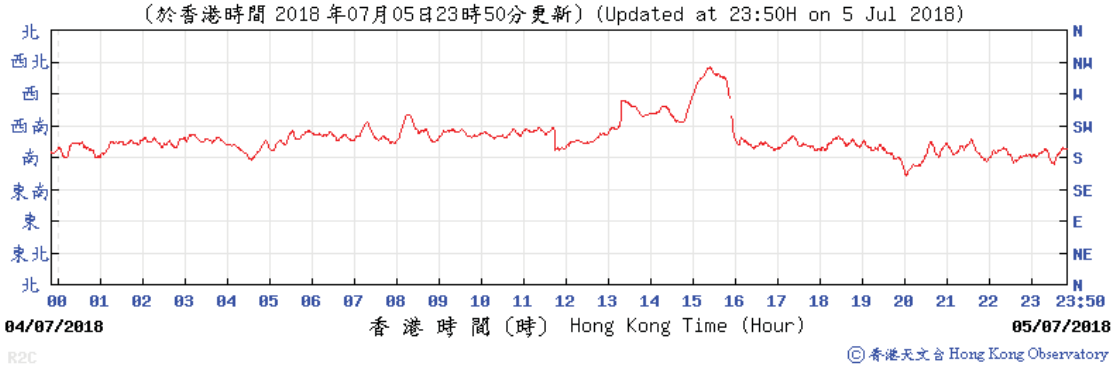
Annex H2

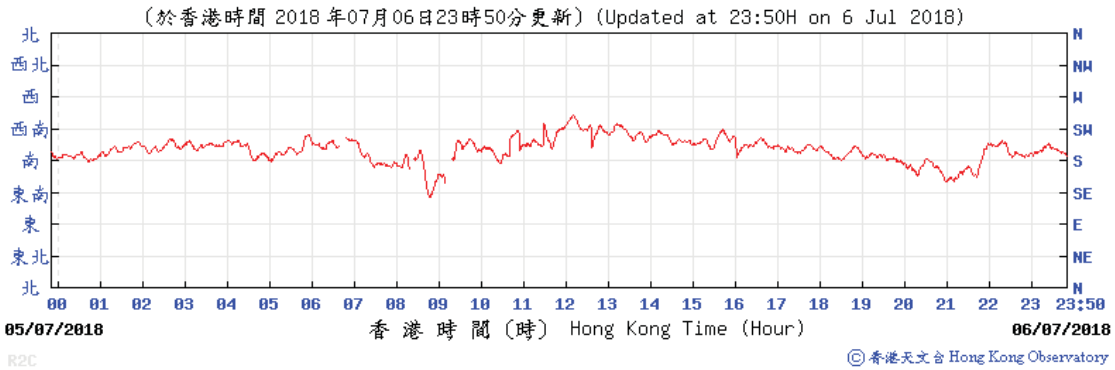
Local Wind Direction and Wind Speed

Wind Direction

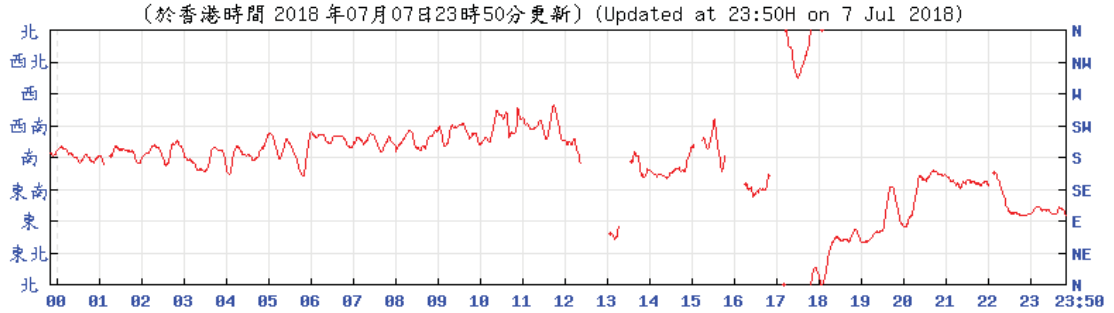








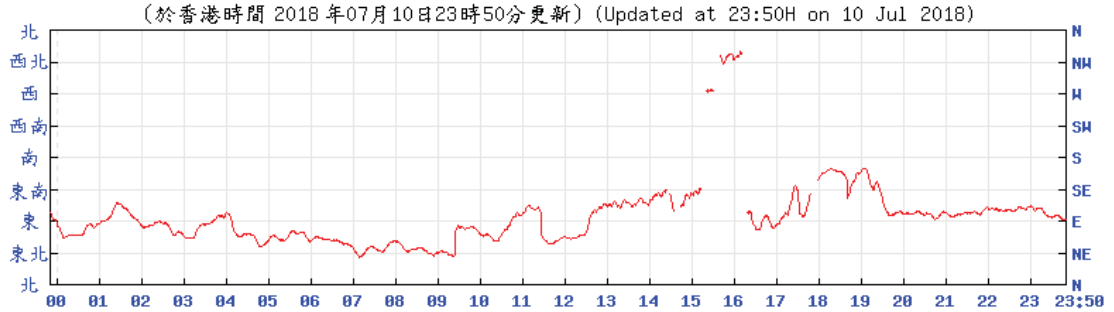
(於香港時間 2018 年07月07日23時50分更新) (Updated at 23:50H on 7 Jul 2018)



06/07/2018 香 港 時 間 (時) Hong Kong Time (Hour) 07/07/2018

R2C

(於香港時間 2018 年07月10日23時50分更新) (Updated at 23:50H on 10 Jul 2018)



09/07/2018 香 港 時 間 (時) Hong Kong Time (Hour) 10/07/2018

R2C

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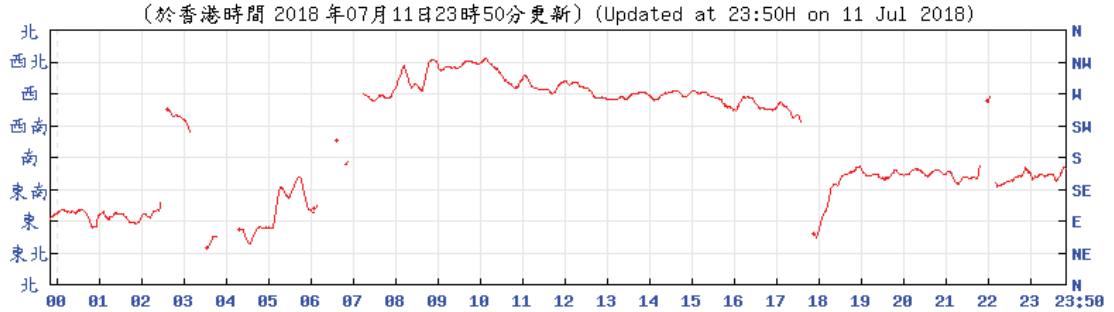


10/07/2018 香 港 時 間 (時) Hong Kong Time (Hour) 11/07/2018

R2C

(於香港時間 2018 年07月12日23時50分更新) (Updated at 23:50H on 12 Jul 2018)

11/07/2018 香 港 時 間 (時) Hong Kong Time (Hour) 12/07/2018

R2C

(於香港時間 2018 年07月13日23時50分更新) (Updated at 23:50H on 13 Jul 2018)

12/07/2018 香 港 時 間 (時) Hong Kong Time (Hour) 13/07/2018

R2C

(於香港時間 2018 年07月14日23時50分更新) (Updated at 23:50H on 14 Jul 2018)

13/07/2018 香 港 時 間 (時) Hong Kong Time (Hour) 14/07/2018

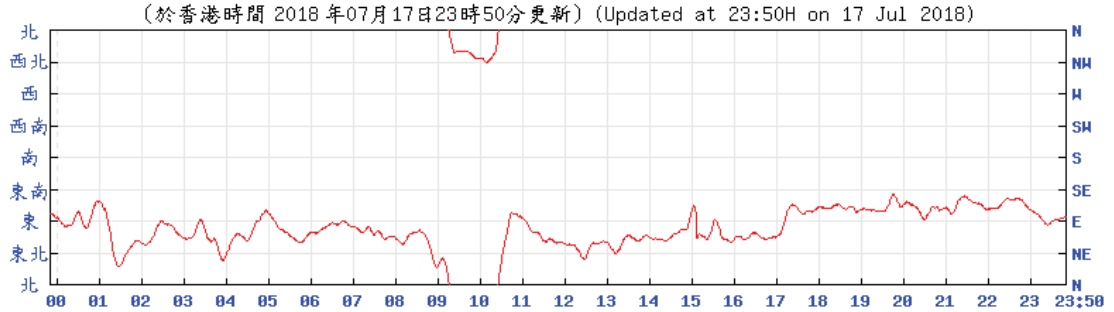
R2C

(於香港時間 2018 年07月16日23時50分更新) (Updated at 23:50H on 16 Jul 2018)

15/07/2018 香 港 時 間 (時) Hong Kong Time (Hour) 16/07/2018

R2C

(於香港時間 2018 年07月17日23時50分更新) (Updated at 23:50H on 17 Jul 2018)



16/07/2018 香 港 時 間 (時) Hong Kong Time (Hour) 17/07/2018

R2C

(於香港時間 2018 年07月18日23時50分更新) (Updated at 23:50H on 18 Jul 2018)

17/07/2018 香 港 時 間 (時) Hong Kong Time (Hour) 18/07/2018

R2C

(於香港時間 2018 年07月19日23時50分更新) (Updated at 23:50H on 19 Jul 2018)

18/07/2018 香 港 時 間 (時) Hong Kong Time (Hour) 19/07/2018

R2C

(於香港時間 2018 年07月20日23時50分更新) (Updated at 23:50H on 20 Jul 2018)

19/07/2018 香 港 時 間 (時) Hong Kong Time (Hour) 20/07/2018

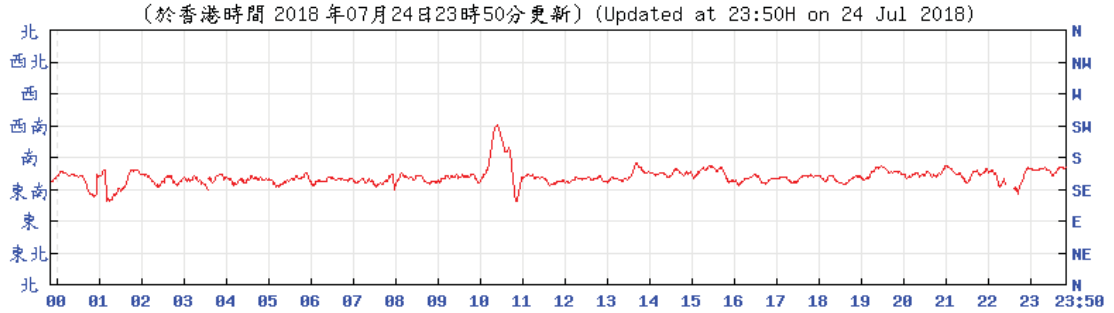
R2C

(於香港時間 2018 年07月23日23時50分更新) (Updated at 23:50H on 23 Jul 2018)

22/07/2018 香 港 時 間 (時) Hong Kong Time (Hour) 23/07/2018

R2C

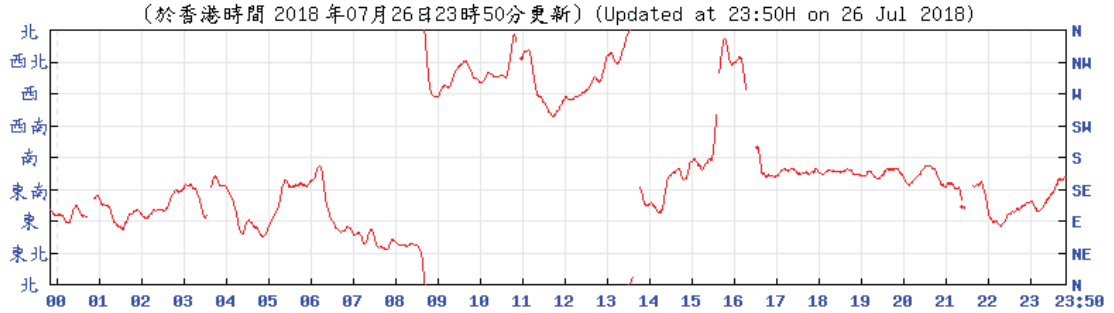
(於香港時間 2018 年07月24日23時50分更新) (Updated at 23:50H on 24 Jul 2018)



23/07/2018 香 港 時 間 (時) Hong Kong Time (Hour) 24/07/2018

R2C

(於香港時間 2018 年07月26日23時50分更新) (Updated at 23:50H on 26 Jul 2018)



25/07/2018 香 港 時 間 (時) Hong Kong Time (Hour) 26/07/2018

R2C

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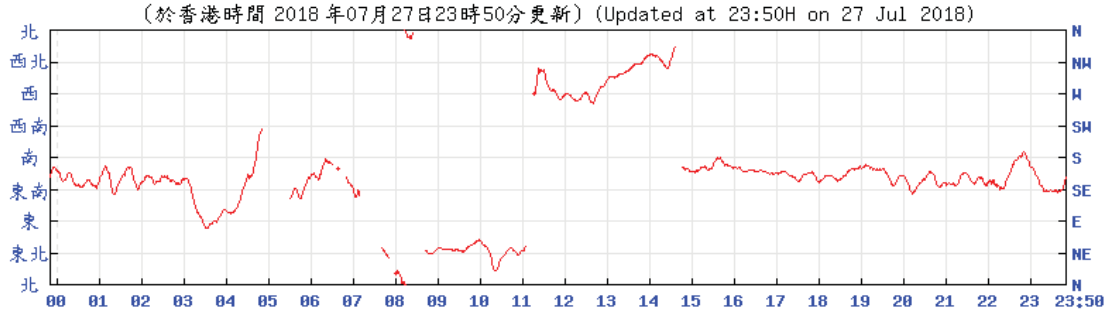

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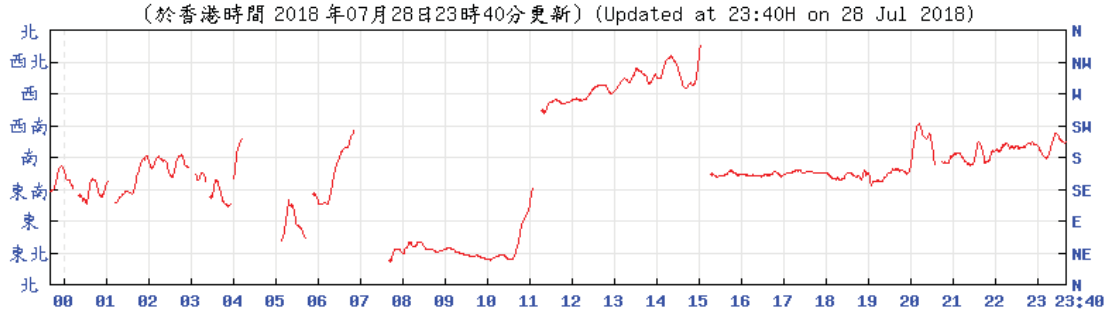

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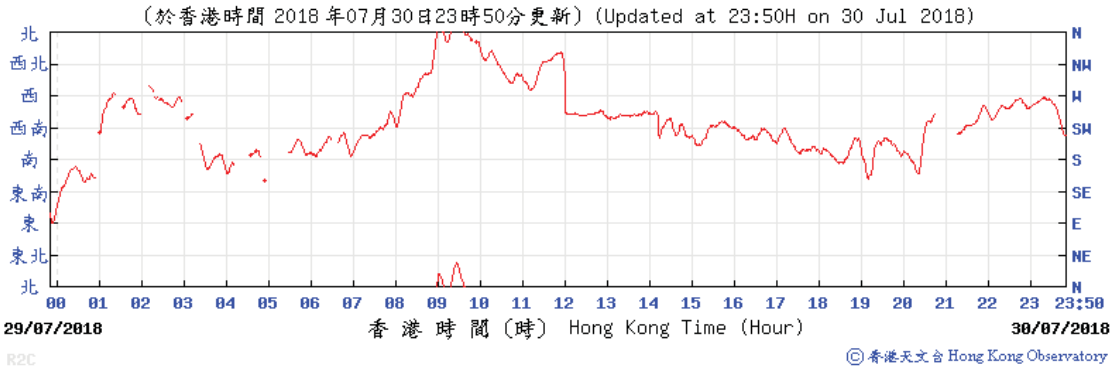
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30/07/2018
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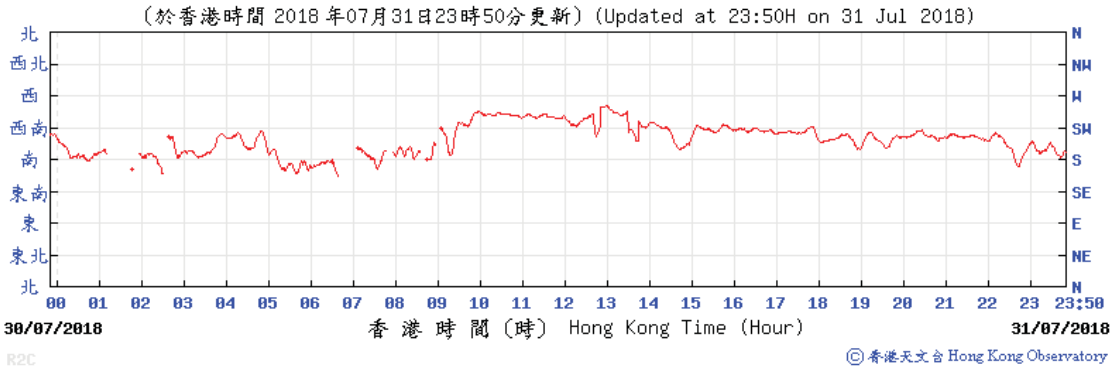
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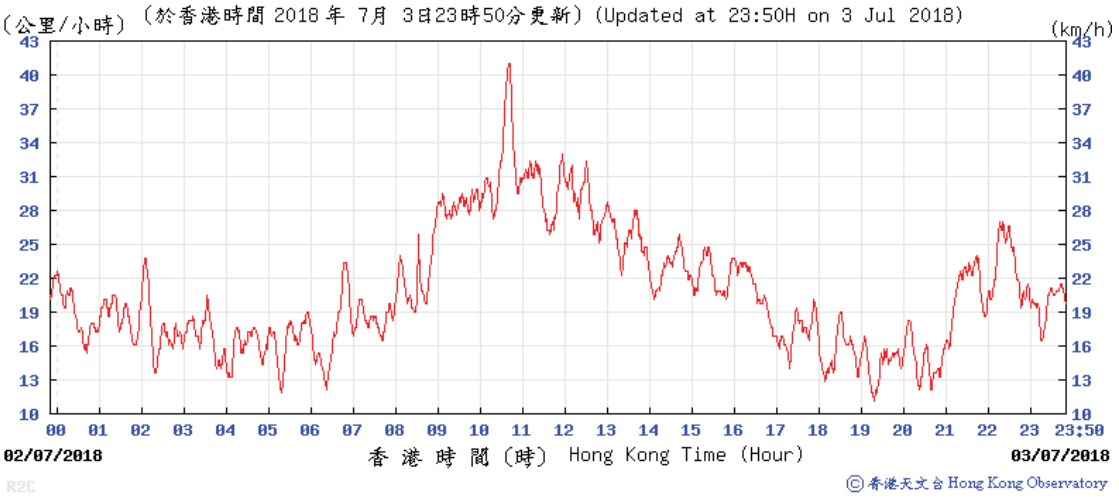
© 香港天文台 Hong Kong Observatory

Wind Speed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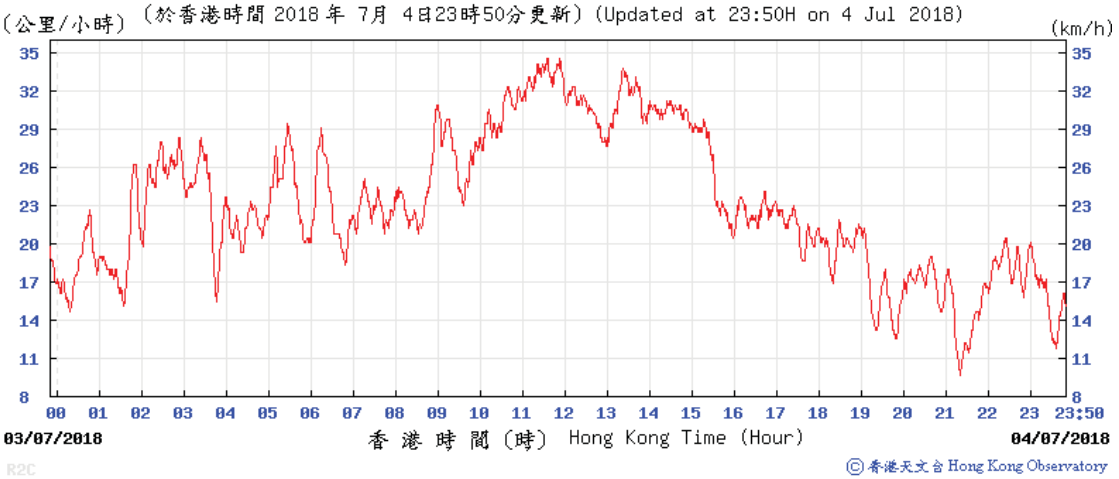
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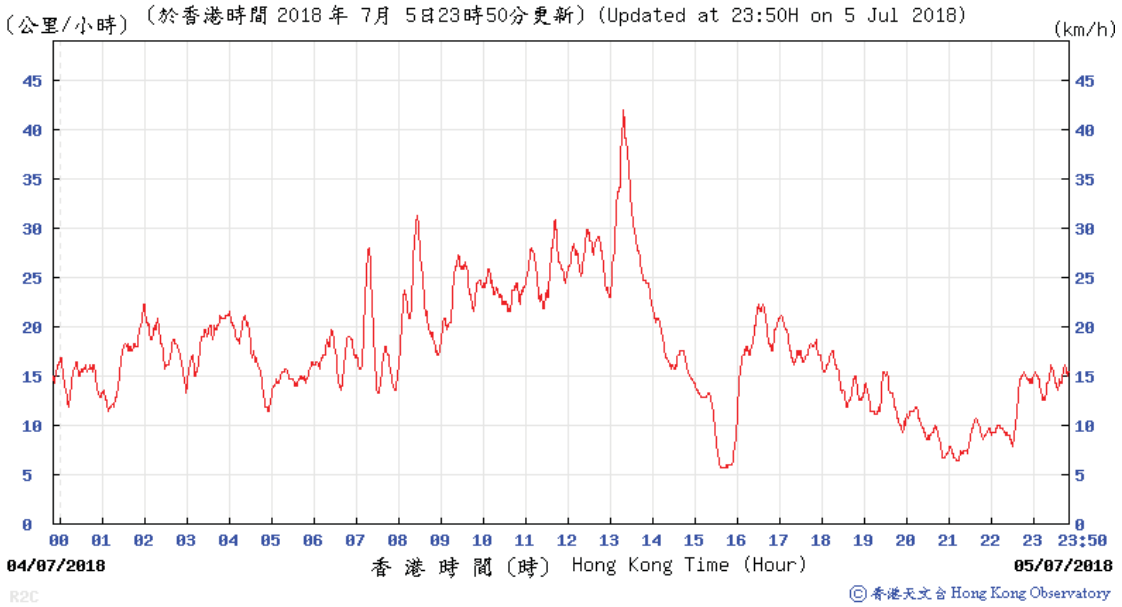
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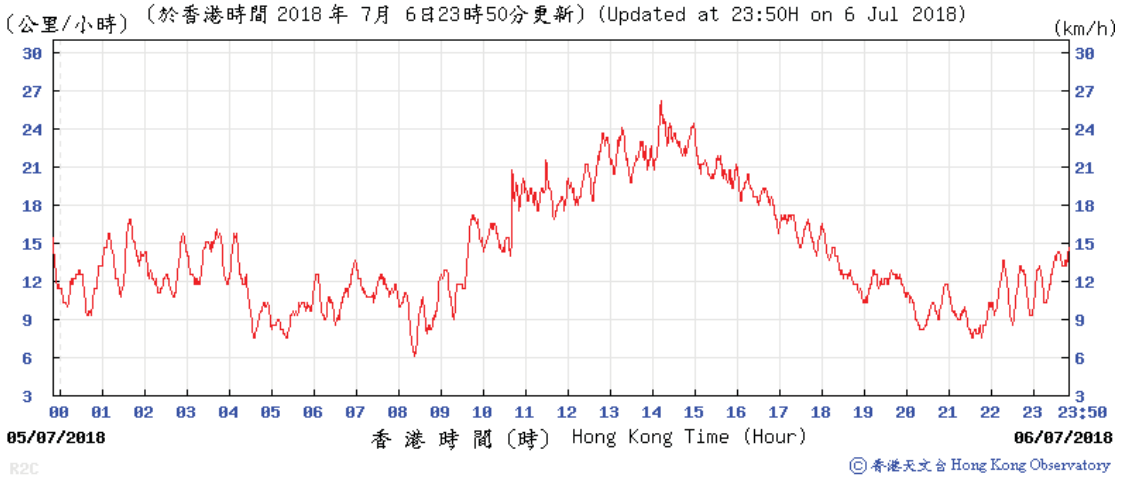
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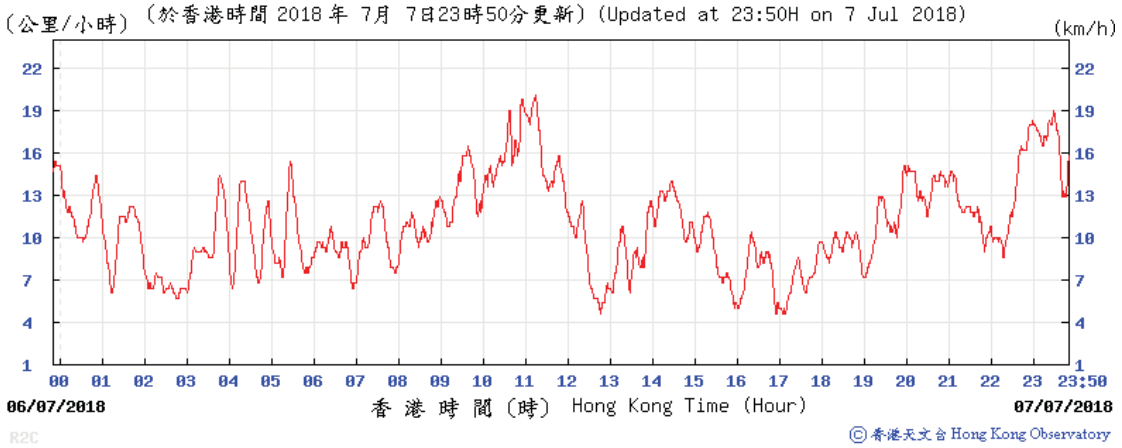
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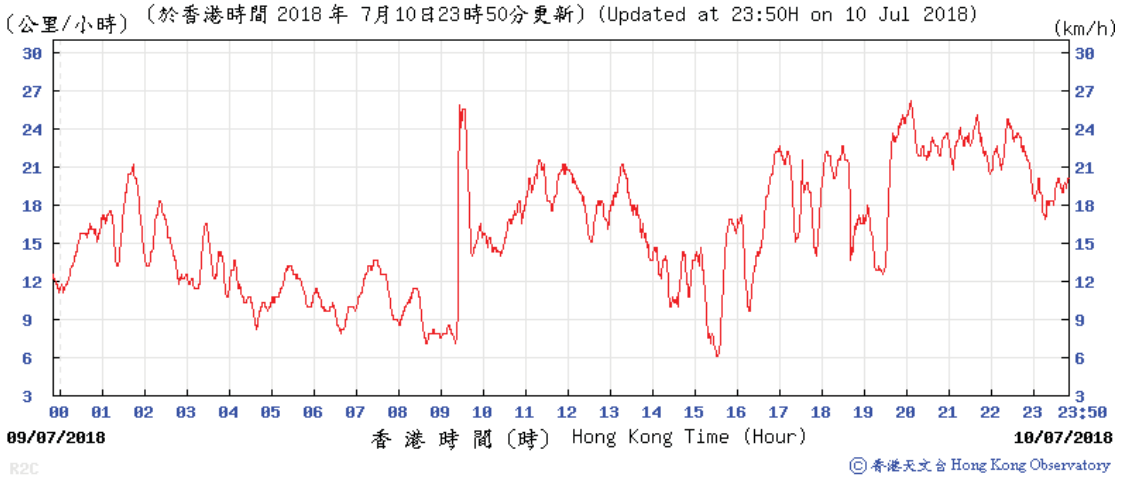
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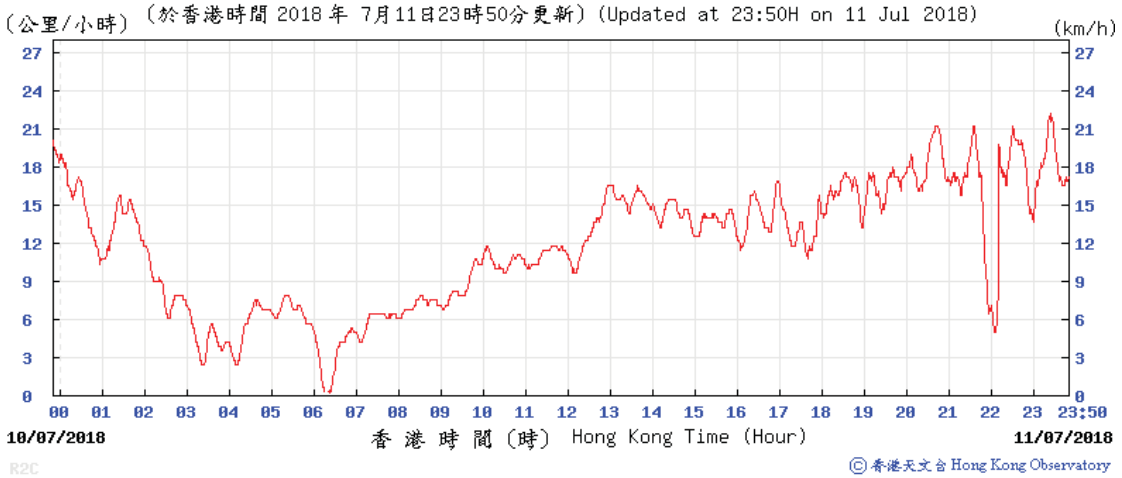
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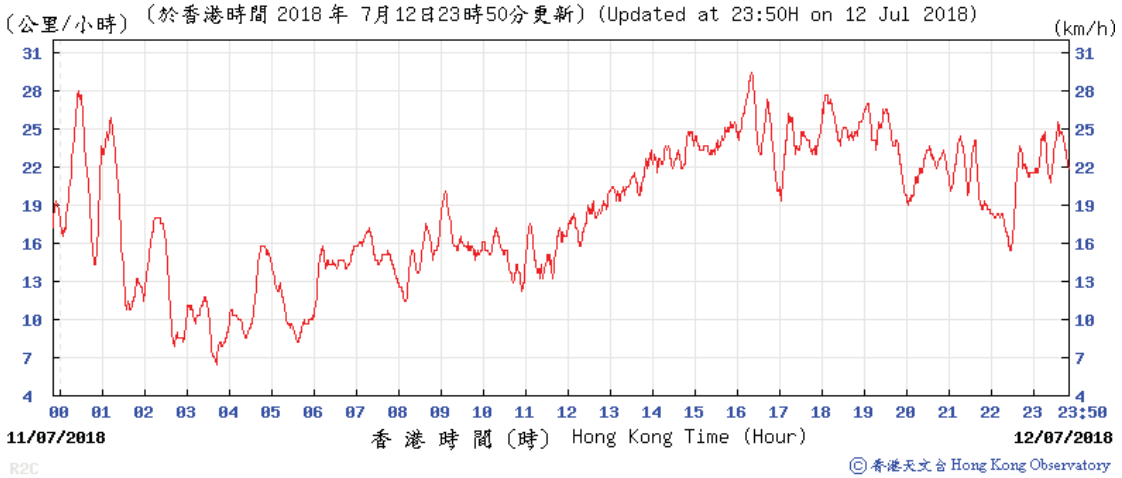
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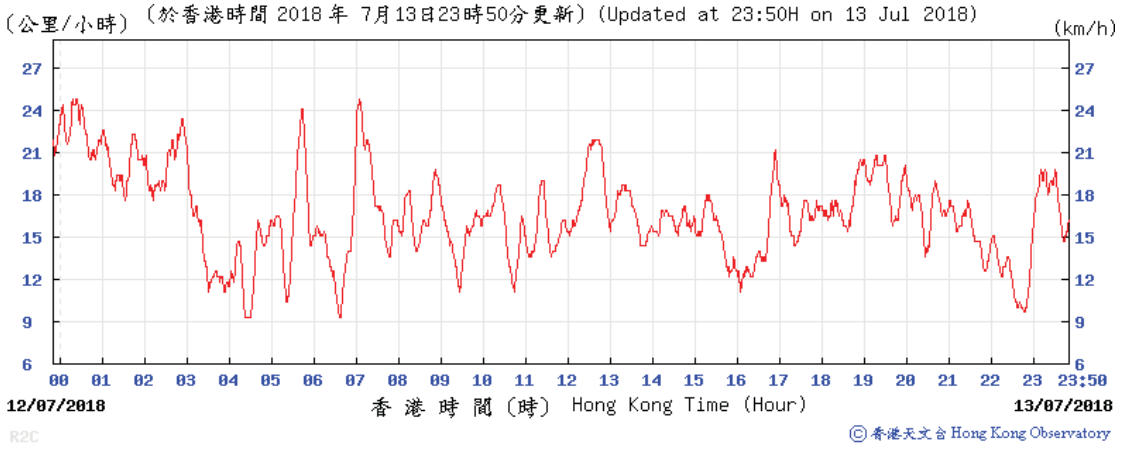
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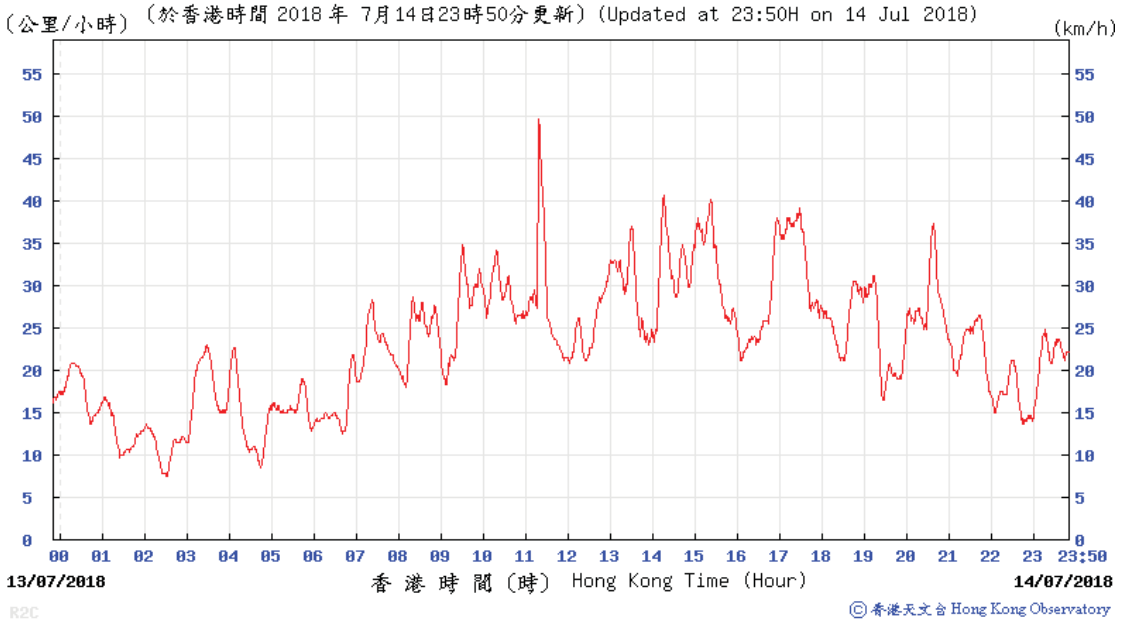
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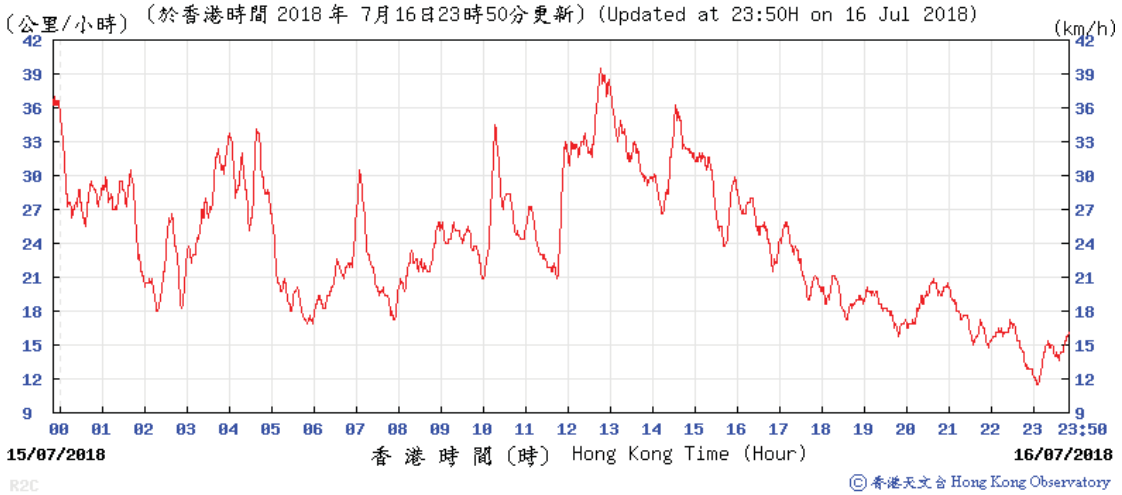
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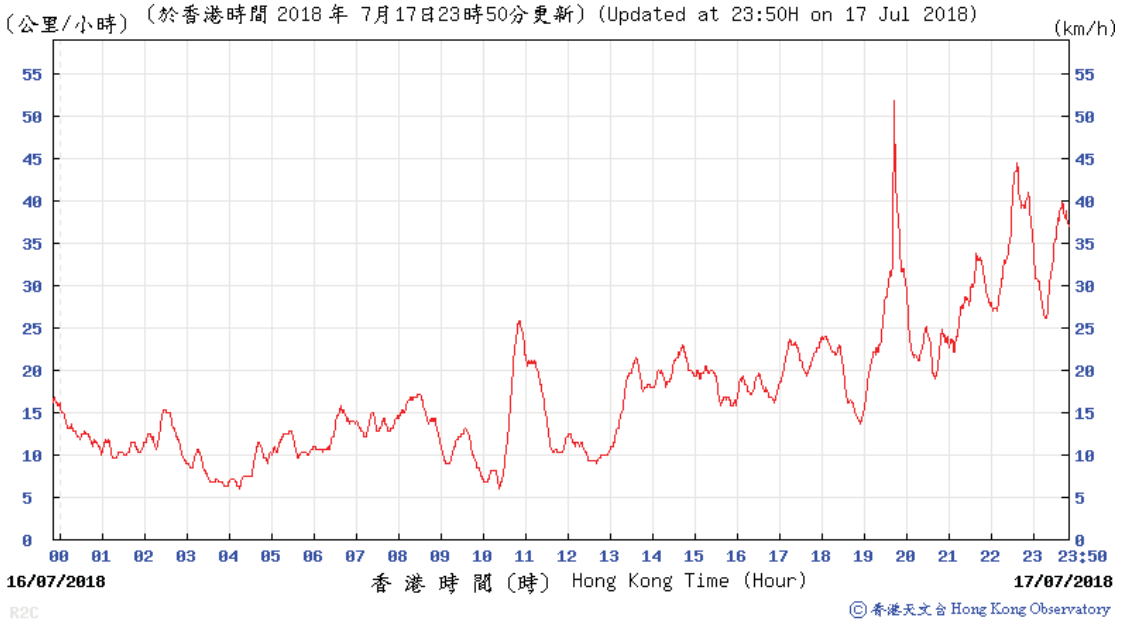
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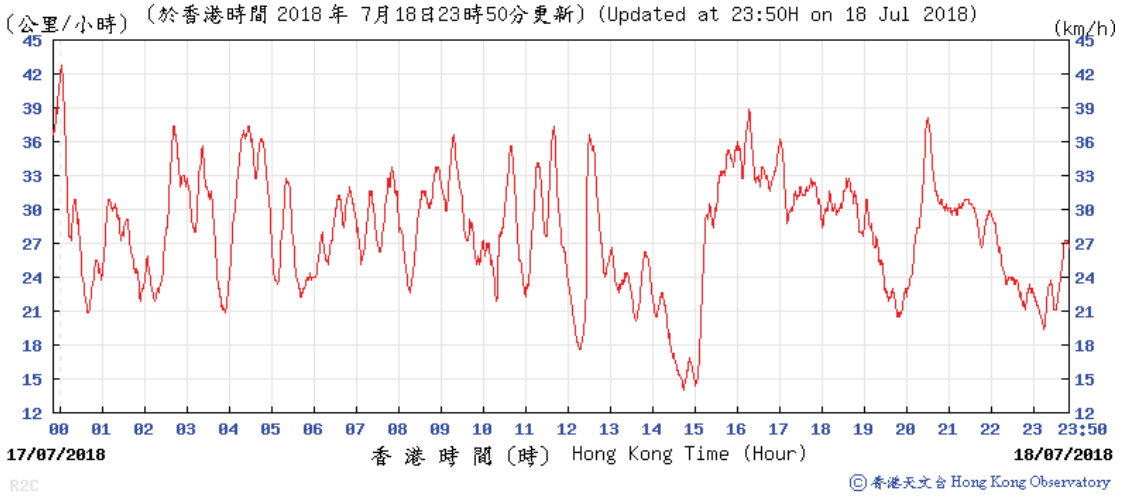
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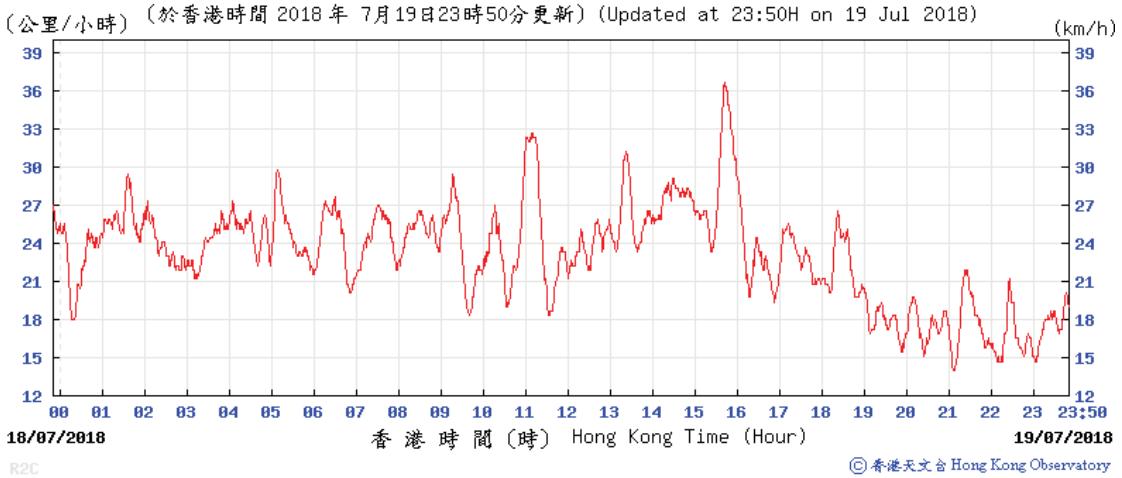
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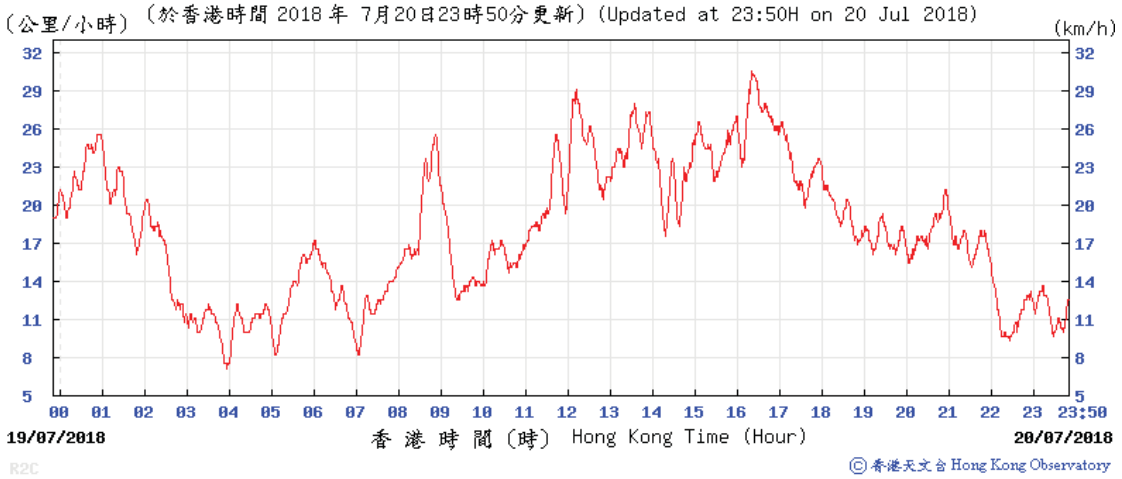
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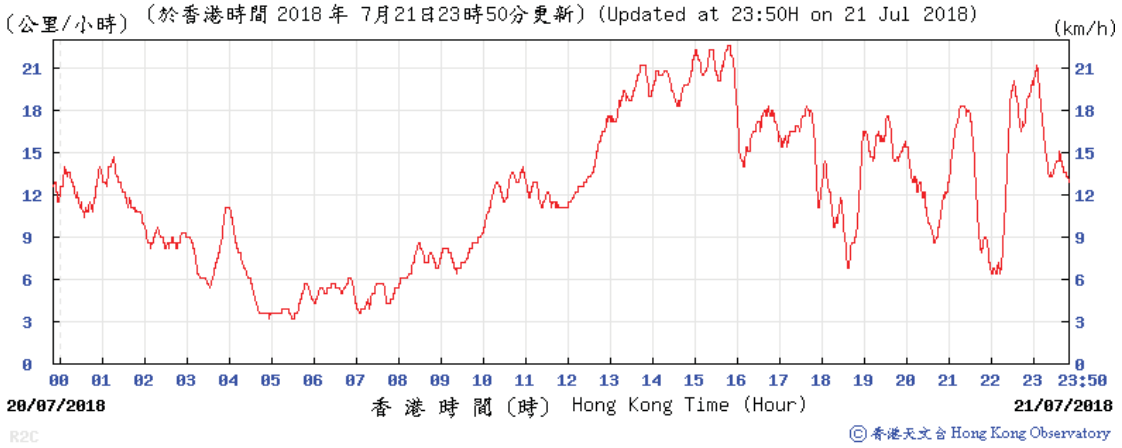
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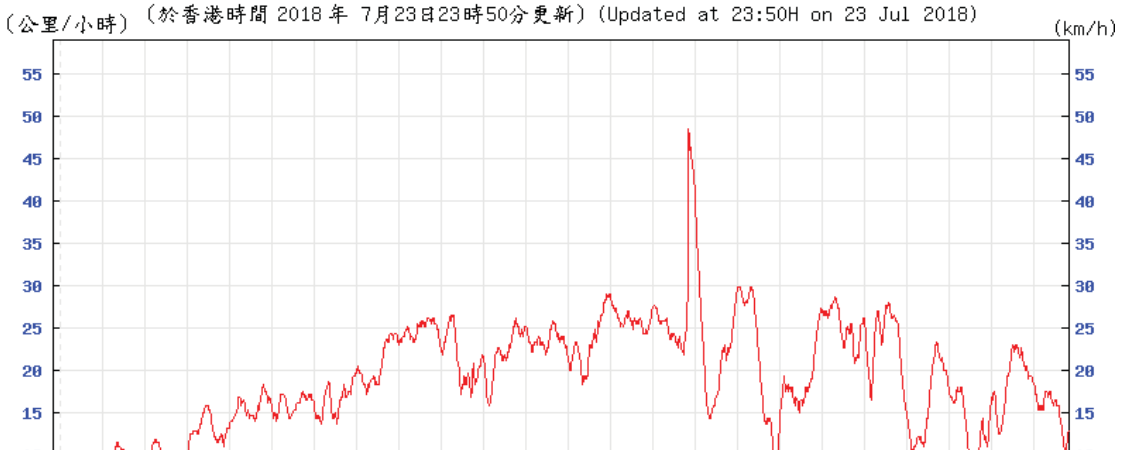
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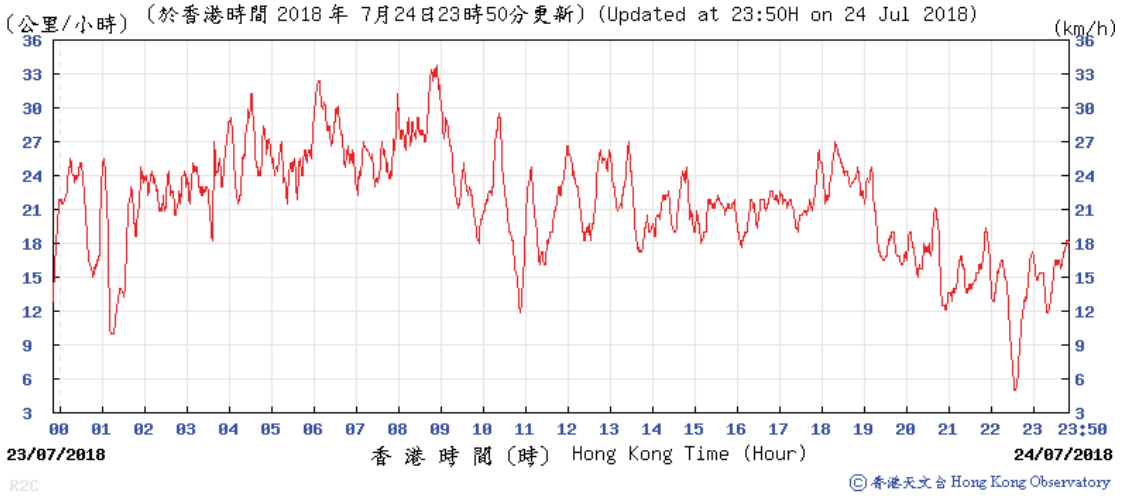
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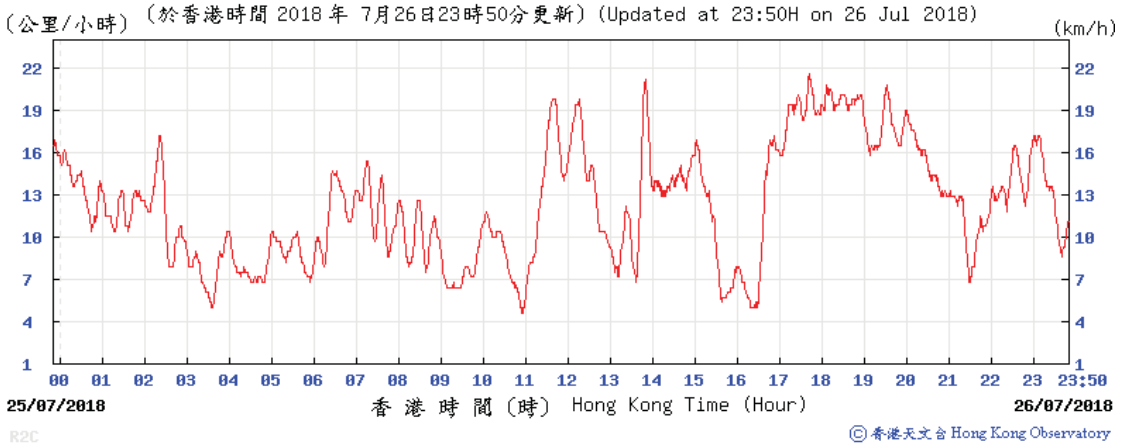
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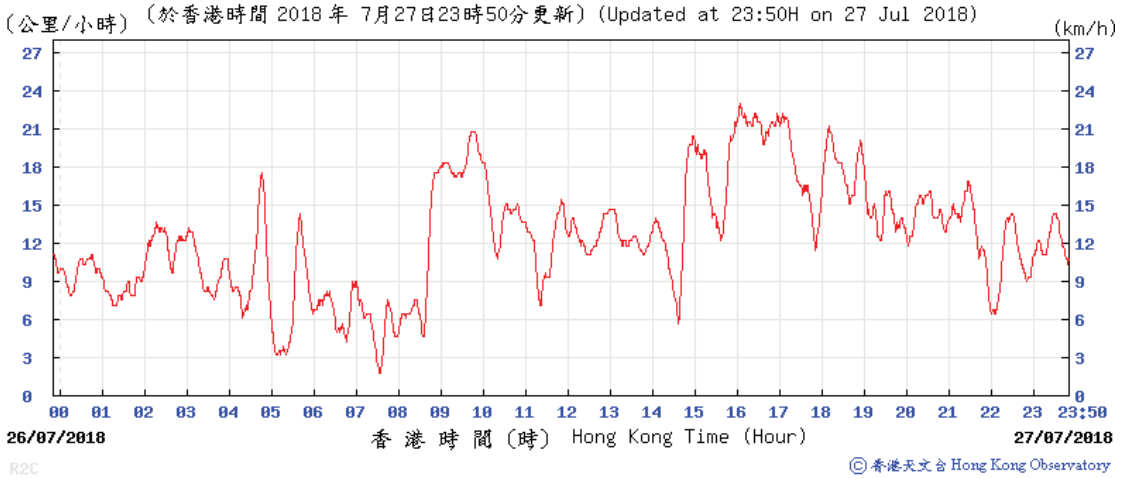
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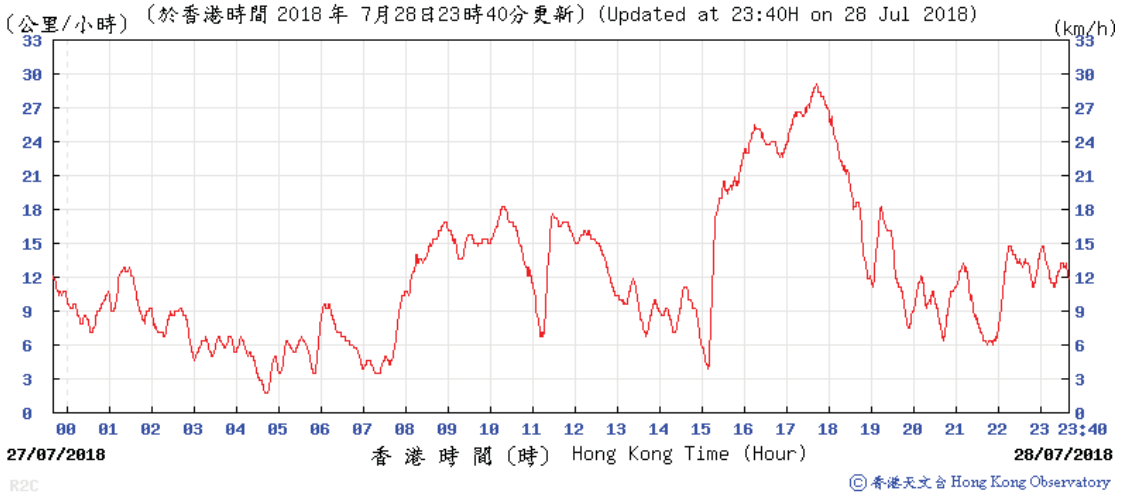
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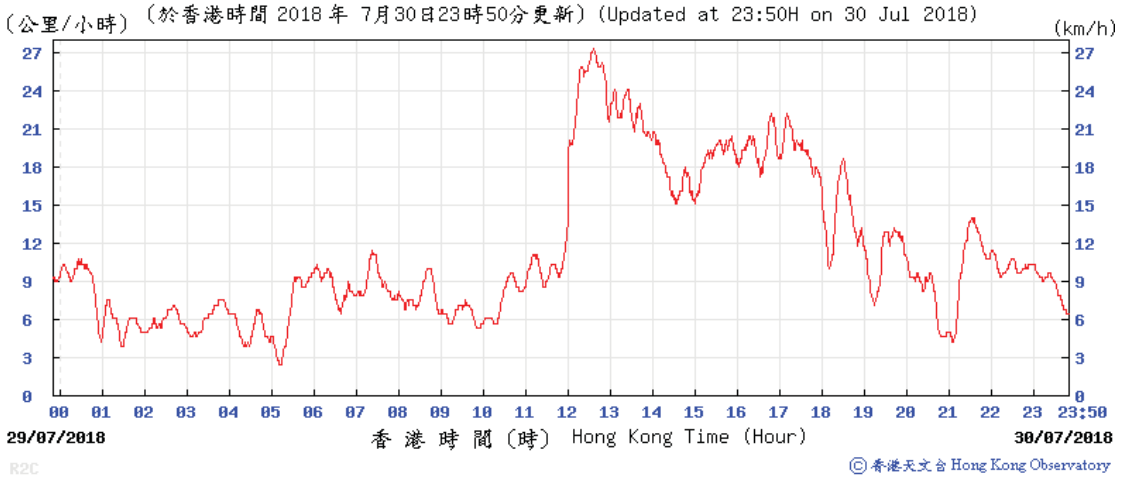
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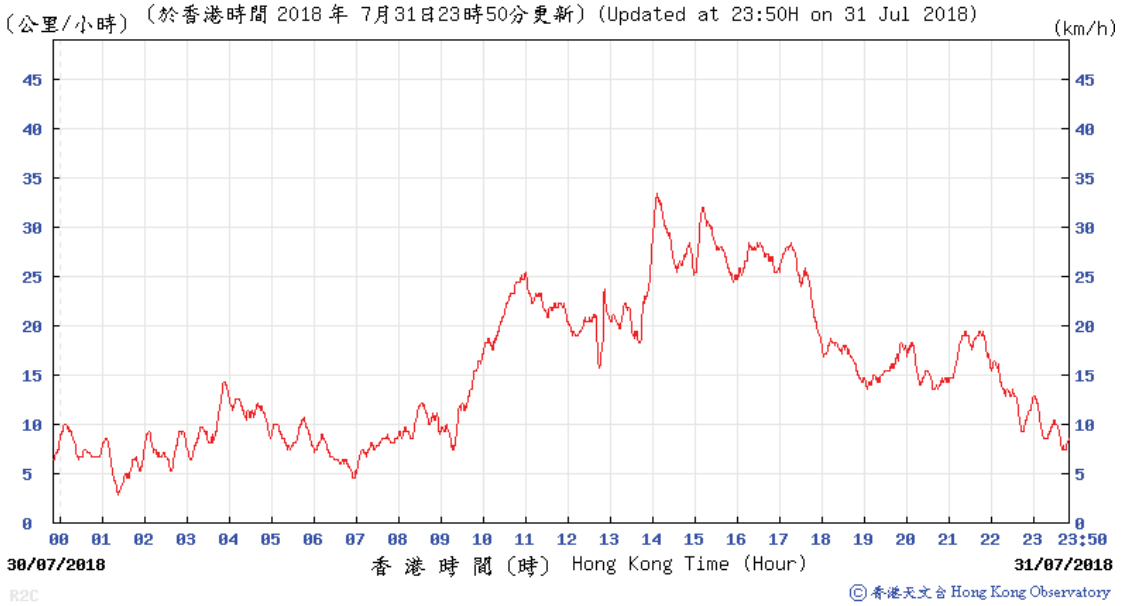
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30/07/2018
香 港 時 間 (時) Hong Kong Time (Hour)
31/07/2018
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Annex H3

Laboratory Analysis Result

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

CERTIFICATE OF ANALYSIS

CLIENT:	Oscar Bioenergy Joint Venture	WORK ORDER:	HK1842747
CONTACT:	Edwin Wong	AMENDMENT No.:	1
ADDRESS:	No. 5, Sham Fung Road, Siu Ho Wan, North Lantau Island, NT, Hong Kong	LABORATORY:	Hong Kong
		SUB-BATCH:	0
		DATE RECEIVED:	27 July 2018
		DATE OF ISSUE:	27 September 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 27th July, 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

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 locations were shown in Appendix A1.

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)
HK1842747-001	CAPC Unit	27-Jul-18	11:43 – 11:48	11	35	Musty smell	1252.6	2,630,000
HK1842747-002	CAPC Unit	27-Jul-18	11:49 – 11:54	11	27	Musty smell	1249.7	2,020,000
HK1842747-003	Field Blank	27-Jul-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 on site.
4. The volumetric flow rate used for calculation of the emission rate was provided by the client.

APPENDIX 1

A1. SITE CONDITIONS AND OBSERVATION

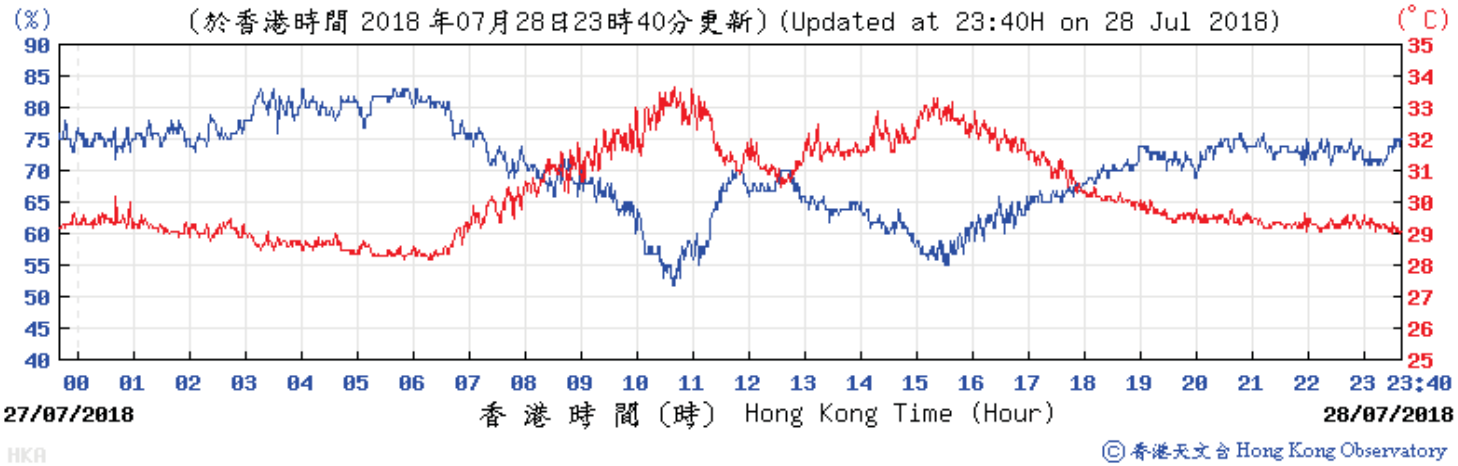
Location	Date	Time	Ambient Temperature (°C)	Relative Humidity (%)	Ambient Pressure (hPa)	Wind Speed (m/s)	Wind Direction (Degree)	Direction from Source[1]	Duration of Odour	On-Site Observation		Weather Condition
										Odour Nature	Possible Source	
CAPC Unit	27-07-18	11:43 -11:54	32.6	65.7	1002.6	1.1	118	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.

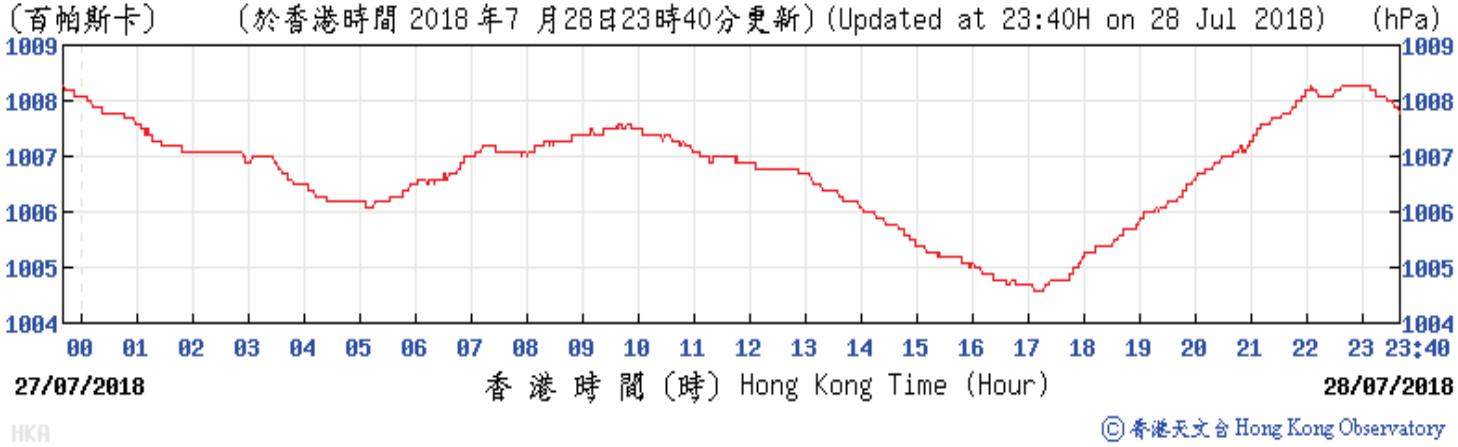
APPENDIX 2

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

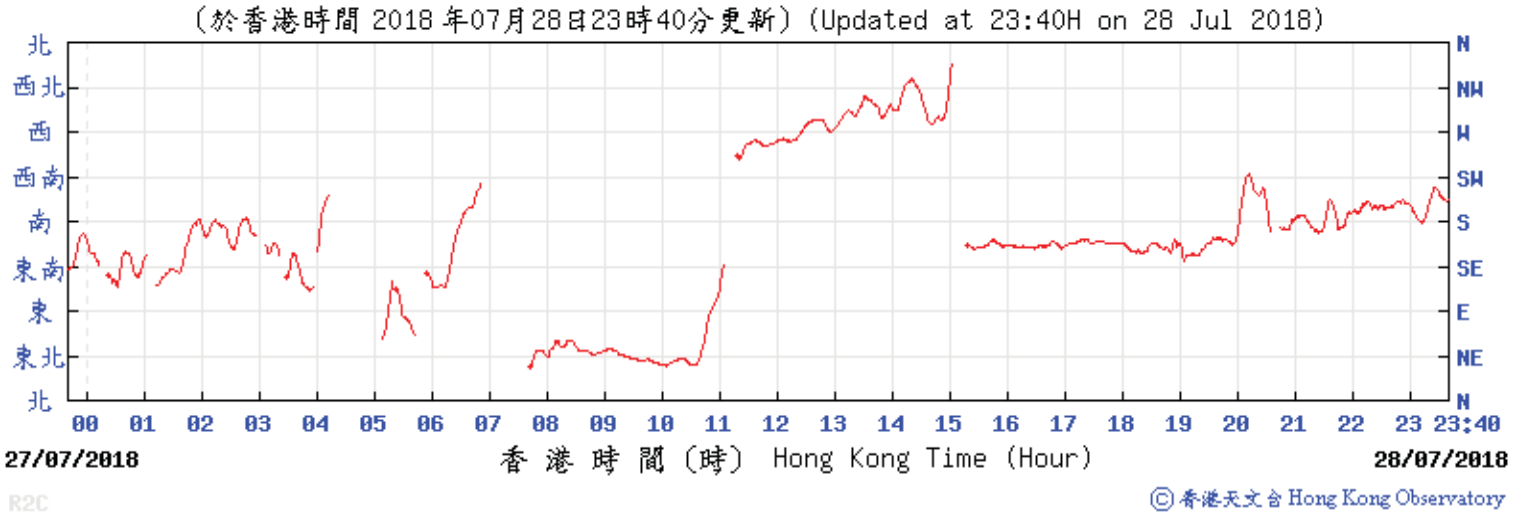
Tempearture/Humidity:



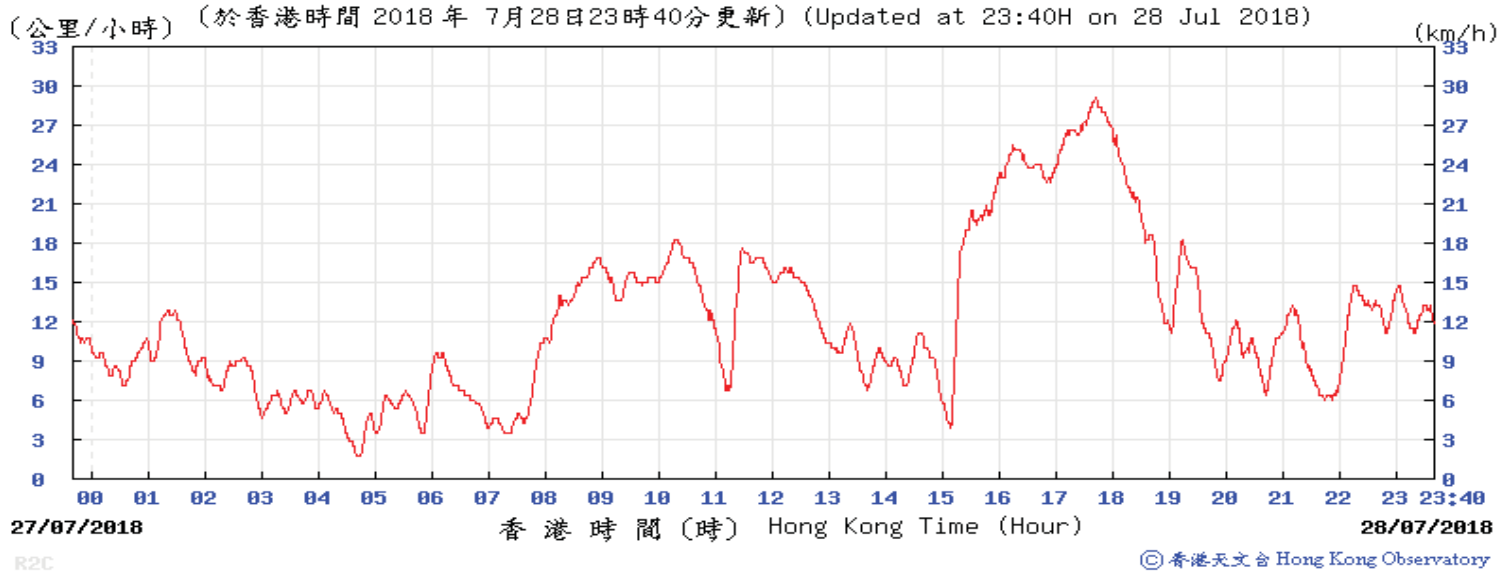
Pressure:



Wind Direction:



Wind Speed:



APPENDIX 3

A3. PHOTO OF THE SAMPLING LOCATION

Annex H4

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)	1. Identify source/reason of exceedance; 2. Repeat odour patrol to confirm finding.	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)	1. Identify source/reason of exceedance; 2. Carry out odour patrol to determinate odour intensity.	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	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.	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 I

Investigation Report

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

Investigation Report of Environmental Non-Compliance

Date	26 July 2018
Time	5:45 pm
Monitoring Location	Suspension Buffer Tank (SBT) at P1 Building1 of the Site ((Detailed location and photos shown on the marked drawing DR-OAP-20-0-CA-1001 attached as **Appendix A**)
Weather	Fine
Parameter	Water quality (WPCO Effluent Discharge License attached as **Appendix B)**
Incident Description	1. The event is related to the operation of the SBT, which is located at the upstream Anaerobic Digesters (ADx3), and downstream Intermediate Suspension Buffer Tank (ISBT). 2. A spillage of foam within the bund wall of SBT was observed at about 5:45 pm on 26 July 2018. 3. The bund wall of SBT was connected to site stormwater drainage system and the discharge of stormwater collected within the bunded area was through discharge points which are controlled by motorised penstocks. 4. There are 3 penstocks, which are normally open during operation, and manually closed in case the bunded area needed to be isolated. 5. When the incident occurred, the penstocks were opened. The foam spillage from SBT reached discharge point and entered pipes, drainage chambers, and the petrol interceptor. A small quantity of the foam was released from the terminal pipe to the Nullah (see photos).
Action Taken / Action to be Taken	1. OSCAR added antifoaming agent to the SBT at around 6 pm, and the foam disappeared inside SBT within an hour. 2. At 6:10 pm, OSCAR also called vacuum trucks to remove the spillage. 3. Two vacuum trucks reached the site at 7:20 pm to pump out all polluted water in the Nullah basin and inside the underground stormwater pipes and chamber described above. Majority of the spillage was removed. 4. ET helped to collect a water sample under the supervision of ER's at the stormwater terminal discharge point on 27 July 2018. The analysis results showed that it complied with the standards stipulated in the WPCO Effluent Discharge License. The laboratory analysis reports were provided in **Appendix C**.
Remedial Works and Follow-up Actions	1. OSCAR re-set foam level alarm to a lower threshold level, below overflow line. 2. OSCAR also reviewed the stormwater control philosophy within the bunded area with respect to avoiding potential discharge of contaminated stormwater or spillage from the SBT while maintaining proper stormwater management. OSCAR will maintain

	the stormwater drainage penstock in close position under normal operation, and will open the penstock when the water level within the bunded area reach at threshold level which will be monitored by level sensor and alarm. OSCAR will upgrade the additional level sensor for the high water level alarm system and remote control system for the opening and closure of the penstock by the end of September 2018, photo records attached in **Appendix D**. 3. OSCAR will ensure that at least one full time operator will man the control room, who can remote control the opening of the penstocks after receiving an alarm signal. 4. The Environmental Team considered the remedial actions are appropriate and can prevent or minimise future spillage of foam from the SBT and if does occur, it will be contained within the bunded area.

Prepared by:	Leah Pak, ET Représentatives
Date	7-September-2018

Annex A

Project Layout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Appendix B

WPCO Effluent Discharge License

本署檔號
OUR REF: (9) in EP/RW/0000372289
來函檔號
YOUR REF:
電　話
TEL NO. 2417 6064
圖文傳真
FAX NO. 2411 3073
電子郵件:
E-MAIL:
網址:
HOMEPAGE: http://www.epd.gov.hk

Environmental Protection Department
Environmental Compliance Division
Regional Office (West)
8/F, Tsuen Wan Government Offices,
38 Sai Lau Kok Road,
Tsuen Wan, New Territories

環境保護署
環保法規管理科
區域辦事處(西)
新界荃灣西樓角路38號
荃灣政府合署8樓

14 FEB 2017

BY REGISTERED POST

OSCAR BIOENERGY JOINT VENTURE
Room 702, 7/F, Lee Garden Two,
28 Yun Ping Road,
Causeway Bay, Hong Kong
Attn: Laurent BICKERT

Dear Sir/Madam,

Water Pollution Control Ordinance (WPCO) (Cap 358)
Variation of Licence (Licence No: WT00021482-2015) Pursuant to Section 28 of WPCO

I refer to your application received on 8 December 2016 made under Section 28 of the WPCO for the variation of your captioned licence. The Authority, pursuant to Section 28(4) & (7), hereby grants the applications with the following variations as shown in the Appendix:

- Discharge of effluent arising from leakage and pressure tests of water tanks is added;
- The new limits and varied self-monitoring and reporting requirement are added; and
- An annex is added to indicate the locations of discharge premises, discharge points and sampling points.

Please note that the expiry date of the licence remains unchanged and the licence with the varied terms and conditions (ie., the varied licence) is valid up to 31 May 2020. This letter plus the remaining valid parts of your existing licence form the varied licence. Please therefore attach this letter to your existing licence.

If you are aggrieved by any of the terms and conditions of the varied licence, you may appeal to the Appeal Board by lodging a notice of appeal under Section 29 in the prescribed manner and form within 21 days after receipt of this letter.

The granting of the application does not imply that the discharge/deposit from your premises is in compliance with the required limits as stipulated in the varied licence. It is your responsibility to ensure that the terms and conditions of the varied licence are complied with.

Should you have any enquiry, please feel free to contact Mr. LAW Yui-hung on 2417 6186.

Yours faithfully,

(LAM Ka-ho)
for Director of Environmental Protection

Encl.: Appendix

掛號郵件

OSCAR BIOENERGY JOINT VENTURE
香港銅鑼灣恩平道28號
利園二期7樓702室
經辦人：Laurent BICKERT

先生/女士：

《水污染管制條例》(第358章)
根據《水污染管制條例》第28條更改牌照
(牌照編號：WT00021482-2015)

你根據香港法例第358章《水污染管制條例》第28條，於2016年12月8日就你的申請所述處所排放的污水／沉積物向本署遞交的更改牌照申請書已經收悉。監督現根據本條例第28(4)及(7)條批准申請，並於附錄顯示下例更改：

- 新增由水缸滲漏及壓力測試所產生的污水排放;
- 新增新的限度及已更改的自行監測及報告的要求;及
- 新增附件顯示排放處所、排放點及取樣點的位置。

請注意，牌照的有限期不變，因此該牌照連同更改的條款及條件(即「已更改牌照」)有效至2020年5月31日。此信件及現有牌照組成已更改牌照。因此請把此信件與現有牌照一起存放。

如你對已更改牌照的條款及條件感到不滿，可於收到本信件後21天內，按本條例第29條的規定，使用訂明的方式及表格，向上訴委員會遞交上訴通知書，提出上訴。

獲批准申請並不表示從你的處所排出的污水或污染物質已達到已更改牌照的條款及條件所規定的排放限度。你必須採取必要措施，以確保符合已更改牌照中的條款及條件。

如有查詢，請致電2417 6086與本署 羅銳雄 先生聯絡。

環境保護署署長
(林嘉豪　　代行)

附件：附錄

二零一七年　　月　　日

ENVIRONMENTAL PROTECTION DEPARTMENT
環 境 保 護 署

PART A 甲 部 : GENERAL TERMS 一 般 條 款

Name of Licensee ("the Licensee") 持 牌 人 名 稱 (「持 牌 人」)	SITA WASTE SERVICES LIMITED, ATAL ENGINEERING LIMITED and ROS-ROCA, SOCIEDAD ANONIMA jointly trading as OSCAR BIOENERGY JOINT VENTURE 昇達廢料處理有限公司、安樂工程有限公司及ROS-ROCA, SOCIEDAD ANONIMA 聯合經營的OSCAR BIOENERGY JOINT VENTURE
Discharge Premises ("the premises") 排 放 處 所 (「處 所」)	Construction Site of Working Area Portion 1 & 2, Organic Waste Treatment Facilities Phase 1 at Sham Fung Road, Siu Ho Wan, Lantau Island, Hong Kong (Contract No.: EP/SP/61/10)(as shown in Annex) 香港大嶼山小蠔灣深豐路有機資源回收中心第1期工作區第一及第二部分的建築地盤 (合約編號：EP/SP/61/10) (如附件所示)
Water Control Zone 水 質 管 制 區	North Western 西北部
Discharge Category 排 放 種 類	Discharge of Industrial /~~Commercial / Institutional~~* Trade Effluent 工業/~~商業/機構~~* 污水排放
Nature of Discharge and Wastewater Treatment Facilities 排 放 性 質 及 廢 水 處 理 設 施	Stream A: Effluent arising from leakage and pressure tests of water tanks 污水源 A: 由水缸滲漏及壓力測試所產生的污水 Stream B: Effluent, surface run-off and all other wastewater discharges from the premises 污水源 B: 上址排放的污水，地面徑流水及其他的廢水 Stream A: Nil 污水源 A: 無 Stream B: Sand & silt removal facilities and sedimentation tank 污水源 B: 除沙設施及沉澱池
Discharge Point(s) 排 放 點	Stream A: D.P.A as shown in Annex 污水源 A: 如附件所示的 D.P.A Stream B: D.P.B as shown in Annex 污水源 B: 如附件所示的 D.P.B
Sampling Point(s) 取 樣 點	Stream A: S.P.A as shown in Annex 污水源 A: 如附件所示的 S.P.A Stream B: S.P.B as shown in Annex 污水源 B: 如附件所示的 S.P.B

PART B 乙 部 : SPECIFIC CONDITIONS 特 別 條 件

B1. Limitations on Discharge 排放限制

The quantity and composition of any discharge from the premises shall not exceed the limits stated in the table below(Note a). All figures are upper limits unless otherwise indicated. All units are expressed as concentration in milligramme per litre unless otherwise stated.

任何源自處所之排放的量和成份不得超過下表所列的限度(附註 a)。除另予表明外，所有數字均為上限。除另予說明外，所有單位均以毫克/升的濃度表示。

Determinand 測量物	Limit 限度	
	Stream A 污水源 A	Stream B 污水源 B
Flow Rate (m^3/day) 流量 (立方米 / 日)	600	40
pH (pH units) 酸鹼值(pH 單位)	6-9#	6-9#
Suspended Solids 懸浮固體	30	30
Chemical Oxygen Demand 化學需氧量	80	80

#: Range 上下限

B2. Self-monitoring and Reporting 自行監測及報告

☐ The Licensee shall perform self-monitoring as and when required by the Authority.
持牌人須在監督要求時進行自行監測。

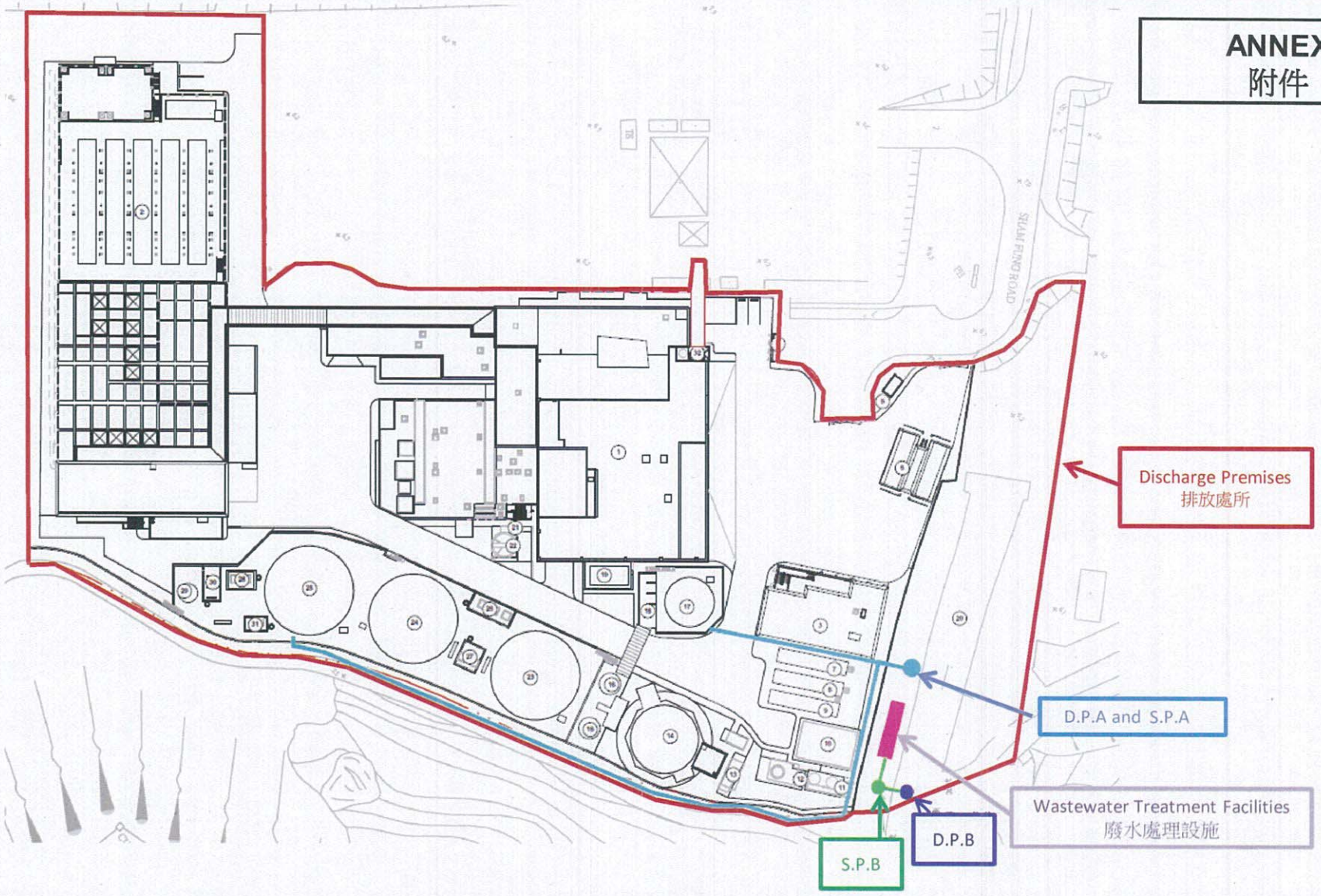
☑ The Licensee shall sample the discharge at the Sampling Point(s) and, at his own expense carry out analyses in accordance with the sample type and measurement frequency specified for each determinand named below:-
持牌人須在取樣點為排放抽取樣本，並依照下列指定的測量物、取樣形式及頻率，自資予以分析。

Determinand 測量物	*Unit 單位*	*Sample Type 取樣形式*	*Frequency 頻率*
Suspended Solids 懸浮固體	mg/L 毫克/升	Grab 隨意取集	Monthly 每一個月一次

Results of these monitoring shall be summarized in a report on a monthly ~~/ bi-monthly / quarterly~~ * basis and shall be submitted to the Authority.
所有監測結果須以摘要形式，每一個月~~/兩個月/三個月~~*作出報告，並須呈交監督審閱。

*Delete as appropriate
將不適用者刪去

ANNEX
附件



Location of Discharge Premises, Discharge Points (D.P. A and D.P.B) and Sampling Points (S.P.A and S.P.B)
排放處所，排放點(D.P.A及D.P.B)及取樣點(S.P.A及S.P.B)的位置

C 丙 部 : STANDARD CONDITIONS 標準條件

1. The Discharge 排放

C1.1 The discharge shall not contain polychlorinated biphenyls (PCB), polyaromatic hydrocarbon (PAH), fumigant, pesticide or toxicant, chlorinated hydrocarbons, flammable or toxic solvents, calcium carbide; any substance likely to damage the sewer or to interfere with any of the treatment processes, or to be harmful to the health and safety of any personnel engaged in the operation or maintenance of a sewerage system; waste liable to form scum or deposits in any part of the drainage or sewerage system, or the waters of Hong Kong; waste liable to form discolouration in any parts of the waters of Hong Kong; sludge, floatable substances or solids larger than 10 mm; and sludge or solid refuse of any kind.

排放不得含有多氯聯苯、聚芳烴、薰蒸劑、殺蟲劑或毒劑、氯化烴、可燃的或有毒的溶劑、碳化鈣；會損毀污水渠結構或干擾任何處理程序的物質，或有損操作及維修排污系統人員健康及安全的任何物質；足以在排水或排污系統，或香港水域任何範圍內形成浮渣或沉積物的廢物；足以在香港水域任何範圍內形成變色的廢物；污泥、漂浮物質或體積超越 10 毫米的固體；及任何種類的污泥或固體垃圾。

C1.2 No discharge shall bypass the wastewater treatment facilities, the Sampling Point(s) or the Discharge Point(s) unless it is unavoidable to prevent loss of life, personal injury or severe property damage or no feasible alternative exists.

除非避免人命傷亡或嚴重財物損失或無其他可行代替辦法，排放不得繞流不經其廢水處理設施，取樣點或排放點。

C1.3 Dilution of the discharge to achieve compliance with the limits contained in this licence is prohibited.

不得將排放稀釋，以求達到本牌照內所訂的限度。

C2. Flow Measurement 量度流量

The Licensee shall determine the flow rate of the discharge by installing, operating and maintaining a continuous flow measuring device with an accuracy certified by its manufacturer to be within plus or minus 3 percent of the actual flow, and calibrating the flow measuring device regularly according to manufacturer's recommendations. If no such device is installed, the Licensee shall determine the flow rate through using calculation methods agreed by the Authority, by making reference to the amount of water used in the premises being served by mains supply and other sources, less process consumption and any other losses.

持牌人必須設置、操作及保養一個連續性流量計作為測定排放的流量率之方法，其準確程度須經製造商證實為不超逾或低於真正流量的 3%，並應根據製造商建議的方法，定期校準流量計。如沒有設置該設備，持牌人須依照監督同意的計算方法，根據處所由自來水及其他水源供應的總用水量減去工序耗水量及其他耗水量來測定流量率。

C3. Treatment 處理

C3.1 The Licensee shall provide necessary wastewater treatment facilities, and shall engage personnel with adequate qualification and experience to properly operate and maintain all wastewater treatment facilities at all times. Standby equipment shall be provided to guard against failure of major treatment equipment.

持牌人須提供必需的廢水處理設施，並須僱用有足夠資格及經驗的人士，時常妥善操作及保養所有廢水處理設施。主要處理設施須配有後備裝置，以應付故障發生。

C3.2 In the event of loss of efficiency of operation, or failure of all or part of the wastewater treatment facility, the Licensee shall take all reasonable steps to the extent necessary to maintain compliance with this licence. Such steps shall remain until operation of the wastewater treatment facility is restored or an alternative method of treatment is provided.

倘若部份或整個廢水處理設施操作失靈或發生故障，持牌人須採取所有必要的合理措施，以求達到符合本牌照的規定。此等措施須維持至廢水處理設施恢復如常操作或有其他代替的處理方法可供採用為止。

C3.3 If the wastewater treatment facilities are not properly operated and maintained to the satisfaction of the Authority, the Licensee shall take immediate and effective remedial actions as required by the Authority.

倘若廢水處理設施的操作及保養未能令監督滿意，持牌人須按監督之規定，採取即時及有效的補救行動。

C4. Disposal 棄置

Sludges, screenings, solids, oil and grease, filter backwash, or other pollutants removed in the course of treatment shall be disposed of in a proper manner(Note b & c).

處理過程中所產生的污泥、隔濾物、固體、油脂、過濾器回洗或其他污染物，必須妥善地棄置(附註 b 及 c)。

C5. Monitoring 監測

C5.1 The Licensee shall provide and maintain suitable facility such as an inspection chamber, manhole sampling valve at each Sampling Point to enable duly authorized officer(s) of the Authority to tak samples of the discharge at any time from the premises.

持牌人須在每一個取樣點提供及保養適當的設施，例如檢查槽，沙井或取樣閥，以確保獲監督授權的人員隨時可在處所內抽取排放樣本。

C5.2 For self-monitoring, "grab samples" shall be taken during the period when the determinand to be analyzed for is likely to be present in its maximum concentration. "Composite samples" shall include samples taken over daily duration of the discharge.

在自行監測中，「隨意取集樣本」須在測量物的濃度很可能是最高的那段時間內抽取。「綜合樣本」須包含在每日排放期間不同時候所抽取的樣本。

C5.3 For self-monitoring, all samples shall be analyzed in accordance with the most updated analytical methods used by the Government Chemist (Note d).

在自行監測中，所有樣本均須按照政府化驗師所採用的最新分析方法予以分析（附註 d）。

C6. Records and Reporting 紀錄及報告

C6.1 The Licensee shall keep the following records in the premises for inspection by duly authorized officer(s) of the Authority:

持牌人須在處所內保存下列紀錄，以備獲監督授權的人員隨時查閱：

(i) records of flow rate, nature and composition of the discharge;
排放流量率、性質及成份的紀錄；

(ii) updated records of all monitoring information, including all laboratory analytical results relating to samples taken, all original chart recordings for continuous flow and pH monitoring; and
所有最新監測資料的紀錄，包括所有關於已取樣本的檢驗分析結果、所有連續性流量及酸鹼值監測記錄圖表的正本；及

(iii) records of all desludging and degreasing operation, and records of corresponding disposal operation.
所有清除污泥和清理隔油池廢物工序的紀錄，及其棄置工序的紀錄。

Copies of all such records shall be submitted to the Authority upon request.
在監督要求時，須向監督呈交所有該等紀錄的副本。

C6.2 The Licensee shall notify and explain to the Authority within 24 hours upon the occurrence of an accidental discharge or any emergency bypass or an overflow of untreated effluent or an operation upset which places the discharge in a temporary state of non-compliance with this licence. The Licensee shall within 7 days following the incident, submit to the Authority a detailed report in writing on the cause and duration of the non-compliance and steps taken or to be taken to reduce, eliminate, or prevent recurrence of such non-compliance. Reporting in accordance with this Condition does not relieve the Licensee of any obligations imposed by this licence.

倘若有未經處理的污水意外排放、緊急繞流或溢滿的事件或操作失靈，引至排放出現短暫不符合牌照規定的情況，持牌人須在事發後 24 小時內立即知會監督並予以解釋。持牌人須在事故發生後 7 天內，以書面報告，詳述事件的起因、違反牌照條件的時間及為減少、消除或防止類似事件再次發生所採取或將會採取的措施，送交監督審閱。然而，按照本條件的規定提交報告並不表示持牌人可獲免除承擔本牌照內所載的任何責任。

C7. Operation Manual 操作手冊

The Licensee shall prepare an operation manual which shall include, as a minimum, operating procedures, inspection programme and repair and maintenance programme for the wastewater treatment facilities. The operation manual shall be kept at the aforesaid wastewater treatment facilities and a copy of the manual shall be submitted to the Authority upon request.

持牌人須擬備廢水處理設施的操作手冊。手冊內容須最低限度包括操作程序、檢查、維修及保養工作計劃表。該手冊須保存在上述廢水處理設施內。持牌人須在監督要求時，呈交手冊副本乙份。

C8. Notification of Change 更改通知

The Licensee shall notify the Authority in writing within 14 days of any changes or proposed changes in the processes of manufacture or the nature of the raw materials used or of any other circumstances which may alter the nature and composition of the discharge or may result in the permanent cessation of the discharge.

倘若持牌人更改或擬更改其生產程序、或所用原料的性質、或有其他足以改變其排放的性質及成份或可導致永久性終止排放的事情，必須在 14 日內以書面通知監督。

(a) For the purposes of determining compliance with the limits stated in Specific Condition B1, samples shall be taken by the duly authorized officer(s) of the Authority at the Sampling Point(s) or any other points from which the samples so taken are regarded by the Authority as being representative of the quality of the discharge. When any single sample analyzed for a determinand is proved not complying with corresponding limit set out in the table, the discharge is deemed to have failed to comply with Specific Condition B1.
為確定排放是否符合特別條件第 B1 項內所列的限度，獲監督授權的人員須在取樣點或在監督認為可以抽取到具代表性的樣本的任何其他位置抽取樣本。只要在任何一個經分析的樣本中，證實任何一個測量物不符合表中所列的相應限度時，排放即被視為不符合特別條件第 B1 項。

(b) An example of proper disposal method for sludge is sending dewatered sludge to landfill for disposal.
妥善棄置污泥方法中的一個例子是將脫水後的污泥運往堆填區棄置。

(c) Proper disposal of grease trap waste includes but is not limited to employing any reputable firm or collector who will use the right equipment and dispose of the collected grease trap waste at West Kowloon Transfer Station. The updated list of grease trap waste collectors who are using the disposal service at West Kowloon Transfer Station is maintained in the EPD website and Green Restaurant website.
妥善的隔油池廢物棄置方法包括卻不限於聘用任何信譽良好的公司／收集商使用適當的設備在西九龍廢物轉運站棄置所收集的隔油池廢物。環保署網站及環保食肆網均載有目前使用西九龍廢物轉運站棄置隔油池廢物的收集商最新名單。

(d) The Licensee may make reference to Annex 1 of the <Technical Memorandum on Effluent Standards> for analytical methods used by the Government Chemist.
持牌人可參照「流出物標準技術備忘錄」附件 1 有關政府化驗師所採用的分析方法。

(e) The Licensee shall keep this licence in the premises and make it available at all times for inspection by duly authorized officer(s) of the Authority.
持牌人須在處所內保存此牌照，以備獲監督授權的人員隨時查閱。

(f) (i) The Licensee shall allow duly authorized officer(s) of the Authority to enter the premises for the purposes of inspection, sampling, records examination or any other duties authorized by Section 37 and Section 38 of the Ordinance.
持牌人須准許獲監督授權的人員進入處所內進行檢查、抽取樣本、審查紀錄或執行其他根據本條例第 37 及第 38 條所授權的職務。

(ii) Where the premises has security measures in force which would require proper identification and clearance before entry, the Licensee shall make necessary arrangements such that upon presentation of evidence of identity and of authorization, duly authorized officer(s) will be permitted to enter, without delay, for the purposes of performing duties.
倘若由於處所的保安理由而需先行鑑定來人的身份，持牌人必須作出必要的安排，以便獲授權人員在出示身份證明及授權文件後，即可內進執行其職務而不致受延誤。

(g) (i) For a licence granted under Section 15 of the Ordinance, the Licensee may, not less than 2 months before expiry of the licence, apply under Section 19 of the Ordinance for a new licence. The Authority may grant the licence or otherwise.
持有根據本條例第 15 條所批給牌照的人士，可於牌照屆滿前不少於 2 個月內，根據本條例第 19 條的規定，申請一面新牌照。監督可批給或拒絕批給牌照。

(ii) For a licence granted under Section 20 or 23A of the Ordinance, the Licensee may, not more than 4 months and not less than 2 months before expiry of the licence, apply under Section 23 or 23A respectively of the Ordinance for renewal of licence. The Authority may renew the licence or otherwise.
持有根據本條例第 20 條或第 23 A 條所批給牌照的人士，可於牌照屆滿前不多於 4 個月及不少於 2 個月內，根據本條例的第 23 或 23 A 條的規定，申請牌照續期。監督可將牌照續期或拒絕將牌照續期。

(h) Under Section 24 of the Ordinance, the Authority may by notice in writing, impose new or amended terms and conditions on this licence or cancel this licence. Under Section 25, 26 and 27 of the Ordinance, a Licensee whose licence has been so varied or cancelled may be entitled to compensation.
根據本條例第 24 條的規定，監督可以書面通知，向本牌照施加新訂或經修訂的條款及條件，或取消本牌照。根據本條例第 25、26 及 27 條的規定，被更改或取消牌照的持牌人可能會獲得補償。

(i) Under Section 28 of the Ordinance, the Licensee may apply to the Authority for a variation of this licence.
根據本條例第 28 條的規定，持牌人可向監督申請更改本牌照。

(j) Under Section 49 of the Ordinance, this licence shall not be construed as a dispensation from the requirements of any other Ordinance except where that other Ordinance so provides.
根據本條例第 49 條的規定，本牌照並不得解釋為豁免符合任何其他條例的規定，除非該其他條例如此訂定。

Appendix C

Water Sample Laboratory Report

CERTIFICATE OF ANALYSIS

Client	: OSCAR BIOENERGY JOINT VENTURE	Laboratory	: ALS Technichem (HK) Pty Ltd	Page	: 1 of 3
Contact	: LEAH PAK	Contact	: Richard Fung	Work Order	: HK1841187
Address	: FLAT/RM 702, 7/F, LEE GARDEN TWO, 28 YUN PING ROAD, CAUSEWAY BAY, HONG KONG	Address	: 11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong		
E-mail	: leah.pak@oscarbioenergy.hk	E-mail	: richard.fung@alsglobal.com		
Telephone	: ----	Telephone	: +852 2610 1044		
Facsimile	: ----	Facsimile	: +852 2610 2021		
Project	: ORGANIC RESOURCES RECOVERY CENTRE (PHASE 1)			Date Samples Received	: 27-Jul-2018
Order number	: ----	Quote number	: HKE/1413a/2017	Issue Date	: 01-Aug-2018
C-O-C number	: ----			No. of samples received	: 3
Site	: ----			No. of samples analysed	: 3

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

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

General Comments

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release. When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes. Testing period is from 27-Jul-2018 to 31-Jul-2018.

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

Specific Comments for Work Order: HK1841187

Sample(s) were received in ambient condition.

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

Calibration range of pH value is 4.0 - 10.0. Results exceeding this range is for reference only.

pH value is reported as at 25°C.

Analytical Results

Sub-Matrix: **WATER**

Compound	CAS Number	LOR	Unit	Client sample ID: P 1-Nullah Client sampling date / time: 27-Jul-2018 10:00 HK1841187-001
EA/ED: Physical and Aggregate Properties				
EA002: pH Value	----	0.1	pH Unit	**9.0**
EA025: Suspended Solids (SS)	----	2	mg/L	**6**
EP: Aggregate Organics				
EP026C: Chemical Oxygen Demand	----	5	mg/L	**13**

Appendix C

Photo Records

Two vacuum trucks reached to remove the spillage.

Penstocks are in close position under normal operation.