Issue No. : Issue 1
Issue Date : January 2017
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ECOPARK OPERATION

ANNUAL ENVIRONMENTAL MONITORING & AUDIT REPORT 2016

Prepared By:

ALLIED ENVIRONMENTAL CONSULTANTS LTD.

COMMERCIAL-IN-CONFIDENCE

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EXECUTIVE SUMMARY

General

EcoPark is a key element in the Government's waste management policy that aims at promoting the local recycling industry by providing long-term land at affordable rents, thereby encouraging investment in advanced technology and value-added recycling processes. EcoPark is being developed in two phases in Tuen Mun Area 38 as shown in ***Figure 1.1***. The contract for the management of EcoPark – Contract No. *EP/SP/71/13 Provision of Management Services for EcoPark 2014* was awarded to Urban Property Management Limited (UPML) by Environmental Protection Department (EPD) effective from 30th October 2014.

UPML, the "Operator" of EcoPark, appointed Allied Environmental Consultants Ltd. (AEC) as the Environmental Team (ET) to carry out the Environmental Monitoring and Audit (EM&A) works for the operation of EcoPark as required by the EM&A Manual and in accordance with the conditions of the Environmental Permit (EP) (EP-226/2005/D).

This is the tenth (10th) annual EM&A report prepared for the operation phase of EcoPark and covers the calendar year of 2016.

There are fourteen tenants in EcoPark Phase 1 and Phase 2 in 2016. Ten tenants have commenced full recycling activities within their lots, namely Champway, Shiu Wing, Hung Wai, Li Tong, Telford, Yan Oi Tong, St. James' Settlement/WEEE Refurbishment, Chung Yue, K.Wah and South China. Tenancy of Lot P5 to St. James' Settlement WEEE GO GREEN (St. James' Settlement) had expired on 7th October 2016. The lot was handled by Alba IWS temporarily for continuation of the carrying out of WEEE refurbishment without introduction of new process from 8th October 2016. One tenant (E.Tech) carried out machinery testing. Waste Management Policy Group (WMG) of EPD has taken possession of Lot Nos. P2, P3, and P4 and handed over to Alba IWS to carry out plant construction. Two tenants (On Fat Lung and SSK) are carrying out plant construction / site works; and one tenant's (Cosmos) tenancy was terminated.

Throughout the reporting year, monthly site inspections and monthly random site inspections were conducted by the ET and the IEC respectively, while quarterly joint site inspection was carried out by the Operator, the IEC and the ET. Observations and recommendations were made during site inspections.

Throughput of Materials / Waste Generated

The throughputs of the ten active tenants in the reporting year are summarised below. Please note that product output plus waste disposal does not necessarily equal the waste input, due to material losses during processing and material retained within the lots.

Material Type	Waste Input (tonnes)	Product Output [(4)] (tonnes)	Waste Disposed [(4)] (tonnes)
Waste Organic Food	13,719	6,332	6,519
Waste Ferrous Metals	116,531	109,921	-
Waste Wood	746	968	-
Waste Electronics	1,455	1,221	109

Material Type	Waste Input (tonnes)	Product Output [4] (tonnes)	Waste Disposed [4] (tonnes)
Waste Plastics	5,496	4,537	722
Waste Glass	2,085	106,191	325
Construction Waste	40,502		

Notes:

1) The throughput data presented above is the best available data and has been rounded off to the nearest whole tonne for presentation. Unavailable data will be reported in the next EM&A report.
2) The total product output may not be the same as the waste input due to processing of materials that were received before the reporting year and were stored within the lots.
3) Waste disposal refers to the disposal of general refuse (i.e. packaging) and/or chemical waste.
4) Since the recycling of waste glass and construction waste is combined to produce concrete block at K.Wah, the product output and waste disposal from both processes are combined.

Exceedances of Any Measured Action / Limit Levels

The northern part of EcoPark is located within the 250m Landfill Gas (LFG) Consultation Zone of Siu Lang Shui Landfill. LFG monitoring was carried out quarterly at five locations (three in Phase 1 and two in Phase 2) in the reporting year. The LFG monitoring in Phase 2 (EP2-1 and EP2-2) was commenced in January 2011.

In the reporting year, LFG monitoring was undertaken on 11th March, 6th June, 21st September and 22nd December 2016. Exceedances of Action and Limit Levels were recorded at Station EP1-2 and 2-1 on 6th June 2016 and are summarised as below.

Station ID	Parameter	Recorded Level	Action Level	Limit Level	Status
EP1-2	Carbon Dioxide (% v/v)	1.1	> 0.5%	> 1.5%	Exceedance of Action Level
	Oxygen (% v/v)	18.7	< 19%	< 18%	Exceedance of Action Level
EP2-1	Carbon Dioxide (% v/v)	2.6	> 0.5%	> 1.5%	Exceedance of Limit Level
	Oxygen (% v/v)	17.6	< 19%	< 18%	Exceedance of Limit Level

No apparent source of carbon dioxide (CO_2) generation or oxygen (O_2) depletion was identified within the underground chambers during investigation. Ventilation enhancements were carried out in accordance with the Event Action Plan for LFG specified in Table 6.1 of the EM&A Manual to restore the concentrations of CO_2 and O_2 to non-exceedance level. After investigation, the exceedances are believed to be due to organic matter accumulation and decomposition in the underground chambers. There is no indication of the migration of LFG from Siu Lang Shui Landfill.

In view of the exceedances of Oxygen (O_2) and Carbon Dioxide (CO_2) recorded during LFG monitoring in June 2016, the operator had carried out cleaning of the underground chambers and utility pipes on 22nd August 2016. The concentrations of carbon dioxide and oxygen then returned to a non-exceedance level during the monitoring on 21st September 2016.

Summary of Complaints, Summons and Prosecutions

One complaint about odour nuisance from South China's Lot was received from Tuen Mun Area 38 Fill Bank via phone on 29th December 2015. Investigation was carried out by the ET and the Operator on 7th January 2016 to identify the potential sources. The new measures are considered as

sufficient to minimise the odour escaping from the works area and to prevent the causing of odour nuisance to the vicinity.

One complaint on the wastewater treatment and odour nuisance at South China's Lot was received by EPD on 26th October 2016 and referred to the ET, IEC and the Project Proponent on 3rd November 2016. Temporary measures had been implemented by South China, while some of the rectification works are in progress. The complaint will be followed up in the next quarterly and annual report.

No environmental summon or successful prosecution was recorded in the reporting year.

Reporting Changes

There is no reporting change in the reporting year.

Future Key Issues

No key issues are anticipated in the next reporting year.

Conclusions of Annual Review

In terms of interpretation of EM&A data, the outcome of quarterly monitoring is considered as sufficient and effective according to *Section 8.7.11* of the EIA Report and *Section 6.4.4* of the EM&A Manual.

In terms of the environmental acceptability of EcoPark, no critical environmental deficiencies were identified at various tenants' lots in EcoPark in the reporting year, except the incident recorded at South China in August 2016. Therefore, the operation of EcoPark in environmental terms is considered as acceptable in general.

In terms of the practicality and effectiveness of the EIA process and the EM&A programme, the mitigation measures proposed in the EIA Study are effective and efficient. The use of the Process Review mechanism to assess incoming processes, processes not assessed in the EIA, or processes with greater throughputs than EIA assumption, is considered to work well and is fully in accordance with the EP conditions, the recommendations of EIA and the requirements of the EM&A programme. It is recommended to supplement the future Quarterly EM&A Reports with a summary of Process Reviews and DAs that are related to the recycling processes operating in EcoPark within the reporting period.

1 PROJECT BACKGROUND

1.1 Project Overview

1.1.1 In the document "A Policy Framework for the Management of Municipal Solid Waste (2005 –2014)", the government set out a comprehensive policy to support the recycling industry. This included allocating suitable land, encouraging research and development, introducing environmental legislation and providing effective support measures. In May 2013, the Environment Bureau launched "Hong Kong Blueprint for Sustainable Use of Resources 2013 – 2022", which promised continuing support for the recycling industry.

1.1.2 EcoPark was developed to support the local recycling industry by providing long-term land at affordable rents, thereby encouraging investment in advanced technology and value-added recycling processes.

1.1.3 EcoPark, as shown in ***Figure 1.1***, has been developed in Tuen Mun Area 38 in two phases (Phase1 and Phase 2) under Contract *EP/SP/52/06 Development of EcoPark in Tuen Mun Area 38*, which was awarded to Kaden Construction Ltd by the Environmental Protection Department (EPD) in June 2006. Phase 1 construction was completed in July 2009 and Phase 2 construction was completed in November 2010.

1.1.4 The contract for the management of EcoPark – Contract No. *EP/SP/71/13 Provision of Management Services for EcoPark 2014* was awarded to Urban Property Management Limited (UPML) by Environmental Protection Department (EPD) effective from 30th October 2014.

1.1.5 UPML, the "Operator" of EcoPark, has appointed Allied Environmental Consultants Ltd. (AEC) as the Environmental Team (ET) to carry out the Environmental Monitoring and Audit (EM&A) works for the operation of EcoPark as required by the EM&A Manual and in accordance with the conditions of the Environmental Permit. Mott MacDonald Hong Kong Limited (MottMac) has been appointed by the EPD as the Independent Environmental Checker (IEC) for the Project. The ET and the IEC carry out the EM&A works for EcoPark as required by the EM&A Manual and in accordance with the conditions of the Environmental Permit (EP).

1.2 Operation Programme

1.2.1 By the end of the reporting year, there were a total of fourteen tenants in EcoPark comprising:

- Ten active tenants (Champway, Shiu Wing, Li Tong, Telford, St. James' Settlement/WEEE Refurbishment, Yan Oi Tong, Hung Wai, Chung Yue, K.Wah and South China) who have carried out full recycling operations;
- One tenant (E.Tech) carried out machinery testing;
- Waste Management Policy Group (WMG) of EPD has taken possession of Lot Nos. P2, P3 and P4 and handed over to Alba IWS to carry out plant construction;

- Two tenants (On Fat Lung and SSK) who are carrying out plant construction / site works;
- One tenant (Cosmos) whose tenancy was terminated.

1.3 Project Organization and Contact Personnel

1.3.1 Key personnel and contact particulars are summarised in ***Table 1.1***.

Table 1.1 EM&A Personnel Contact Details

Position	Name	Email Address	Phone No.
Project Proponent – EPD			
Senior EPO	Mr. W. Y. WONG	wywong@epd.gov.hk	2872 1647
Operator – UPML			
Project Manager	Ms. Raindy YIP	raindy.py.yip@urban.com.hk	2212 5900
Park Manager	Ms. May WU	may.sm.wu@urban.com.hk	2212 5920
IEC – Mott MacDonald			
IEC	Ir. Eric CHING	eric.ching@mottmac.com	2828 5757
ET – AEC			
ET Leader*	Dr. James WONG	jw@aechk.com	2815 7028
	Ms. Grace KWOK	gk@aechk.com	2815 7028

* Dr. James WONG was replaced by Ms. Grace KWOK with effective from mid-December 2016.

1.3.2 The organisational structure and lines of communication for the operation of EcoPark with respect to environmental management is given in ***Figure 1.2*** and ***Figure 1.3*** respectively.

Figure 1.1 Location of EcoPark in Tuen Mun Area 38

Figure 1.2 Organization Chart of UPML

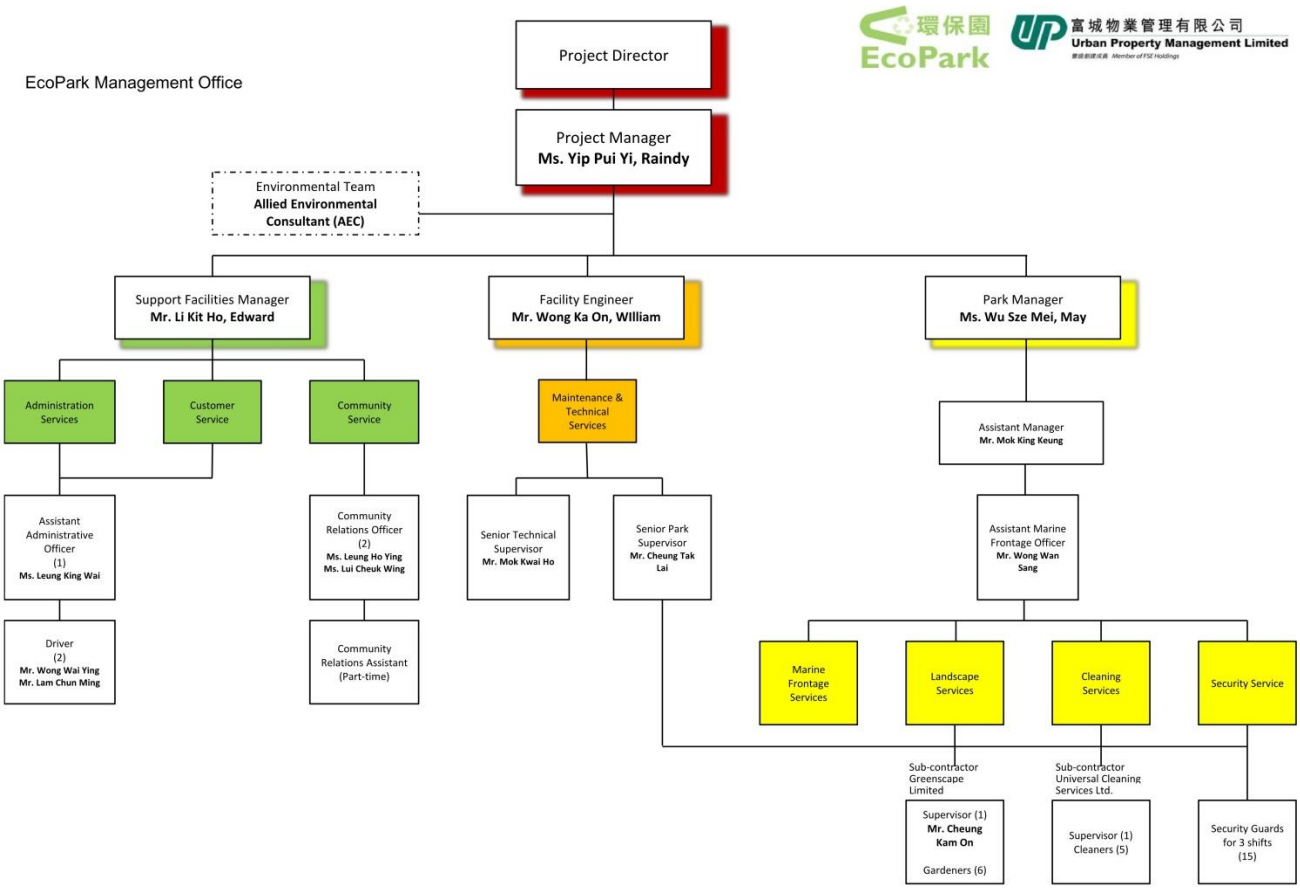
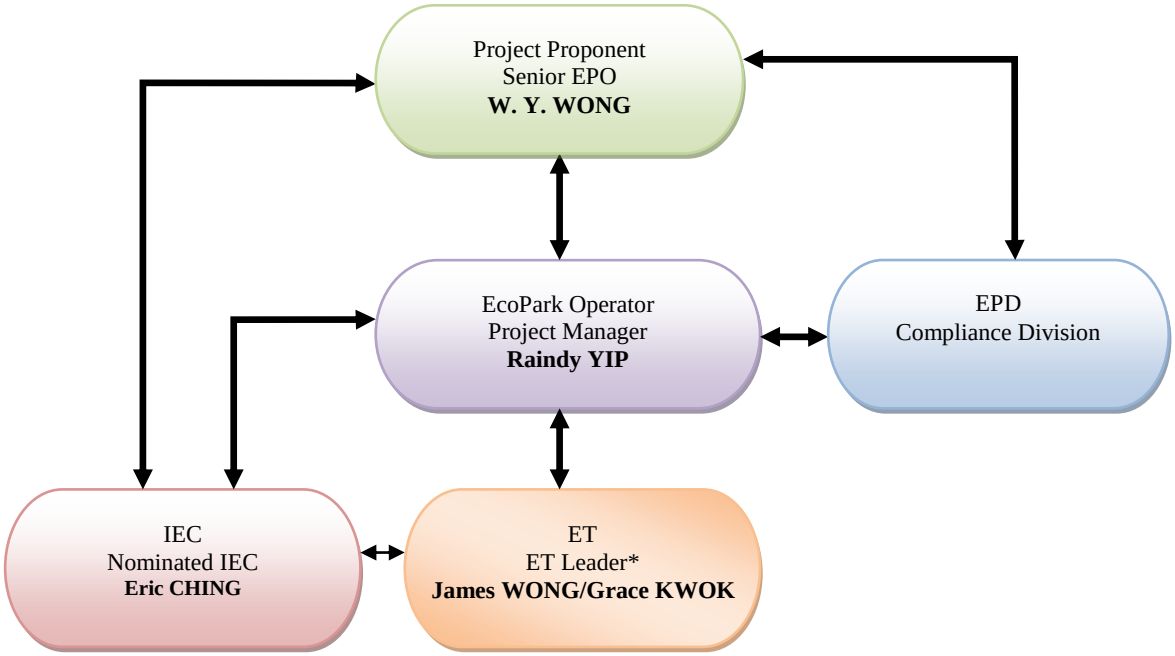


Figure 1.3 Organization Chart of EM&A Works (Operation)



* Dr. James WONG was replaced by Ms. Grace KWOK with effective from mid-December 2016.

2 SUMMARY OF EM&A REQUIREMENT

2.1 Monitoring Parameters

2.1.1 Landfill Gas (LFG) is required to be monitored quarterly at service voids and utility boxes within EcoPark because the northern part of EcoPark lies within the 250m LFG Consultation Zone for Siu Lang Shui Landfill, which is located to the north of EcoPark.

2.1.2 Operational LFG monitoring has been carried out in Phase 1 after completion of construction in July 2009, commencing in the August to October 2009 quarter. In Phase 2, monitoring has been carried out after completion of construction in November 2010, commencing in the November 2010 to January 2011 quarter.

2.1.3 The location for LFG monitoring was not specified in the EM&A Manual since the final design of EcoPark was not available when the EM&A Manual was approved. Therefore, during a joint site inspection on 27th July 2009, three monitoring locations were identified and agreed as suitable monitoring locations by the former ET (SMEC Asia Ltd.), IEC (Atkins China Ltd.) and the Operator (Serco Guardian Joint Venture). Subsequently, two more monitoring locations in Phase 2 were proposed by the former ET Leader and agreed by the IEC and Operator via email in January 2011. These five monitoring locations are listed in ***Table 2.1*** and shown in ***Figure 2.1***.

Table 2.1 Operation Phase LFG Monitoring Locations in EcoPark

Monitoring Station ID	Type	Locations
EP1-1	LFG vent pipe	Inside the landscaping area of Administration Building
EP1-2	Service void	PCCW below-ground chamber outside Lot EP08-01
EP1-3	Service void	HGC Broadband below-ground chamber outside Lot EP08-03
EP2-1	Service void	HGC Broadband below-ground chamber outside Lot P1
EP2-2	Service void	HGC Broadband below-ground chamber outside Lot P3

2.1.4 Routine LFG monitoring has been carried out on a quarterly basis. Should EPD alert the Operator that high LFG levels have been detected during monthly monitoring under the Siu Lang Shui Landfill restoration contract, the Operator may be required to increase LFG monitoring to monthly until such time as EPD inform the Operator that quarterly monitoring can be resumed. To-date, no detection of high LFG levels under Siu Lang Shui Landfill restoration contract was received from EPD.

2.2 Environmental Quality Performance Limits and EAP

2.2.1 The Action/Limit Levels and Event Action Plan (EAP) for LFG are shown in ***Table 2.2*** below. These refer to LFG detected in excavations, utilities and any enclosed on-site areas. No other A/L Levels or EAPs are specified in the EM&A Manual for the operation phase EM&A.

Table 2.2 Action Levels, Limit Levels and Event and Action Plan for LFG

Parameter	Level	Action
Oxygen (O_2)	Action Level <19% O_2	• Ventilate trench/void to restore O_2 to >19%
	Limit Level <18% O_2	• Stop works • Evacuate personnel/prohibit entry • Increase ventilation to restore O_2 to >19%
Methane (CH_4)	Action Level >10% LEL	• Post "No Smoking" signs • Prohibit hot works • Increase ventilation to restore CH_4 to <10% LEL
	Limit Level >20% LEL	• Stop works • Evacuate personnel/prohibit entry • Increase ventilation to restore CH_4 to <10% LEL
Carbon Dioxide (CO_2)	Action Level >0.5% CO_2	• Ventilate to restore CO_2 to <0.5%
	Limit Level >1.5% CO_2	• Stop works • Evacuate personnel/prohibit entry • Increase ventilation to restore CO_2 to <0.5%

2.3 Environmental Audit of Non-Monitored Parameters

2.3.1 Site inspections provide a direct means to trigger and enforce the environmental protection and pollution control measures specified in the Environmental Impact Assessment (EIA) Report. To examine operational practice, site inspections are to be undertaken by the ET once per month. The monthly inspection shall join with the random site inspection by the IEC where possible. A joint inspection by ET and IEC will be carried out at least once per quarter. Ad hoc site inspections are also carried out if significant environmental problems are identified. In addition, inspections may be required subsequent to receipt of environmental complaint, or as part of the investigation work, as specified in the EAP.

2.3.2 The following parameters are required to be audited as part of the operation phase EM&A program:

- Air Quality
- Water Quality
- Waste Management
- Land Contamination

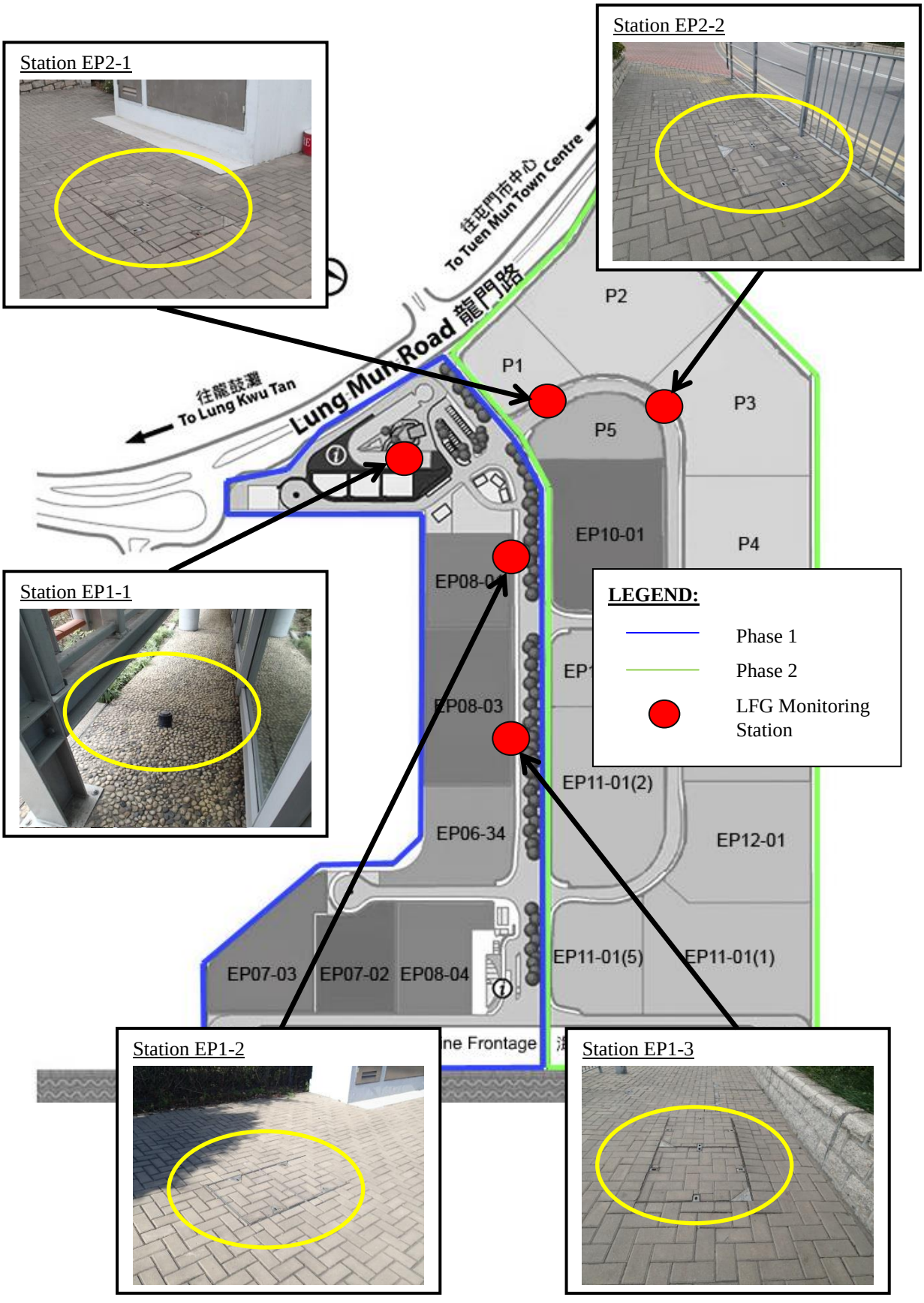
2.4 Environmental Mitigation Measures

2.4.1 Environmental mitigation measures applicable to the operation phase EM&A as stated in the Implementation Schedule are summarised in ***Appendix 1.***

2.5 Environmental Requirements in Tenancy Agreements

2.5.1 Environmental requirements specified in tenancy agreements are provided in ***Appendix 2.***

Figure 2.1 LFG Monitoring Locations within EcoPark



3 OPERATION STATUS

3.1 General

3.1.1 The location of lots within EcoPark, the tenancy numbers and tenant names are shown in ***Figure 3.1.*** A summary of waste throughputs is provided in *Section 3.12.* Brief descriptions of the active tenants are provided from *Section 3.2* to *3.11*.

3.1.2 In the reporting year:

- E.Tech carried out machinery testing;
- Tenancy of St. James' Settlement expired on 7th October 2016. Lot P5 was transferred to Alba IWS temporarily for continuation of the carrying out of WEEE refurbishment from 8th October 2016;
- Waste Management Policy Group (WMG) of EPD has taken possession of Lot Nos. P2, P3 and P4 and handed over to Alba IWS to carry out plant construction; and
- On Fat Lung and SSK carried out plant construction works / site works.

3.2 Champway Technology Limited

- **Tenancy No.:** EP07-03 (Phase 1)
- **Lot Size:** Approx. 6,000m^2
- **Activity:** Recycling of Organic Waste (Waste Cooking Oil)
- **Recycling Process:** Turn waste cooking oil into biodiesel by extraction, neutralisation, separation and distillation

3.2.1 Recycling of waste cooking oil was carried out in the reporting year.

3.3 Shiu Wing Steel Limited

- **Tenancy No.:** EP08-03 (Phase 1)
- **Lot Size:** Approx. 9,500m^2
- **Activity:** Recycling of Waste Metals
- **Recycling Process:** Turn waste metals into light ferrous scrap and heavy ferrous scrap by sorting, baling and shearing

3.3.1 Recycling of waste metal was carried out in the reporting year.

3.4 Hong Kong Hung Wai Wooden Board Company

- **Tenancy No.:** EP06-34 (Phase 1)
- **Lot Size:** Approx. 5,000m^2
- **Activity:** Recycling of Waste Wood

- **Recycling Process:** Recycle waste wood to wood fuel pellets. Ferrous metals will be separated by magnets.

3.4.1 Recycling of waste wood was carried out in the reporting year.

3.5 Li Tong Group

- **Tenancy No. :** EP07-02 (Phase 1)
- **Lot Size:** Approx. 6,500m^2
- **Activity:** Recycling of WEEE
- **Recycling Process:** Manually dismantling of WEEE into metals (ferrous materials, aluminium, etc.) and non-metals (fibres, plastics, etc.). Manually dismantling of Cathode Ray Tube (CRT) glass and Liquid Crystal Display (LCD) panels would be carried out upon request.

3.5.1 Recycling of WEEE was carried out in the reporting year.

3.6 Hong Kong Telford Envirotech Group Limited

- **Tenancy No. :** EP08-01 (Phase 1)
- **Lot Size:** Approx. 5,000m^2
- **Activity:** Recycling of Waste Plastics
- **Recycling Process:** Sorting, shredding and baling of waste plastics

3.6.1 Recycling of waste plastic was carried out in the reporting year.

3.7 Yan Oi Tong EcoPark Plastic Resources Recycling Centre

- **Tenancy No. :** EP10-01 (Phase 2)
- **Lot Size:** Approx.9,000 m^2
- **Activity:** Recycling of waste plastics
- **Recycling Process:** Convert mixed waste plastics into pellets/flake/baled materials by pre-washing/sterilization, sorting, flaking, washing, drying, extrusion and chipping.

3.7.1 Recycling of waste plastic was carried out in the reporting year.

3.8 St. James' Settlement/WEEE Refurbishment at Lot P5

- **Lot No.: P5** (Phase 2)
- **Lot Size:** Approx. 5,000 m^2
- **Activity:** Recycling of WEEE

- **Recycling Process:** WEEE will be sorted on site first. WEEE suitable for reuse will be repaired and refurbished, whilst those irreparable / not suitable for repair will be collected by local contractors designated by WMG.

3.8.1 Tenancy of Lot P5 to St. James' Settlement has expired on 7th October 2016. The lot was transferred to Alba IWS temporarily for continuation of the carrying out of WEEE refurbishment from 8th October 2016. Initial assessment was made and findings were reported in the supplementary information to the previously approved process review checklist (PRC) for St. James' Settlement (PRC No. 008). It was confirmed that the WEEE refurbishment processes to be carried out is only a continuum of parts of the processes in St. James' Settlement and no new process is introduced. In this reporting year, WEEE was recycled.

3.9 Chung Yue Steel Group Company Limited

- **Tenancy No.:** EP11-01(1) (Phase 2)
- **Lot Size:** Approx. 100,000 m^2
- **Activity:** Recycling of Waste Metals
- **Recycling Process:** Turn waste metals into non-ferrous scrap, light ferrous scrap and heavy ferrous scrap by sorting, baling and shearing.

3.9.1 Waste metal recycling was carried out in the reporting year.

3.10 K.Wah Construction Products Ltd.

- **Tenancy No.:** EP11-01(3) (Phase 2)
- **Lot Size:** Approx. 10,000 m^2
- **Activity:** Recycling of Waste Construction Materials/Waste Glass
- **Recycling Process:** Waste construction materials and waste glass will be crushed and delivered to the concrete mixing plant for blending and poured into block machine for casting. The blocks will then be cured, washed and packaged.

3.10.1 Recycling of waste glass and construction materials were carried out in the reporting year.

3.11 South China Reborn Resources (Zhongshan) Company Ltd.

- **Tenancy No.:** EP12-01 (Phase 2)
- **Lot Size:** Approx. 9,000 m^2
- **Activity:** Recycling of Organic Waste (Food Waste)
- **Recycling Process:** Food waste will be segregated. The recyclable portion will undergo deodorisation, dewatering, shredding, fermentation and drying to produce high protein animal feed for livestock farming and aquaculture.

3.11.1 Recycling of food waste was carried out in this reporting year.

3.12 Throughput Statistics

3.12.1 For the active recyclers, most of the incoming waste materials and outgoing products were delivered by land transportation, except for the metals from Chung Yue and Shiu Wing were delivered by both marine and land transportation.

3.12.2 The throughputs of the ten active tenants in the reporting year are summarised in ***Table 3.1***. Please note that product output plus waste disposal does not necessarily equal the waste input, due to material losses during processing and material retained within the lot.

Table 3.1 Throughput Statistics for the Reporting Year

Material Type	Waste Input (tonnes)	Product Output [(4)] (tonnes)	Waste Disposed [(4)] (tonnes)
Waste Organic Food	13,719	6,332	6,519
Waste Ferrous Metals	116,531	109,921	-
Waste Wood	746	968	-
Waste Electronics	1,455	1,221	109
Waste Plastics	5,496	4,537	722
Waste Glass	2,085	106,191	325
Construction Waste	40,502		

Notes:

1) The throughput data presented above is the best available data and has been rounded off to the nearest whole tonne for presentation. Unavailable data will be reported in the next EM&A report.
2) The total product output may not be the same as the waste input due to processing of materials that were received before the reporting year and were stored within the lots.
3) Waste disposal refers to the disposal of general refuse (i.e. packaging) and/or chemical waste.
4) Since the recycling of waste glass and construction waste is combined to produce concrete block at K.Wah, the product output and waste disposal from both processes are combined.

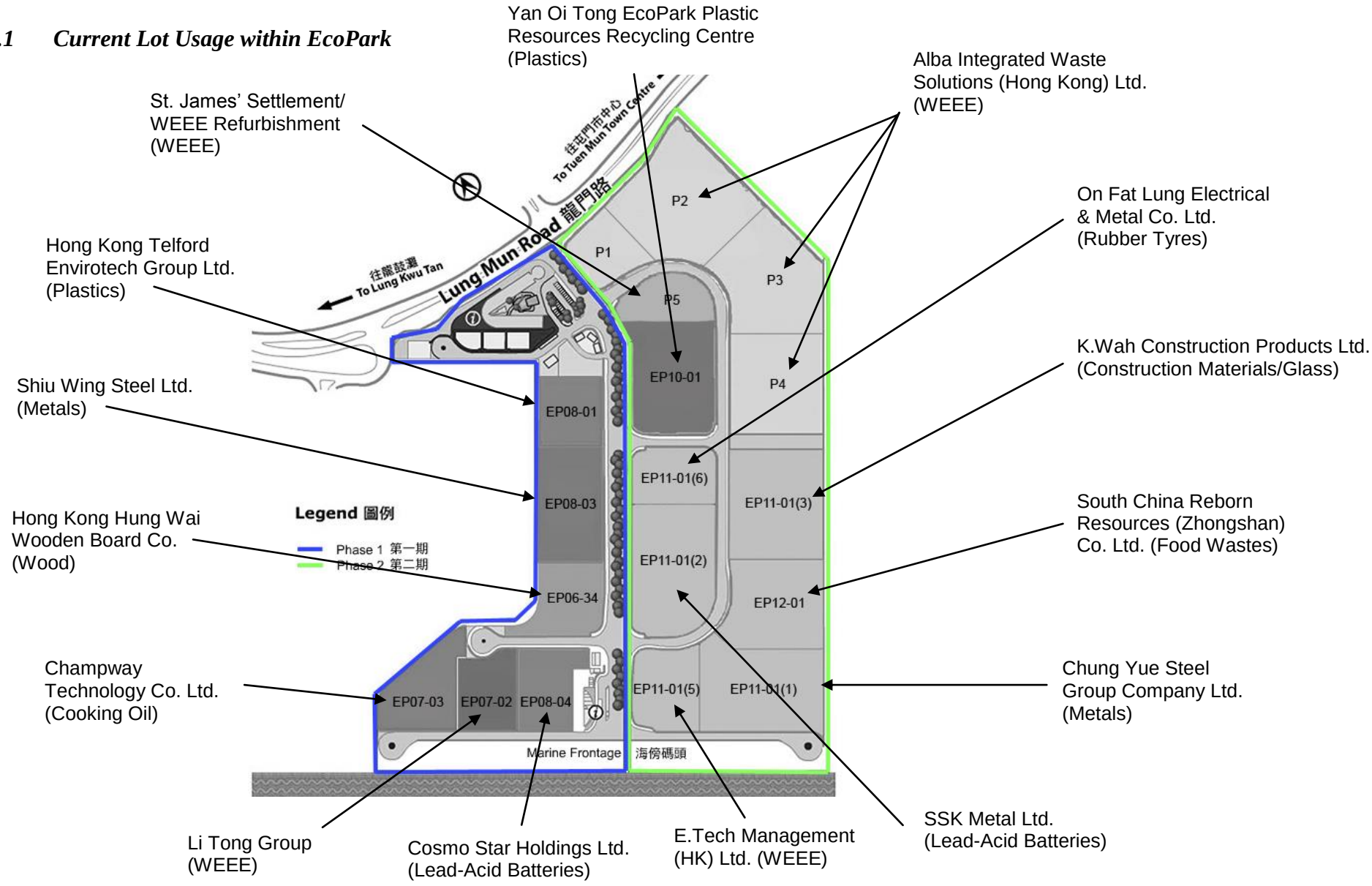
3.12.3 Detailed throughput figures of the reporting year are provided in ***Appendix 3.1***. Updated throughput figures of the previous year are provided in ***Appendix 3.2***.

3.13 Process Review

3.13.1 Process Review, and maybe Design Audit (DA) where required, had been conducted for each recycling processes to be operated within EcoPark to confirm its compliance with the findings and recommendations of the EIA report and the conditions of the EP.

3.13.2 Since 2008, 18 process reviews and 2 DAs had been approved. Among those, 15 process reviews and 2 DAs are related to the recycling processes that are currently operating in EcoPark as of December 2016. The supplementary information for PRC No. 008 is completed in the reporting period for the temporary continuation of WEEE refurbishment at Lot P5 by Alba IWS. No new process review or DA is ongoing or completed in the reporting period. Full set of the completed PRCs and DAs are submitted separately to relevant authorities in EPD.

Figure 3.1 Current Lot Usage within EcoPark



4 IMPLEMENTATION STATUS OF ENVIRONMENTAL PROTECTION MEASURES

4.1.1 Environmental mitigation measures applicable to the operation phase EM&A as stated in the implementation schedule are summarised in ***Appendix 1***. Environmental requirements specified in tenancy agreements are summarised in ***Appendix 2***.

4.1.2 By the end of the reporting year, eleven tenants (Champway, Shiu Wing, Li Tong, Yan Oi Tong, Telford, St. James' Settlement/WEEE Refurbishment, Hung Wai, Chung Yue, K.Wah, South China and E.Tech) were under full operation or machinery testing.

4.1.3 Appropriate environmental protection measures are in place at all lots.

5 MONITORING RESULTS

5.1 Monitoring Date, Time, Frequency and Duration

5.1.1 As described in *Section 2.1*, operational LFG monitoring is conducted quarterly at five monitoring locations, three in Phase 1 and two in Phase 2. LFG monitoring was carried out on 11th March, 6th June, 21st September and 22nd December 2016 in this reporting year. Monitoring details are shown ***Table 5.1*** below.

Table 5.1 Sampling Schedule for LFG Monitoring

Station ID	Sampling Date	Time	Duration	Ambient Air Temp.	Weather
EP1-1	11th March 2016	09:55 – 09:58	3 minutes	13°C	Overcast
EP1-2		09:50 – 09:53	3 minutes	13°C	Overcast
EP1-3		09:45 – 09:48	3 minutes	13°C	Overcast
EP2-1		09:35 – 09:38	3 minutes	13°C	Overcast
EP2-2		09:40 – 09:43	3 minutes	13°C	Overcast
EP1-1	6th June 2016	10:00 – 10:03	3 minutes	27°C	Rainy
EP1-2		09:55 – 09:58	3 minutes	27°C	Rainy
EP1-3		09:50 – 09:53	3 minutes	27°C	Rainy
EP2-1		09:40 – 09:43	3 minutes	27°C	Rainy
EP2-2		09:45 – 09:48	3 minutes	27°C	Rainy
EP1-1	21st September 2016	10:35 – 10:38	3 minutes	32°C	Fine
EP1-2		10:30 – 10:33	3 minutes	32°C	Fine
EP1-3		10:25 – 10:28	3 minutes	32°C	Fine
EP2-1		10:15 – 10:18	3 minutes	32°C	Fine
EP2-2		10:20 – 10:23	3 minutes	32°C	Fine
EP1-1	22nd December 2016	10:05 – 10:08	3 minutes	24°C	Fine
EP1-2		09:50 – 09:53	3 minutes	24°C	Fine
EP1-3		09:45 – 09:48	3 minutes	24°C	Fine
EP2-1		09:55 – 09:58	3 minutes	24°C	Fine
EP2-2		10:00 – 10:03	3 minutes	24°C	Fine

5.2 Monitoring Methodology, Parameters and Equipment

5.2.1 The LFG monitoring requirement and methodology are stipulated in *Section 6* of the EM&A Manual. The LFG monitoring parameters and their measurement ranges are detailed in ***Table 5.2*** below.

Table 5.2 Parameters and Measurement Ranges for LFG Monitoring

Parameters	**Measurement Ranges**
Methane (CH_4)	0 – 100% LEL & 0-100% v/v
Oxygen (O_2)	0 – 25% v/v
Carbon Dioxide (CO_2)	0 – 100% v/v
Barometric Pressure	mBar (absolute)

5.2.2 LFG monitoring shall be carried out using intrinsically-safe, portable multi-gas monitoring instruments. The gas monitoring equipment shall:

1. Where possible, comply with BS 6020 and be approved by BASEEFA as intrinsically safe, suitable for use in a Zone 2 are to BS 5345;

2. Be capable of continuous barometric pressure and gas pressure measurements;

3. Normally operate in diffusion mode unless required for spot sampling, when it should be capable of operating by means of an aspirator or pump;

4. Have low battery, fault and over range indication incorporated;

5. Store monitoring data, and shall be capable of being down-loaded directly to a PC; and

6. Measure in the following ranges:
   - Methane 0 – 100% LEL & 0 - 100% v/v
   - Oxygen 0 – 25% v/v
   - Carbon dioxide 0 – 100% v/v
   - Barometric pressure mBar (absolute)

5.2.3 The monitoring equipment shall alarm (both audibly and visually) in the event that the concentrations of the following are exceeded:

1. Methane: rise to 10% LEL;
2. Oxygen: fall to 18% by volume; and
3. Carbon monoxide: maximum short term (1-hour) exposure of 300ppm with long term average (8-hours) not to exceed 50ppm.

5.3 Results and Graphical Plots of Monitoring Parameters

5.3.1 One InfraRed Gas Analyser Model GA5000 (serial number G501982) was used for LFG measurements. The gas analyser is calibrated every 6 months. The calibration records of the monitoring equipment were provided in the quarterly EM&A reports.

5.3.2 LFG monitoring results are summarised in ***Table 5.3*** and compared with the Action and Limit Levels tabulated in ***Table 2.2***. Graphical plots of the monitoring results are also provided in ***Appendix 4***.

Table 5.3 LFG Monitoring Results

Station ID	Sampling Date	Monitoring Results				
		CH_4 (% v/v)	CH_4 (% LEL)	O_2 (% v/v)	CO_2 (% v/v)	Barometric Pressure (mBar)
EP1-1	11th March 2016	0.0	0	21.1	0.5	1026
EP1-2		0.0	0	21.4	0.0	1026
EP1-3		0.0	0	21.3	0.0	1026
EP2-1		0.0	0	21.4	0.0	1026
EP2-2		0.0	0	21.4	0.0	1026
EP1-1	6th June 2016	0.0	0	20.1	0.5	1012
EP1-2		0.0	0	18.7	1.1	1012
EP1-3		0.0	0	20.3	0.2	1012
EP2-1		0.0	0	17.6	2.6	1012
EP2-2		0.0	0	20.0	0.5	1012
EP1-1	21st September 2016	0.0	0	20.2	0.3	1015
EP1-2		0.0	0	20.2	0.1	1015
EP1-3		0.0	0	20.2	0.1	1016
EP2-1		0.0	0	20.0	0.5	1016
EP2-2		0.0	0	20.1	0.3	1016
EP1-1	22nd December 2016	0.0	0	20.8	0.0	1021
EP1-2		0.0	0	20.8	0.1	1021
EP1-3		0.0	0	20.8	0.1	1021
EP2-1		0.0	0	20.6	0.1	1021
EP2-2		0.0	0	20.5	0.2	1021

5.3.3 Exceedances of Action and Limit Levels were recorded at Station EP1-2 and 2-1 on 6th June 2016 in the reporting year. The status of exceedance are summarised in ***Table 5.4***.

Table 5.4 Summary of LFG Monitoring Exceedance

Station ID	Parameter	Recorded Level	Status
EP1-2	CO_2 (% v/v)	1.1	Exceedance of Action Level
	O_2 (% v/v)	18.7	Exceedance of Action Level
EP2-1	CO_2 (% v/v)	2.6	Exceedance of Limit Level
	O_2 (% v/v)	17.6	Exceedance of Limit Level

5.4 Follow-up Actions for Monitoring Exceedances

5.4.1 Upon the record of exceedances on 6th June 2016, the covers of the underground chambers were opened for investigation. Ventilation enhancements were also carried out to restore the concentrations of CO_2 and O_2 to non-exceedance levels in accordance with the Event Action Plan for LFG specified in ***Table 2.2***. No apparent source of CO_2 generation or O_2 depletion was identified during the investigation.

5.4.2 Additional LFG measurements were carried out inside the underground chamber at upstream of Station EP2-1. Similar to the above, exceedance was also recorded for O_2 and CO_2 while no apparent source of exceedance was identified. No pattern of exceedance could be identified among chambers.

5.4.3 However, it was observed that the O_2 level dropped and the CO_2 level rose to similar values as the recorded exceedance level particularly near the drain of the chamber at upstream of Station EP2-1, where water was accumulated due to heavy rain. Similar situation was also observed at downstream of Station EP1-2.

5.4.4 It is believed that organic matters entered the underground chambers by heavy rain and ended up in the drain of the chamber. The increase of organic matter increased O_2 depletion and CO_2 generation within the chamber during organic matter decomposition. The waterlogging in drain further trapped the organic matter inside the chamber and intensified the situation along the inter-connected utility chambers.

5.4.5 No CH_4 was recorded at any location. There is no indication of the migration of LFG from Siu Lang Shui Landfill.

5.4.6 As advised by the Operator, an underground work was in progress near Lot EP11-01(6) and completed on 23rd June 2016. LFG measurement was taken at the underground works area on 6th June 2016 but no exceedance of any parameter was recorded. Based on the above findings, the exceedance of O_2 or CO_2 should not impose any adverse impact on staffs/workers/environment in EcoPark.

5.4.7 With consideration that the hot and rainy weather may exacerbate organic matter accumulation and decay within the underground chambers, a cleaning programme of underground chambers is proposed for wet season to avoid potential O_2 depletion and CO_2 generation within the chambers. The purpose of the cleaning work is to maintain a condition allowing proper monitoring of the LFG, i.e. minimise the risk of false alarms due to causes not related to landfill gas. As such, the cleaning work should not disrupt the reliability of the LFG monitoring.

5.4.8 No exceedance of Action and Limit Levels of LFG was recorded in the subsequent quarterly monitoring in September 2016.

6 SUMMARY OF ENVIRONMENTAL AUDIT

6.1 General

6.1.1 Among the fourteen tenants and the tenant with the tenancy terminated, only ten active tenants were under full operation, including the WEEE Refurbishment at Lot P5 that was transferred to Alba IWS temporarily for continuation of the carrying out of WEEE refurbishment without introduction of new process upon expiration of tenancy of St. James' Settlement, and one tenant was under machinery testing. As such, specific site inspections were only carried out at the lots of these eleven tenants. For the lots of those tenants not currently in operation, general site inspections were conducted.

6.1.2 Environmental audits were conducted on a monthly basis based on the approved site inspection checklist. The completed audit checklists were provided in the quarterly EM&A Reports.

6.1.3 In the "status" column of the following tables, an observation will be indicated as "Closed" if it was resolved during the reporting period and no further follow-up is needed. If the observation is not resolved in the reporting period and would be followed-up in the next reporting period, it will be indicated as "Outstanding".

6.2 January 2016

6.2.1 Environmental audits of active tenants and general EcoPark condition were carried out by the ET and the Operator on 15th January 2016. IEC random site audit was also carried out on 15th January 2016. Audit observations are summarised in ***Table 6.1***.

Table 6.1 Environmental Audit Findings in January 2016

Tenant	Item	Status
E.Tech	The collected waste materials were scattered in uncovered area that may causes potential contamination of rainwater on 15th January 2016.	As advised by the tenant, the material would be cleared before close of business every day. As observed during inspection on 23rd August 2016, the tenant had cleared the temporary stockpile. **(Closed)**

6.3 February 2016

6.3.1 Environmental audits of active tenants and general EcoPark condition were carried out by the ET, the Operator and the IEC on 22nd February 2016. Audit observations are summarised in ***Table 6.2***.

Table 6.2 Environmental Audit Findings in February 2016

Tenant	Item	Status
No critical issues were identified.		

6.4 March 2016

6.4.1 Environmental audits of active tenants and general EcoPark condition were carried out by the ET and the Operator on 23rd March 2016, while IEC random site audit was carried out on 11th March 2016. Audit observations are summarised in ***Table 6.3***.

Table 6.3 Environmental Audit Findings in March 2016

Tenant	Item	Status
No critical issues were identified.		

6.5 April 2016

6.5.1 Environmental audits of active tenants and general EcoPark condition were carried out by the ET and the Operator on 27th April 2016. IEC random site audit was also carried out on 27th April 2016. Audit observations are summarised in ***Table 6.4***.

Table 6.4 Environmental Audit Findings in April 2016

Tenant	Item	Status
No critical issues were identified.		

6.6 May 2016

6.6.1 Environmental audits of active tenants and general EcoPark condition were carried out by the ET, the Operator and the IEC on 30th May 2016. Audit observations are summarised in ***Table 6.5***.

Table 6.5 Environmental Audit Findings in May 2016

Tenant	Item	Status
Champway	Oil spill was observed near the storage area of glycerine on 30th May 2016.	The tenant had covered the spill area with sand for absorption of the oil patch as observed during inspection on 28th June 2016. The oil patch had been cleared as observed on 28th July 2016 and no spillage was found in the storage area as advised by the tenant. **(Closed)**

6.7 June 2016

6.7.1 Environmental audits of active tenants and general EcoPark condition were carried out by the ET and the Operator on 28th June 2016. IEC random site audit was also carried out on 28th June 2016. Audit observations are summarised in ***Table 6.6***.

Table 6.6 Environmental Audit Findings in June 2016

Tenant	Item	Status
No critical issues were identified.		

6.8 July 2016

6.8.1 Environmental audits of active tenants and general EcoPark condition were carried out by the ET and the Operator on 28th July 2016. IEC random site audit was also carried out on 28th July 2016. Audit observations are summarised in ***Table 6.7***.

Table 6.7 Environmental Audit Findings in July 2016

Tenant	Item	Status
No critical issues were identified.		

6.9 August 2016

6.9.1 Environmental audits of active tenants and general EcoPark condition were carried out by the ET, the Operator and the IEC on 23rd August 2016. Audit observations are summarised in ***Table 6.8***.

Table 6.8 Environmental Audit Findings in August 2016

Tenant	Item	Status
South China	Oil patch was observed inside stormwater drainage channel at the Eastern lot boundary on 23rd August 2016.	As observed during inspection on 20th October 2016, the tenant had removed all oil/waste storage containers from area near the drainage channel and provided cleaning to the concerned area. **(Closed)**

6.10 September 2016

6.10.1 Environmental audits of active tenants and general EcoPark condition were carried out by the ET and the Operator on 21st September 2016. IEC random site audit was also carried out on 21st September 2016. Audit observations are summarised in ***Table 6.9***.

Table 6.9 Environmental Audit Findings in September 2016

Tenant	Item	Status
No critical issues were identified.		

6.11 October 2016

6.11.1 Environmental audits of active tenants and general EcoPark condition were carried out by the ET and the Operator on 20th October 2016. IEC random site audit was also carried out on 20th October 2016. Audit observations are summarised in ***Table 6.10***.

Table 6.10 Environmental Audit Findings in October 2016

Tenant	Item	Status
K.Wah	Accumulation of gravels and sands are observed in the surface channel between the site office and the entrance of workshop on 20th October 2016.	As observed on 28th November 2016, the tenant had cleared the gravels and sands from the surface channel between the site office and the entrance of workshop. **(Closed)**

6.12 November 2016

6.12.1 Environmental audits of active tenants and general EcoPark condition were carried out by the ET, the Operator and the IEC on 28th November 2016. Audit observations are summarised in ***Table 6.11***.

Table 6.11 Environmental Audit Findings in November 2016

Tenant	Item	Status
K.Wah	Fallen leaves and branches are observed in the stormwater drain near the southwest corner of the lot that clogged the drainage channel on 28th November 2016.	The tenant has yet to clear the blockage of the stormwater drain near the southwest corner of the lot during the site audit on 22nd Dec 2016, but the clearance activity will be carried out in the afternoon of the same day as advised by the tenant. According to the photo record provided by the Operator on the same day, the tenant has cleared the drainage channel. The condition will be verified in the next site audit in January 2017. **(Outstanding)**
South China	Storage tank is observed near the perimeter drainage channel along the eastern boundary of the lot that may cause potential contamination on 28th November 2016.	As observed during the inspection on 22nd Dec 2016, the tenant has yet to remove the storage tank near the perimeter drainage channel and a reminder is given to the tenant. The condition will be followed-up in the next site audit in January 2017. **(Outstanding)**

6.13 December 2016

6.13.1 Environmental audits of active tenants and general EcoPark condition were carried out by the ET and the Operator on 22nd December 2016. IEC random site audit was also carried out on 22nd December 2016. Audit observations are summarised in ***Table 6.12***.

Table 6.12 Environmental Audit Findings in December 2016

Tenant	Item	Status
No critical issues were identified.		

7 ENVIRONMENTAL COMPLAINTS, NOTIFICATION OF SUMMONS AND SUCCESSFUL PROSECUTION

7.1 Summary of Summons and Prosecutions

7.1.1 No notification of summons or successful prosecution related to recycling activities was received in the reporting year.

7.2 Complaint Received on 29th December 2015

7.2.1 One complaint about odour nuisance from South China's lot was received from Tuen Mun Area Fill Bank 38 by the Operator via phone on 29th December 2015. The Operator had approached the Fill Bank to discuss with the complainant on the same day and odour was detected during the meeting. The complaint was referred to the ET by the Operator via phone on 4th January 2016. The IEC and the Project Proponent were notified by the ET via email on the same day.

7.2.2 A site investigation for the odour complaint was conducted by the ET and the Operator on 7th January 2016 at 16:00. A weak odour with sour smell was noticed in the works area while no recycling activity was being carried out. The odour became weaker towards the entrance of the building and was barely perceptible at the entrance outside the building. The smell was considered as the residual odour from operation of food waste processing. No odour was detected at the exhaust of the ventilation system on roof floor. The ET and the Operator visited the Fill Bank at 16:45 and no odorous smell was noticed.

7.2.3 According to the record provided by the tenant, the ventilation system for the works area was cleaned every Wednesday and Sunday, i.e. on 27th, 30th December 2015, 3rd and 6th January 2016.

7.2.4 As observed during investigation, a partition wall made by aluminium honeycomb composite panel was being erected to sub-divide the works area and reduce its volume, thus improving the efficiency of the ventilation system. The tenant was also reminded to ensure proper operation of the air curtains during operation and was recommended to lower the roller shutter partially to enhance the negative pressure condition in the works area.

7.2.5 Inspection was carried out again on 15th January and 22nd February 2016. With the implementation of the recommended measures, no odour was noticed outside the building and the odour intensity in the works area was not greater than that detected on 7th January 2016. The new measures are considered as sufficient to minimise the odour escaping from the works area and to prevent the causing of odour nuisance to the vicinity.

7.3 Complaint Received on 26th October 2016

7.3.1 A public complaint on the operation of South China was received by EPD on 26th October 2016 and referred to the ET, IEC and the Project Proponent on 3rd November 2016 regarding the following:

- No treatment was provided by the WTP and discharged directly and emits odour with rotten smell irregularly;
- The wastewater treatment plant (WTP) on 3/F was never used; and
- Wastewater from the WTP on 3/F was discharged to stormwater drain.

7.3.2 A meeting was held between the ET, the tenant and the Operator to review the situation on 8th November 2016 followed by a site investigation. No recycling activity was being carried out during the investigation while cleaning of recycling bin was in progress.

7.3.3 No noticeable odour was detected within the lot during the investigation, except a slight odour with sour smell was noticed within the building at the works area, which was likely to be the residual odour from food waste processing and no particular source of generation could be identified. The odour intensity was similar to that detected during regular monthly site audit and was considered as normal from operation of food waste processing. As advised by South China, the air curtains would be switched on with roller shutter partially lowered when recycling activity is in operation.

7.3.4 As advised by South China, the wastewater treatment system was not functioning properly, including the clogging of surface drainage channel that transfer the wastewater from grease trap on G/F towards the underground storage tank, and the submersible pumping system between the underground storage tank and the WTP on 3/F. Defective design was also identified as a couple of stormwater manholes were located at low ground near the designated cleaning area for the incoming food waste containers and vehicle, in which there was possibility for the cleansing water to be washed into the stormwater manholes accidentally.

7.3.5 As observed during the investigation, temporary water pipes and pump were added to divert the wastewater towards the underground storage tank as mitigation. Additional pump cars were also deployed for tank away of the wastewater. No wastewater was discharged as noticed during the investigation. Cleaning of the treatment system was ongoing as observed during the monthly site audit on 28th November 2016. As advised by South China, the WTP would be tested and effluent sampling would be collected by HOKLAS laboratory upon completion of the cleaning activity. The wastewater treatment system is proposed to re-operate once the testing is completed with the discharge quality in full compliance with the discharge licence.

7.3.6 According to the photo records provided by the Operator, new submersible pumps have been installed to replace the inefficient pump between the storage tank and the WTP. Further to covering up the manholes with plastic board and surrounding the manholes with sandbags as observed during the investigation, the tenant had sealed up the stormwater manholes near the designated cleaning area with metal covers and surrounded with concrete bunding to prevent accidental spillage of cleansing water from entering the manholes as observed during the monthly site audit on 28th November 2016. No sign of potential contamination of discharge by food waste was observed in the stormwater outfall immediate outside the lot of South China.

7.3.7 South China is also arranging to install flow meters with logging function for the WTP on 3/F to record the flow of wastewater. Advice was also being sought from the Authorised

Person (AP) by South China for practical proposals to permanently improve the surface drainage collection on G/F and the efficiency of wastewater diversion from grease trap on G/F to the underground storage tank.

7.3.8 The repairing status of the WTP will be followed up and monitored in subsequent monthly site audits. The complaint is under investigation and will be followed up in the next quarterly and annual report.

8 ANNUAL REVIEW

8.1 Interpretation of EM&A Data

8.1.1 Landfill gas (LFG) is the only parameter that is required to be monitored in the operation phase EM&A programme. Quarterly LFG monitoring has been carried out by the ET since 2009 following the completion of Phase 1 construction of EcoPark. Although exceedances of action and limit levels were recorded in the reporting year, it is believed that the exceedance was caused by the accumulation of organic matters in underground chambers due to heavy rain and the associated decomposition of the organic matter. No CH_4 was recorded at any monitoring location and there was no indication of the migration of LFG from SLSL since. In view that the LFG levels had returned to non-exceedance levels after the cleaning of underground chambers and utility pipes as mentioned in *Section 5.4.4*, the EM&A data is consistent with the assessment result in the EIA Report that the potential risk associated with LFG hazard remains low.

8.2 Environmental Acceptability of EcoPark

8.2.1 In the reporting year, ten tenants (Champway, Shiu Wing, Li Tong, Telford, Yan Oi Tong, St. James' Settlement/WEEE Refurbishment, Hung Wai, Chung Yue, K.Wah and South China) have carried out recycling activities and one tenant (E.Tech) has carried out machinery testing within their lots. With reference to *Section 6*, no critical environmental deficiencies were continuously identified at tenants' lots in EcoPark in the reporting year, except the incident recorded at South China in August 2016. The operation of EcoPark in environmental terms is therefore considered as acceptable in general.

8.3 Monitoring Methodology

8.3.1 Quarterly LFG monitoring has been carried out since October 2009. Exceedances of action and limit levels were recorded in the reporting year. The monitoring methodology is considered as effective to detect the change of potential LFG hazard and trigger associated actions. Given that no detection of methane was recorded in EcoPark and the LFG levels in EcoPark had returned to non-exceedance levels, quarterly monitoring of LFG is considered as sufficient. The frequency of LFG monitoring may increase upon detection of high LFG levels under the Siu Lang Shui Landfill restoration contract in accordance with *Section 8.7.11* of the EIA Report and *Section 6.4.4* of the EM&A Manual.

8.4 Practicality and Effectiveness of EIA Process and EM&A Programme

8.4.1 The use of Process Review mechanism to assess incoming processes, processes not assessed in the EIA, or processes with greater throughputs than assumed in the EIA, is considered to work well and is in accordance with the recommendations of the EIA, the requirements of the EM&A programme and the EP conditions.

8.4.2 The EM&A programme has been fully utilised throughout the reporting year and is practical and effective to monitor the operation status of tenants. The mitigation measures proposed in the EIA Study are effective and efficient.

8.4.3 In order to enhance the reporting of Process Review and DAs, it is recommended to supplement the future Quarterly EM&A Reports with a summary of Process Reviews and DAs that are related to the recycling processes operating in EcoPark within the reporting period, such as material type, proposed process, status, etc.

9 CONCLUSIONS

9.1.1 This is the tenth (10^{th}) annual EM&A report prepared for the operation phase of EcoPark and covers the calendar year of 2016. The tenants' recycling activities are audited on a monthly basis and the results are summarised in this report.

9.1.2 In the reporting year, there were fourteen tenants in EcoPark Phase 1 and Phase 2. Ten tenants have commenced full recycling activities within their lots, namely Champway, Shiu Wing, Hung Wai, Li Tong, Telford, Yan Oi Tong, St. James' Settlement/WEEE Refurbishment, Chung Yue, K.Wah and South China. Tenancy of Lot P5 to St. James' Settlement had expired on 7^{th} October 2016. The lot was handled by Alba IWS temporarily for continuation of the carrying out of WEEE refurbishment without introduction of new process from 8^{th} October 2016. One tenant (E.Tech) carried out machinery testing. Waste Management Policy Group (WMG) of EPD has taken possession of Lot Nos. P2, P3, and P4 and handed over to Alba IWS to carry out plant construction. Two tenants (On Fat Lung and SSK) are carrying out plant construction / site works; and one tenant's (Cosmos) tenancy was terminated.

9.1.3 Throughout the reporting year, the ET has conducted monthly site inspections while the IEC has carried out full site inspection on quarterly basis and random site audits on monthly basis, and some general observations have been made. The approved checklist has been used in the monthly site inspections for various tenants.

9.1.4 The throughputs of the ten active tenants in the reporting year are summarised in ***Table 9.1***. Please note that product output plus waste disposal do not necessarily equal the waste input, due to material losses during processing and material retained within the lots.

Table 9.1 Throughput Statistics for the Reporting Year

Material Type	Waste Input (tonnes)	Product Output [(4)] (tonnes)	Waste Disposed [(4)] (tonnes)
Waste Organic Food	13,719	6,332	6,519
Waste Ferrous Metals	116,531	109,921	-
Waste Wood	746	968	-
Waste Electronics	1,455	1,221	109
Waste Plastics	5,496	4,537	722
Waste Glass	2,085	106,191	325
Construction Waste	40,502		

Notes:

1) The throughput data presented above is the best available data and has been rounded off to the nearest whole tonne for presentation. Unavailable data will be reported in the next EM&A report.
2) The total product output may not be the same as the waste input due to processing of materials that were received before the reporting year and were stored within the lots.
3) Waste disposal refers to the disposal of general refuse (i.e. packaging) and/or chemical waste.
4) Since the recycling of waste glass and construction waste is combined to produce concrete block at K.Wah, the product output and waste disposal from both processes are combined.

9.1.5 LFG monitoring was undertaken on 11^{th} March, 6^{th} June, 21^{st} September and 22^{nd} December 2016 at five locations (three in Phase 1 and two in Phase 2). Exceedances of

Action and Limit Levels were recorded at Station EP1-2 and 2-1 on 6th June 2016 and are summarised in ***Table 9.2***.

Table 9.2 Summary of LFG Exceedances at EP1-2 and EP2-1 on 6th June 2016

Station ID	Parameter	Recorded Level	Action Level	Limit Level	Status
EP1-2	Carbon Dioxide (% v/v)	1.1	> 0.5%	> 1.5%	Exceedance of Action Level
	Oxygen (% v/v)	18.7	< 19%	< 18%	Exceedance of Action Level
EP2-1	Carbon Dioxide (% v/v)	2.6	> 0.5%	> 1.5%	Exceedance of Limit Level
	Oxygen (% v/v)	17.6	< 19%	< 18%	Exceedance of Limit Level

9.1.6 No apparent source of carbon dioxide (CO_2) generation or oxygen (O_2) depletion was identified within the underground chambers during investigation. Ventilation enhancements were carried out in accordance with the Event Action Plan for LFG specified in ***Table 6.1*** of the EM&A Manual to restore the concentrations of CO_2 and O_2 to non-exceedance level. After investigation, the exceedances are believed to be due to organic matter accumulation and decomposition in the underground chambers. There is no indication of the migration of LFG from Siu Lang Shui Landfill.

9.1.7 In view of the exceedances of Oxygen (O_2) and Carbon Dioxide (CO_2) recorded during LFG monitoring in June 2016, the operator had carried out cleaning of the underground chambers and utility pipes on 22nd August 2016. The concentrations of carbon dioxide and oxygen then returned to a non-exceedance level during the monitoring on 21st September 2016.

9.1.8 The quarterly monitoring of LFG is considered as sufficient and effective in accordance with *Section 6.4.4* of the EM&A Manual.

9.1.9 One complaint about odour nuisance from South China's Lot was received from Tuen Mun Area 38 Fill Bank via phone on 29th December 2015. Investigation was carried out by the ET and the Operator on 7th January 2016 to identify the potential sources. The new measures are considered as sufficient to minimise the odour escaping from the works area and to prevent the causing of odour nuisance to the vicinity.

9.1.10 One complaint on the wastewater treatment and odour nuisance at South China's Lot was received by EPD on 26th October 2016 and referred to the ET, IEC and the Project Proponent on 3rd November 2016. Temporary measures had been implemented by South China, while some of the rectification works are in progress. The complaint will be followed up in the next quarterly and annual report.

9.1.11 No environmental summon or successful prosecution was recorded in the reporting year.

9.1.12 There is no reporting change in the reporting year.

9.1.13 No critical environmental deficiencies were identified at tenants' lots in EcoPark in the reporting year, except the incident recorded in at South China August 2016. The operation of EcoPark in environmental terms is considered as acceptable in general.

9.1.14 The EM&A programme has been fully utilised throughout the reporting year and is practical and effective to monitor the operation status of tenants. The mitigation measures proposed in the EIA Study are effective and efficient. It is recommended to supplement the future Quarterly EM&A Reports with a summary of Process Reviews and DAs that are related to the recycling processes operating in EcoPark within the reporting period.

Appendix 1

Environmental Mitigation Measures
(from the Implementation Schedule)

EIA Ref.	EM&A Ref.	Environmental Protection Measures Identified in the Implementation Schedule that are Applicable to the Operation Phase of EcoPark	Location / Duration of Measures / Timing of Completion of Measures	Implementation Agent	Relevant Legislation and Guidelines
General					
5.5.23 to 5.5.25, 10.2.24 & 10.2.37	4.2.5 to 4.2.8	The Operator shall develop and implement an Emergency Response Plan (ERP) that lists the procedures to be followed in case of fire, fuel or chemical spillage or other emergency within the EcoPark.	Throughout the duration of the operation.	Operator	
12.2	7.2	No process shall be allowed to operate within EcoPark without approval from WFBU. Approval will be based on the ten-step Process Review, which may include a Design Audit if deemed to be necessary.	Throughout the duration of the operation.	ET IEC Project Proponent	
	8.1.2	All reports (including Process Review Checklists and any Design Audits) shall be prepared and certified by the ET, verified by the IEC and approved by the Project Proponent.	Throughout the duration of construction works until construction is substantially completed. Throughout the duration of the operation.	ET IEC Project Proponent	
12.3	7.3	The Operator shall prepare and implement an Environmental Management Plan (EMP) to define mechanisms for achieving the environmental requirements specified in the EIA, EP and in statutory regulations.	Throughout the duration of the operation.	Operator	
Air Quality					
13.2		The Operator shall ensure that EcoPark "base case" assumptions for air quality shown in Table 13.1 of the Final EIA Report are met by tenants, as a whole.	Throughout the duration of the operation.	Operator	Table 13.1 of the Final EIA Report
Water Quality					
5.4.11 & 5.6.7		To minimise the chance of accidental spillage during loading and unloading, and thereby reduce marine water quality impacts, well established cargo handling guidelines should be followed.	Adjacent to EcoPark marine frontage when loading or unloading goods.	Operator Operators of bulk carriers	*Sections 5* & *6* of IMO Code of Practice for the Safe Loading/ Unloading of Bulk Carriers

EIA Ref.	EM&A Ref.	Environmental Protection Measures Identified in the Implementation Schedule that are Applicable to the Operation Phase of EcoPark	Location / Duration of Measures / Timing of Completion of Measures	Implementation Agent	Relevant Legislation and Guidelines
5.5.19		Contaminated water collected in the surface drainage systems shall be treated at the WTF or other appropriate treatment facility.	Within EcoPark throughout the life of the facility.	Operator	
5.5.23 to 5.5.25	4.2.5 to 4.2.7	An Emergency Response Plan (ERP) will be formulated to address various accident scenarios. The ERP will be certified by the Environmental Team (ET) and verified by the Independent Environmental Checker (IEC) under the operation EM&A programme.	Within EcoPark throughout the life of the facility.	Operator	
5.6.4		For uncovered areas where recovery process identified as causing potentially high level of contamination are located, stop-logs will be installed in the perimeter drainage system to isolate contamination.	Within EcoPark throughout the life of the facility.	Operator	
	4.2.2	The ET should develop an audit checklist, with the agreement of the IEC, to ensure that each mitigation measure is implemented when appropriate and operated correctly when implemented.	Within EcoPark throughout the life of the facility.	ET with IEC	
Waste Management					
6.8.7	5.2.4	The Operator should register with EPD as a chemical waste producer.	Within EcoPark throughout the life of the facility.	Operator	Waste Disposal (Chemical Waste) (General) Regulation
6.8.16		The dust collected by any air pollution control equipment installed by tenants must be tested to ensure compliance for landfill disposal.	Within EcoPark throughout the life of the facility.	Operator	Practice Note for disposal of dusty waste at landfills & Admission Ticket System
6.8.18 & 6.8.22	5.2.4	Sludge will be disposed of at WENT landfill, or at any future dedicated sludge treatment facility. Sludge will be collected by a Licensed collector at regular intervals, as determined by the operation of the WTF.	Within EcoPark throughout the life of the facility.	Operator	

EIA Ref.	EM&A Ref.	Environmental Protection Measures Identified in the Implementation Schedule that are Applicable to the Operation Phase of EcoPark	Location / Duration of Measures / Timing of Completion of Measures	Implementation Agent	Relevant Legislation and Guidelines
6.8.21	5.2.4	Chemical wastes shall be stored in appropriate containers in a covered area. "No Smoking" signs will be clearly displayed to prevent accidental ignition of flammable materials. Drip trays capable of storing 110% of the volume of the largest container will be used to mitigate possible leakage.	Within EcoPark throughout the life of the facility.	Operator	Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes
	5.2.3 & 5.2.5	The ET should develop an audit checklist, with the agreement of the IEC, to ensure that each mitigation measure is implemented when appropriate and operated correctly when implemented.	Within EcoPark throughout the life of the facility.	ET with IEC	
6.8.7	5.2.4	The Operator should register with EPD as a chemical waste producer.	Within EcoPark throughout the life of the facility.	Operator	Waste Disposal (Chemical Waste) (General) Regulation
Prevention of Contaminated Land					
7.3.1	5.3.2	Any spillages of contaminating material shall be cleaned up immediately through the use of an absorbent. Any such used material should then be considered chemical waste and disposed of appropriately.	Within EcoPark throughout the life of the facility.	Operator	
7.3.3		Any areas within the lot to be used for recycling processes shall be concrete paved before recycling activities commence.	Within EcoPark throughout the life of the facility.	Operator	
7.3.5	5.3.2	During operation, the greatest risk of land contamination will come from storage of chemical wastes, therefore the measures should be followed : • All chemical storage areas shall be provided with locks and be sited on sealed areas. The storage areas shall be surrounded by bunds with a capacity equal to 110% of the storage capacity of the largest tank to prevent spilled oil and chemicals from contaminating the ground. • Chemical wastes will be collected, stored and disposed of in	Within EcoPark throughout the life of the facility.	Operator	

EIA Ref.	EM&A Ref.	Environmental Protection Measures Identified in the Implementation Schedule that are Applicable to the Operation Phase of EcoPark	Location / Duration of Measures / Timing of Completion of Measures	Implementation Agent	Relevant Legislation and Guidelines
		accordance with the Regulation. Disposal of other construction waste will be undertaken by licensed contractors in accordance with applicable statutory requirements in the WDO. • Chemical wastes shall be handled according to the relevant code of practice. Spent chemicals shall be stored and collected by an approved operator for disposal at a licensed facility in accordance with the relevant regulation.			
Landfill Gas					
8.7.10 & 8.7.11	6.1.2	• Alert workers and visitors of possible LFG hazards • Prohibit smoking and open fires on site • Conduct regular (quarterly) LFG monitoring at mobile offices, equipment stores, etc.	Within EcoPark throughout the life of the facility.	Operator	
	6.4.3	Following construction, routine monthly monitoring may be required at service voids and utility boxes. The monitoring requirement and specific locations of monitoring points shall be established based on the findings of the monitoring carried out during construction (i.e. if no LFG is detected during construction then no routine monitoring is required). The need for continued monitoring shall, however, be reviewed through discussion with EPD.	Within EcoPark throughout the life of the facility.	Operator	
Hazard to Life					
10.4.3		Building height limit within EcoPark shall be applied to structures within which people may work at elevated levels.	Within EcoPark throughout the life of the facility.	Operator	EIA Report Table 10.2
Landscape and Visual					
9.4.4		It recommended that this commonality be promoted throughout EcoPark by the Operator and adopted by tenants, if practicable.	Within EcoPark throughout the life of the facility.	Operator	

Appendix 2

Environmental Requirements in Tenancy Agreements

Appendix 2.1

Environmental Requirements in Tenancy Agreements
(Phase 1)

GENERAL ENVIRONMENTAL RESPONSIBILITIES

9.1 The Tenant shall at its own cost(s) comply with and shall ensure that the Premises is used, designed, constructed, operated and maintained in accordance with:-

(a) All relevant Ordinances, by-laws, regulations, statutory technical memorandums, codes of practice, rules, non-statutory guidance notes, schemes and abatement notices for the time being in force in Hong Kong including those relating to the environment and governing the control of any form of pollution (see specific Ordinances mentioned hereinbelow) and licensing requirements under relevant Ordinances and regulations.

(b) All information, mitigation measures, prohibitions, restrictions, recommendations and requirements under the Environmental Impact Assessment Report for Development of an EcoPark in Tuen Mun Area 38 with Appendices, i.e. the EIA Report (Register No.: AEIAR-086/2005) dated April 2005, the Final EM&A Manual dated April 2005, the application documents including all attachments (Application No. AEP-226/2005) and other relevant documents in the Register (or in any other places, any internet websites or by any other means as specified by the Director), including the prohibitions and mitigation measures for processes in Table 14.1 and the material throughputs, processes and remarks in Table B.1 of the EIA Report (in so far as applicable).

(c) All information, conditions, submissions, mitigation measures, orders, notices, requirements, prohibitions, restrictions and time limits under the Environmental Permit No. EP-226/2005 as amended by the Variation of Environmental Permit – Application No.VEP-221/2006 (including updated information about the Permit, any amended permit and any further permit) and all mitigation measures recommended and to be recommended in submissions that shall be deposited with or approved by the Director as a result of permit conditions contained in the Environmental Permit No. EP-226/2005 as amended by the Variation of Environmental Permit – Application No.VEP-221/2006 (including updated information about the Permit, any amended permit and any further permit). The Tenant shall refer to, inter alia, Conditions 4.1 to 4.14 (and Annexes A and B) and Conditions 3.7 and 3.8 (and Figures 2 and 3) of the Environmental Permit No. EP-226/2005 as amended by the Variation of Environmental Permit – Application No.VEP-221/2006 regarding measures to mitigate air quality impact, measures to mitigate hazard to life impact, measures to prevent land contamination, measures to mitigate landfill gas hazard, maintenance of landscape and visual measures (see also hereinbelow regarding Condition 5 of the Environmental Permit and specified Ordinances).

(d) All information, conditions, submissions, mitigation measures, orders, notices and requirements under on going surveillance and monitoring activities during all stages of the Project and during the tenancy under the Tenancy Agreement (e.g. any additional mitigation measures recommended and to be recommended under the Process Review and Design Audit (carried out and to be carried out in accordance with the EM&A Manual) for various environmental impacts including, but not limited to,

noise pollution, air quality, hazard to life, landfill gas hazard, landscape and visual measures, waste management and land contamination).

(e) All recommendations referred to in the documents of the EIAO Register which are not expressly referred to in Environmental Permit No. EP-226/2005 as amended by the Variation of Environmental Permit – Application No.VEP-221/2006 and any amended Environmental Permit (unless expressly excluded or impliedly amended in the Environmental Permit No. EP-226/2005 as amended by the Variation of Environmental Permit – Application No.VEP-221/2006 and any amended Environmental Permit).

9.2 Further to Condition Nos. 6 and 8 hereinabove, the Tenant shall at its own cost provide relevant environmental monitoring data, information, documents and assistance to the Director and/or the Environmental Protection Department and shall permit authorised representatives of the Environmental Protection Department to access, inspect, take samples and monitor the Premises and operations for the Process Review and the Design Audit carried out and/or to be carried out pursuant to Conditions 4.1 and 5 of the Environmental Permit No. EP-226/2005 as amended by the Variation of Environmental Permit – Application No.VEP-221/2006 (and any updated Permit, amended permit and further permit).

9.3 If the Tenant's operations (i.e. activities and facilities for recovery and/or recycling and/or reprocessing) are not covered by the EIA Report and/or deviate from the development parameters mentioned in inter alia the EIA Report, the Environmental Permit No. EP-226/2005 as amended by the Variation of Environmental Permit – Application No.VEP-221/2006 (including the parameters at Annex A) and/or any environmental licence (e.g. the Water Treatment Facility ("WTF") Discharge Licence), and if additional mitigation measures are not available or are not effective in the opinion of the Director, to ensure compliance with the EIA Report, the Environmental Permit No. EP-226/2005 as amended by the Variation of Environmental Permit – Application No.VEP-221/2006 (including any updated Permit, amended permit and further permit) and the relevant environmental licence(s), the Tenant shall comply with any modified parameters and/or the Tenant shall immediately modify its operations in such a way that the findings and requirements of the EIA Report, the Environmental Permit No. EP-226/2005 as amended by the Variation of Environmental Permit – Application No.VEP-221/2006 (including any updated Permit, amended permit and further permit) and the environmental licence(s) are complied with and shall immediately cease to continue the offending part of the operations or activity in question.

9.4 The Tenant shall at its own cost(s) apply for, obtain, renew, maintain and comply with all the relevant licences related to compliance with all relevant Ordinances, by-laws, regulations, statutory technical memorandums, codes of practice, rules, non-statutory guidance notes, schemes, abatement notices and the environmental permits for the time being in force in Hong Kong (including those relating to the environment and governing the control of any form of pollution). The Tenant shall obtain, renew and comply with all the said licences within the relevant time limits (in any event, within one (1) calendar month of the date of signing and/or execution of the Tenancy Agreement), shall comply with all abatement notices, orders, directions and requests of the relevant authorities and public officers and shall be responsible for paying all relevant fees, costs, fines and penalties.

9.5 The Tenant shall not do anything or omit to do anything which would cause, contribute to or involve a breach or potential breach by the Director relating to any of the matters mentioned in Conditions 9.1 to 9.4 hereinabove (and other Conditions hereinbelow).

9.6 The Tenant shall fully indemnify the Government and/or the Director for any fees, costs, damages, expenses, fines, penalties, losses and claims arising (a) out of any breach of any of the matters mentioned in inter alia Conditions 9.1 to 9.4 hereinabove (and other Conditions hereinbelow) or (b) from the use of the Premises or (c) out of any works carried out at any time during the term to or at the Premises or (d) out of anything now or during the term attached to or projecting from the Premises or (e) from any neglect or default by the Tenant or by its respective servants or agents or by any express licensee of the Tenant.

SPECIFIC ENVIRONMENTAL RESPONSIBILITIES

Air Pollution

10. Save with an appropriate exemption under the Air Pollution Control Ordinance (Cap. 311 of the Laws of Hong Kong) any regulations made thereunder and any amending legislation, the Tenant shall not install or permit or suffer to be installed upon the Premises or any part thereof or any building(s) or structure(s) or part of any building(s) or structure(s) erected or to be erected thereon any furnace, oven, chimney or flue or any other combustion equipment or use or permit or suffer to be used any fuel or any method or process of manufacture or treatment that might in any circumstance result in, cause or contribute to the discharge or emission of any pollutant or any noxious, harmful or corrosive matter, whether it be in the form of gas, smoke, liquid, solid or otherwise (including but not limited to air pollutant as defined in Section 2 of the Air Pollution Control Ordinance (Cap. 311 of the Laws of Hong Kong)), which exists or which is imminent, without the prior written approval of the Director.

11. No alteration to the installation and method of manufacture shall be made without the prior written consent of the Director. In any event, the Tenant shall at its own cost(s) comply with, inter alia, Conditions 4.2 to 4.7 and Annex A of the Environmental Permit No. EP-226/2005 as amended by the Variation of Environmental Permit – Application No.VEP-221/2006 regarding design, installation and operation of chimney, location of fresh air intakes and use of ultra-low sulphur or other cleaner fuel(s) as agreed by the Director (and the conditions of any updated Permit, amended permit and further permit regarding measures to mitigate air quality impact), good practices and relevant provisions of the EIA Report and Final EM&A Manual.

Noise Pollution

12. The Tenant shall take all necessary measures as may be required by and to the satisfaction of the Director to ensure that the operation of all plant and equipment, installed or used on the Premises or in any building(s) or structure(s) or any part of any building(s) or structure(s) erected or to be erected thereon, will not result, not cause and/or will not contribute any noise (which exists or which is imminent) which disturbs or annoys the residents or occupiers of any adjoining or neighbouring lot or lots or premises, or causes and/or contributes to

disturbance to the general public under the Noise Control Ordinance (Cap. 400 of the Laws of Hong Kong) any regulations made thereunder and any amending legislation.

13. The decision of the Director as to whether any such plant and equipment are causing disturbance or annoyance as aforesaid shall be final and binding on the Tenant.

Waste Management

14. The Tenant shall not permit, allow or suffer any fuel or chemical and any sewage, waste water or effluent containing sand, cement, silt or any suspended or dissolved material to flow, escape or run from the Premises onto any adjoining land or allow any waste matter which does not form part of the recovery and/or recycling and/or reprocessing operation or is not part of the final product of such operation to be deposited, kept, held or stored anywhere within the Premises and other areas of EcoPark. The Tenant shall at its own cost(s) have all such matters and all waste arising from recycling activities, chemical waste arising from maintenance of plant and equipment, sewage sludge (from WTF) and general daily waste from the operation removed from the Premises or any building(s) or structure(s) or any part of any building(s) or structure(s) erected or to be erected thereon in a proper manner to the satisfaction of the Director.

15. In any event, the Tenant shall at its own cost(s) comply with, inter alia, Conditions 4.11 and 4.12 of the Environmental Permit No. EP-226/2005 as amended by the Variation of Environmental Permit – Application No.VEP-221/2006 regarding paving all areas of the Premises with concrete/using concrete hardstanding and siting all fuel tanks and chemical storage areas on the specified sealed areas, respectively (and comply with the conditions of any updated Permit, amended permit and further permit regarding measures to prevent land contamination). The Tenant shall at its own cost(s) comply with relevant provisions of the Waste Disposal Ordinance (Cap.354 of the Laws of Hong Kong) good practices and relevant provisions of the EIA Report and Final EM&A Manual.

Water Pollution

16. In the event that the Tenant produces, generates, permits, causes, allows or suffers any discharge which is subject to control under the Water Pollution Control Ordinance (Cap. 358 of the Laws of Hong Kong) any regulations made thereunder and any amending legislation, and is not covered by a WTF Discharge Licence issued under the Water Pollution Control Ordinance (Cap. 358 of the Laws of Hong Kong) the Tenant shall apply to the Director for a licence and comply with the terms and conditions stipulated in the licence and the WTF Discharge Licence at the Tenant's own cost(s). Otherwise, the Tenant is not allowed to discharge directly or indirectly or to produce, generate, permit, cause, allow or suffer any discharge into any public sewer, storm-water drain, channel, stream-course, sea or any area inside or outside the Premises any trade effluent or foul or contaminated water or cooling or hot water. Subject to the said licence from the Director and WTF Discharge Licence, the Tenant shall at its own cost(s) separate, collect, discharge and send all process or industrial wastewater to the WTF for treatment to the standard required for discharge into a sewer leading to the sewage treatment works at Pillar Point or other treatment works specified in the licence.

17. Subject to obtaining advance written approval of the Director, the Tenant shall at its own cost(s) provide, install, operate and maintain its own waste water pre-treatment plants within the Premises if such process or industrial wastewater could not meet the influent limits / exceeds the maximum influent criteria of the WTF (in accordance with paragraph 7.2.9 of the Final E&MA Manual). The Tenant shall at its own cost(s) separate, collect, discharge and send all domestic wastewater (i.e. other than process or industrial wastewater) to the Pillar Point Sewage Treatment Works directly for treatment or other treatment works specified in the licence.

18. In any event, the Tenant shall prevent any spilled materials from entering the surface water drainage system and prevent contamination of the sea at its own cost(s) by, inter alia, providing, installing, operating and maintaining stop-logs or interceptors in the surface water drainage system and at the marine frontage area, respectively, or as required by the licence. The Tenant shall at its own cost comply with relevant provisions of the Dumping at Sea Ordinance (Cap 466 of the Laws of Hong Kong) good practices and relevant provisions of the EIA Report and Final EM&A Manual.

Hazard to Life Impact

19. To mitigate hazard to life impact, the Tenant shall comply with, inter alia, Conditions 4.8 to 4.10 of the Environmental Permit No. EP-226/2005 as amended by the Variation of Environmental Permit – Application No.VEP-221/2006 (and comply with the conditions of any updated Permit, amended permit and further permit regarding measures to mitigate hazard to life impact) and shall not:-

(a) Bring, keep, store or transport chlorine within the Premises and other areas of EcoPark;

(b) Bring, keep, store, locate or transport dangerous goods, substances and fuels supporting combustion including oxygen, acetylene, hydrogen peroxide, rubber tyres and diesel within 10 metres from the boundary of the site of EcoPark; and

(c) Exceed the building height restrictions for buildings on the Premises which are on/near the western boundary of the site of EcoPark as mentioned in Annex B to the Environmental Permit No. EP-226/2005 as amended by the Variation of Environmental Permit – Application No.VEP-221/2006 (including any updated Permit, amended permit and further permit).

Landfill Gas Hazard

20. To mitigate landfill gas hazard, the Tenant shall at its own cost(s) comply with, inter alia, Condition 4.13 of the Environmental Permit No. EP-226/2005 as amended by the Variation of Environmental Permit – Application No.VEP-221/2006 regarding raising clear of the ground all buildings and enclosed structures as specified in inter alia Condition 3.7 (and comply with the conditions of any updated Permit, amended permit and further permit regarding measures to mitigate hazard to life impact).

Landscape and Visual Impacts

21. To mitigate landscape and visual impacts, the Tenant shall at its own cost(s) comply with, inter alia, Condition 4.14 of the Environmental Permit No. EP-226/2005 as amended by the Variation of Environmental Permit – Application No.VEP-221/2006 regarding maintaining landscape, planting, treatment and mitigation measures as specified in inter alia Condition 3.8 and Figure 3 (and comply with the conditions of any updated Permit, amended permit and further permit regarding measures to mitigate landscape and visual impacts).

Appendix 2.2

Environmental Requirements in Tenancy Agreements
(Phase 2)

Compliance of Environmental Legislation

5. The Tenant shall comply with and observe all Ordinances, by-laws, regulations and rules for the time being in force in Hong Kong governing the control of any form of pollution, including air, noise, water and waste pollution, and for the protection of the environment.

Air Pollution

6. Save with an appropriate exemption under the Air Pollution Control Ordinance (Cap. 311) any regulations made thereunder and any amending legislation, the Tenant shall not install or permit or suffer to be installed upon the Premises or any part thereof or any building(s) or structure(s) or part of any building(s) or structure(s) erected or to be erected thereon any furnace, oven, chimney or flue or any other combustion equipment or use or permit or suffer to be used any fuel or any method or process of manufacture or treatment that might in any circumstance result in, cause or contribute to the discharge or emission of any pollutant or any noxious, harmful or corrosive matter, whether it be in the form of gas, smoke, liquid, solid or otherwise (including but not limited to air pollutant as defined in Section 2 of the Air Pollution Control Ordinance

(Cap. 311), which exists or which is imminent, without the prior written approval of the Director.

Water Pollution

7. (a) In the event that the Tenant produces, generates, permits, causes, allows or suffers any discharge which is subject to control under the Water Pollution Control Ordinance (Cap. 358) any regulations made thereunder and any amending legislation, the Tenant shall apply to the Director for a licence and comply with the terms and conditions stipulated in the licence at the Tenant's own cost(s). Otherwise, the Tenant is not allowed to discharge directly or indirectly or to produce, generate, permit, cause, allow or suffer any discharge into any public sewer, storm-water drain, channel, stream-course, sea or any area inside or outside the Premises any trade effluent or foul or contaminated water or cooling or hot water. Subject to the said licence from the Director, the Tenant shall at its own cost(s) separate, collect, and discharge all process or industrial wastewater which comply with the standard required for discharge into a sewer leading to the sewage treatment works at Pillar Point or other treatment works specified in the licence.

(b) Subject to obtaining advance written approval of the Director, the Tenant shall at its own cost(s) provide, install, operate and maintain its own waste water pre-treatment plants within the Premises if such process or industrial wastewater could not meet the standard required for discharge into a sewer leading to the sewage treatment works at Pillar Point or other treatment works specified in the licence. The Tenant shall at its own cost(s) separate, collect, discharge and send all domestic wastewater (i.e. other than process or industrial wastewater) to the Pillar Point Sewage Treatment Works directly for treatment or other treatment works specified in the licence.

(c) In any event, the Tenant shall prevent any spilled materials from entering the surface water drainage system and prevent contamination of the sea at its own cost(s) by, inter alia, providing, installing, operating and maintaining stop-logs or interceptors in the surface water drainage system and at the marine frontage area, respectively, or as required by the licence. The Tenant shall at its own cost comply with relevant provisions of the Dumping at Sea Ordinance (Cap. 466) good practices and relevant provisions of the EIA Report and Final EM&A Manual.

Waste Management

8. (a) The Tenant shall at its own cost(s) comply with relevant provisions of the Waste Disposal Ordinance (Cap. 354).

(b) The Tenant shall not permit, allow or suffer any fuel or chemical and any sewage, waste water or effluent containing sand, cement, silt or any suspended or dissolved material to flow, escape or run from the Premises onto any adjoining land or allow any waste matter which does not form part of the recovery and/or recycling and/or reprocessing operation or is not part of the final product of such operation to be deposited, kept, held or stored anywhere within the Premises and other areas of EcoPark. The Tenant shall at its own cost(s) have all such matters and all materials arising from recycling activities, chemical materials arising from maintenance of plant and equipment, sewage sludge (from wastewater treatment facilities, if any) and general daily waste from the operation removed from the Premises or any building(s) or structure(s) or any part of any building(s) or structure(s) erected or to be erected thereon in a proper manner to the satisfaction of the Landlord and/or the Director.

Noise Pollution

9. (a) The Tenant shall take all necessary measures as may be required by and to the satisfaction of the Landlord and/or the Director to ensure that the operation of all plant and equipment, installed or used on the Premises or in any building(s) or structure(s) or any part of any building(s) or structure(s) erected or to be erected thereon, will not result, not cause and/or will not contribute any noise (which exists or which is imminent) which disturbs or annoys the residents or occupiers of any adjoining or neighbouring lot or lots or premises, or causes and/or contributes to disturbance to the general public under the Noise Control Ordinance (Cap. 400) any regulations made thereunder and any amending legislation.

(b) The decision of the Landlord or the Director as to whether any such plant and equipment are causing disturbance or annoyance as aforesaid shall be final and binding on the Tenant.

Landfill Gas Hazard

10. To mitigate landfill gas hazard, the Tenant shall at its own cost(s) comply with, inter alia, Condition 4.13 of the Environmental Permit No. EP-226/2005/A regarding raising clear of the ground all buildings and enclosed structures as specified in inter alia

Condition 3.7 (and comply with the conditions of any updated Permit, amended permit and further permit regarding measures to mitigate hazard to life impact).

EcoPark Being Within the 250m Consultation Zone of Siu Lang Shui Landfill

11. (a) The Tenant acknowledges that the EcoPark is within the 250m Consultation Zone of the Siu Lang Shui Landfill and that the Premises may be affected by problems associated with migrating landfill gas and undertakes to provide suitable precautionary or protection measures at his own expense to control these potential hazards.

(b) The Tenant shall ensure all personnel entering the Premises and all visitors to the Premises are aware of the potential hazards of the landfill gas by posting suitable warning notices of the potential hazards at his own expense.

(c) All buildings and enclosed structures, including temporary offices, temporary stores and the administration building, within the 250m Consultation Zone of the Siu Lang Shui Landfill shall be provided with the following measure(s):

(i) buildings shall be raised clear of the ground with a clear separation distance (as measured from the highest point on the ground surface to the underside of the lowest floor joist) of at least 500mm; or

(ii) a low-gas permeability membrane shall be applied to the surface of any wall or floor slab that rests on or is below ground. A gravel-fill vent system shall be provided such that passive venting is achieved around the perimeter of the structure. In addition, other building materials, such as dense well-compacted concrete or steel shuttering which provide a measure of resistance to gas permeation, shall be used to achieve gas protection.

(d) The Tenant shall ensure that the electrical equipment used on the Premises shall be intrinsically safe. Welding, flame-cutting or other hot works shall be confined to the open areas of the Premises and shall be at least 15m away from any ground-level confined space.

(e) No drilling, trenching and excavation shall be allowed on the Premises. During any construction work, the Tenant shall observe the guidelines recommended in Chapter 8 of the "Landfill Gas Hazard Assessment Guidance Note" published by the Department of Environmental Protection. In particular, no smoking, naked

flames and all other sources of ignition shall be allowed within 15m of any ground-level confined space.

Hazard to Life Impact

12. To mitigate hazard to life impact, the Tenant shall comply with, inter alia, Conditions 4.8 to 4.10 of the Environmental Permit No. EP-226/2005/A (and comply with the conditions of any updated Permit, amended permit and further permit regarding measures to mitigate hazard to life impact) and shall not:-

    (a) bring, keep, store or transport chlorine within the Premises and other areas of EcoPark;

    (b) bring, keep, store, locate or transport dangerous goods, substances and fuels supporting combustion including oxygen, acetylene, hydrogen peroxide, rubber tyres and diesel within 10 metres from the boundary of the site of EcoPark; and

    (c) exceed the building height restrictions for buildings on the Premises which are on/near the western boundary of the site of EcoPark as mentioned in Annex B to the Environmental Permit No. EP-226/2005/A (including any updated Permit, amended permit and further permit).

Landscape and Visual Impacts

13. To mitigate landscape and visual impacts, the Tenant shall at its own cost(s) comply with, inter alia, Condition 4.14 of the Environmental Permit No. EP-226/2005/A regarding maintaining landscape, planting, treatment and mitigation measures as specified in inter alia Condition 3.8 and Figure 3 (and comply with the conditions of any updated Permit, amended permit and further permit regarding measures to mitigate landscape and visual impacts).

Environmental Permits Relating to EcoPark

14. The Tenant hereby declares, confirms and acknowledges that it is fully aware that, pursuant to the Environmental Impact Assessment Ordinance (Cap.499), the Director has the right to grant, amend or revoke environmental permit(s) or to grant further or amended environmental permit(s) relating to the lots comprising the EcoPark and any other lots but that such right may be challenged by third parties on justifiable grounds. The Tenant hereby undertakes to waive all its rights and remedies for any loss, damages, cost and expenses whatsoever which it may sustain and/or incur directly or

indirectly as a result of the grant, amendment or revocation of the environmental permit(s) or the consequential grant of further or amended environmental permit(s), including but not limited to any right to terminate this Lease and/or to make any claim against the Landlord and/or the Director for any compensation whatsoever.

Appendix 3

Material and Waste Throughputs

Appendix 3.1

Material and Waste Throughputs of the Reporting Year

Table A3.1-1 Recycling of Waste Organic Food

Date	Waste Input (tonnes)	Product Output (tonnes)	Waste Disposal (tonnes)
January 2016	883*	328*	305*
February 2016	1,076*	396*	456*
March 2016	1,218*	421*	498*
April 2016	1,298*	590*	593*
May 2016	1,348*	594*	685*
June 2016	1,273*	414*	671*
July 2016	1,223*	591*	609*
August 2016	1,169*	568*	599*
September 2016	1,254*	610*	659*
October 2016	1,282	627	695
November 2016	1,217	620	627
December 2016	479(4)	573(4)	122(4)
Total	**13,719**	**6,332**	**6,519**

Table A3.1-2 Recycling of Waste Ferrous Metal

Date	Waste Input (tonnes)	Product Output (tonnes)	Waste Disposal (tonnes)
January 2016	9,271	7,954	-
February 2016	6,246	6,493	-
March 2016	9,898*	6,716*	-
April 2016	11,116	9,888	-
May 2016	8,829*	9,893*	-
June 2016	8,281*	9,081*	-
July 2016	10,799	10,242	-
August 2016	8,488*	6,284*	-
September 2016	8,058*	9,156*	-
October 2016	10,261	12,359	-
November 2016	12,280	8,844	-
December 2016	13,004*	13,011*	-
Total	**116,531**	**109,921**	**-**

Table A3.1-3 Recycling of Waste Wood

Date	Waste Input (tonnes)	Product Output (tonnes)	Waste Disposal (tonnes)
January 2016	106	598	-
February 2016	58	52	-
March 2016	85*	183*	-*
April 2016	84	53	-
May 2016	82	-	-
June 2016	62*	-*	-*
July 2016	89	54	-
August 2016	78	-	-
September 2016	4*	-*	-*
October 2016	78	-	-
November 2016	20	29	-
December 2016	25*	-*	-*
Total	**746**	**968**	**-**

Table A3.1-4 Recycling of Waste Electronics

Date	Waste Input (tonnes)	Product Output (tonnes)	Waste Disposal (tonnes)
January 2016	141*	113*	9*
February 2016	93*	75*	-*
March 2016	152*	127*	12*
April 2016	146*	79*	17*
May 2016	81*	94*	13*
June 2016	102*	94*	1*
July 2016	126*	73*	11*
August 2016	133*	142*	1*
September 2016	156*	118*	25*
October 2016	104(4)	86(4)	3(4)
November 2016	128(4)	124(4)	7(4)
December 2016	93(4)	97(4)	10(4)
Total	**1,455**	**1,221**	**109**

Table A3.1-5 Recycling of Waste Plastic

Date	Waste Input (tonnes)	Product Output (tonnes)	Waste Disposal (tonnes)
January 2016	517*	452*	144*
February 2016	514*	385*	116*
March 2016	542*	498*	135*
April 2016	538*	498*	145*
May 2016	754*	690*	113*
June 2016	550*	490*	19*
July 2016	444*	350*	1*
August 2016	461*	355*	-*
September 2016	521*	382*	2*
October 2016	420*	278*	45*
November 2016	234(4)*	158(4)*	-(4)*
December 2016	n/a	n/a	n/a
Total	**5,496**	**4,537**	**722**

Table A3.1-6 Recycling of Waste Glass and Construction Waste

Date	Waste Input (tonnes)		Product Output (tonnes)	Waste Disposal (tonnes)
	Construction Waste	Glass		
January 2016	4,561	143	9,695	30
February 2016	2,811*	125*	6,995*	-*
March 2016	3,764*	173*	9,040*	36*
April 2016	3,966*	173*	8,536*	24*
May 2016	3,060*	199*	8,121*	33*
June 2016	4,151*	229*	10,555*	25*
July 2016	3,027	156	7,445	28
August 2016	3,025*	192*	8,473*	21*
September 2016	3,550*	196*	8,682*	38*
October 2016	3,768	162	9,848	29
November 2016	3,544*	187*	10,499*	30*
December 2016	1,275*	150*	8,302*	31*
Total	**40,502**	**2,085**	**106,191**	**325**

Notes:

1) The throughput data presented in ***Tables A3.1-1*** to ***A3.1-6*** has been rounded off to the nearest whole tonne for presentation. Unavailable data will be reported in the next EM&A report.
2) The total product output may not be the same as the waste input due to processing of materials that were received before the reporting year and were stored within the lots.
3) Waste disposal refers to the disposal of general refuse (i.e. packaging) and/or chemical waste.
4) The presented throughput data is the best available data.
5) The throughput data marked with "*" have been revised with updated data since submission of corresponding quarterly EM&A reports.
6) Since the recycling of waste glass and construction waste is combined to produce concrete block, the product output and waste disposal from both processes are combined in ***Table A3.1-6***.

Appendix 3.2

Updates of Material and Waste Throughputs of the Previous Reporting Year

Table A3.2-1 Recycling of Waste Organic Food

Date	Waste Input (tonnes)	Product Output (tonnes)	Waste Disposal (tonnes)
January 2015	780	340	480
June 2015	1,215	326	687
July 2015	1,240	333	727
August 2015	1,216	334	714
September 2015	858	382	291
October 2015	974	467	442
November 2015	904	398	410
December 2015	880	394	281

Table A3.2-2 Recycling of Waste Ferrous Metal

Date	Waste Input (tonnes)	Product Output (tonnes)	Waste Disposal (tonnes)
November 2015	8,961	7,569	-
December 2015	9,070	10,272	-

Table A3.2-3 Recycling of Waste Wood

Date	Waste Input (tonnes)	Product Output (tonnes)	Waste Disposal (tonnes)
December 2015	49	312	-

Table A3.2-4 Recycling of Waste Electronics

Date	Waste Input (tonnes)	Product Output (tonnes)	Waste Disposal (tonnes)
July 2015	122	174	17
August 2015	131	83	9
December 2015	200	120	9

Table A3.2-5 Recycling of Waste Plastic

Date	Waste Input (tonnes)	Product Output (tonnes)	Waste Disposal (tonnes)
November 2015	532	487	162
December 2015	500	435	160

Table A3.2-6 Recycling of Waste Glass and Construction Waste

Date	Waste Input (tonnes)		Product Output (tonnes)	Waste Disposal (tonnes)
	Construction Waste	Glass		
May 2015	5,000	134	7,389	15
June 2015	805	138	6,611	15
July 2015	650	134	5,818	15
August 2015	3,394	129	5,965	15
September 2015	2,104	109	4,996	15
October 2015	2,936	101	5,900	15
November 2015	4,576	159	8,615	76
December 2015	3,483	136	7,457	41

Notes:

1) The throughput data in ***Tables A3.2-1*** to ***A3.2-6*** supersede the same batch of the throughput data in previous Annual Environmental Monitoring & Audit Report. The presented data has been rounded off to the nearest whole tonne for presentation. Unavailable data will be reported in the next EM&A report.
2) The total product output may not be the same as the waste input due to processing of materials that were received before the reporting year and were stored within the lots.
3) Waste disposal refers to the disposal of general refuse (i.e. packaging) and/or chemical waste.
4) Since the recycling of waste glass and construction waste is combined to produce concrete block, the product output and waste disposal from both processes are combined in ***Table A3.2-6***.
5) The presented throughput is the best available data.

Appendix 4

Graphical Plots of LFG Monitoring

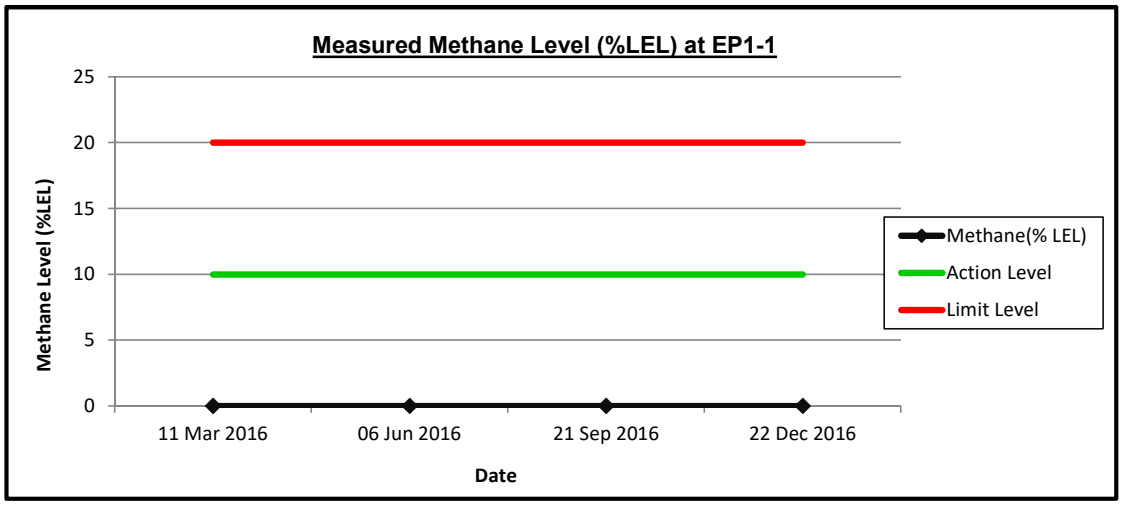
Landfill Gas Monitoring Results

Monitoring Station ID	Monitoring Locations	Weather Conditions	Temperature (°C)	Start Time	End Time	Measurement Results					Action Level			Limit Level			Remarks
						Methane		Oxygen	Carbon Dioxide	Barometric Pressure	Methane	Oxygen	Carbon Dioxide	Methane	Oxygen	Carbon Dioxide	
						% v/v	% LEL	% v/v	% v/v	mBar (absolute)	% LEL	% v/v	% v/v	% LEL	% v/v	% v/v	
11 March 2016																	
EP1-1	Inside the landscaping area of Administration Building	Overcast	13	9:55	9:58	0.0	0	21.1	0.5	1026	>10	<19	>0.5	>20	<18	>1.5	Nil
EP1-2	PCCW below-ground chamber outside Lot EP08-01		13	9:50	9:53	0.0	0	21.4	0.0	1026							Nil
EP1-3	HGC Broadband below-ground chamber outside Lot EP08-03		13	9:45	9:48	0.0	0	21.3	0.0	1026							Nil
EP2-1	HGC Broadband below-ground chamber outside Lot P1		13	9:35	9:38	0.0	0	21.4	0.0	1026							Nil
EP2-2	HGC Broadband below-ground chamber outside Lot P3		13	9:40	9:43	0.0	0	21.4	0.0	1026							Nil
06 June 2016																	
EP1-1	Inside the landscaping area of Administration Building	Rainy	27	10:00	10:03	0.0	0	20.1	0.5	1012	>10	<19	>0.5	>20	<18	>1.5	Nil
EP1-2	PCCW below-ground chamber outside Lot EP08-01		27	9:55	9:58	0.0	0	18.7	1.1	1012							Nil
EP1-3	HGC Broadband below-ground chamber outside Lot EP08-03		27	9:50	9:53	0.0	0	20.3	0.2	1012							Nil
EP2-1	HGC Broadband below-ground chamber outside Lot P1		27	9:40	9:43	0.0	0	17.6	2.6	1012							Nil
EP2-2	HGC Broadband below-ground chamber outside Lot P3		27	9:45	9:48	0.0	0	20.0	0.5	1012							Nil
21 September 2016																	
EP1-1	Inside the landscaping area of Administration Building	Fine	32	10:35	10:38	0.0	0	20.2	0.3	1015	>10	<19	>0.5	>20	<18	>1.5	Nil
EP1-2	PCCW below-ground chamber outside Lot EP08-01		32	10:30	10:33	0.0	0	20.2	0.1	1015							Nil
EP1-3	HGC Broadband below-ground chamber outside Lot EP08-03		32	10:25	10:28	0.0	0	20.2	0.1	1016							Nil
EP2-1	HGC Broadband below-ground chamber outside Lot P1		32	10:15	10:18	0.0	0	20.0	0.5	1016							Nil
EP2-2	HGC Broadband below-ground chamber outside Lot P3		32	10:20	10:23	0.0	0	20.1	0.3	1016							Nil
22 December 2016																	
EP1-1	Inside the landscaping area of Administration Building	Fine	24	10:05	10:08	0.0	0	20.8	0.0	1021	>10	<19	>0.5	>20	<18	>1.5	Nil
EP1-2	PCCW below-ground chamber outside Lot EP08-01		24	9:50	9:53	0.0	0	20.8	0.1	1021							Nil
EP1-3	HGC Broadband below-ground chamber outside Lot EP08-03		24	9:45	9:48	0.0	0	20.8	0.1	1021							Nil
EP2-1	HGC Broadband below-ground chamber outside Lot P1		24	9:55	9:58	0.0	0	20.6	0.1	1021							Nil
EP2-2	HGC Broadband below-ground chamber outside Lot P3		24	10:00	10:03	0.0	0	20.5	0.2	1021							Nil

Notes:

(1) Underlined figure indicates an exceedance of Action Level

(2) Shaded area indicates an exceedance of Limit Level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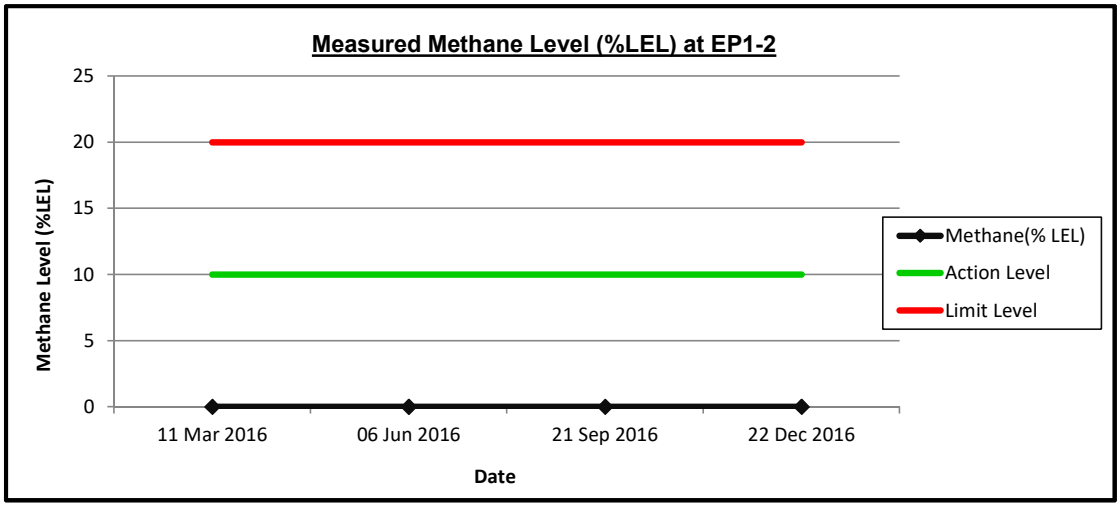
Methane Level (%LEL)
25
20
15
10
5
0
11 Mar 2016
06 Jun 2016
21 Sep 2016
22 Dec 2016
Date
Methane(% LEL)
Action Level
Limit Level


Measured Methane Level (%LEL) at EP1-2
Methane Level (%LEL)
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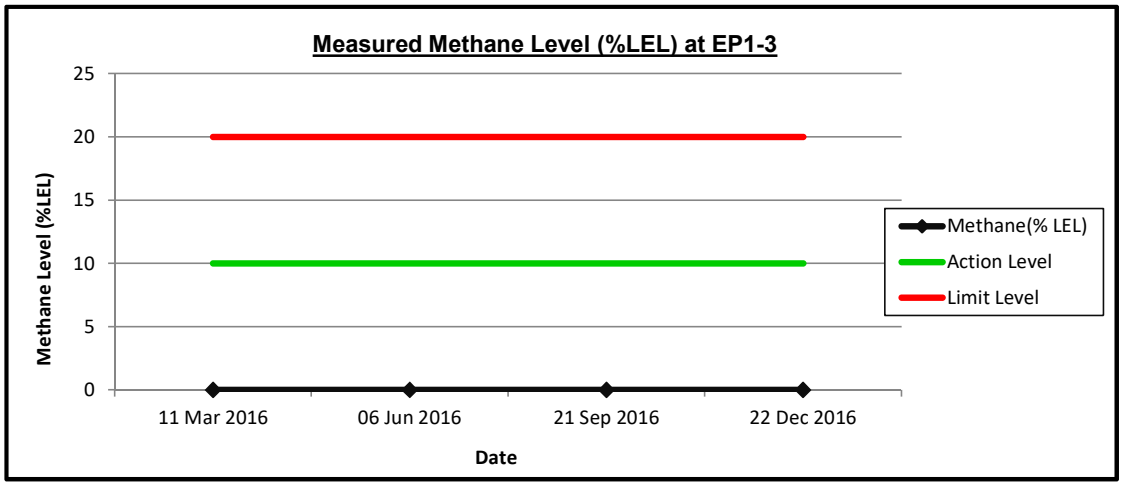
20
15
10
5
0
11 Mar 2016
06 Jun 2016
21 Sep 2016
22 Dec 2016
Date
Methane(% LEL)
Action Level
Limit Level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Methane Level (%LEL)
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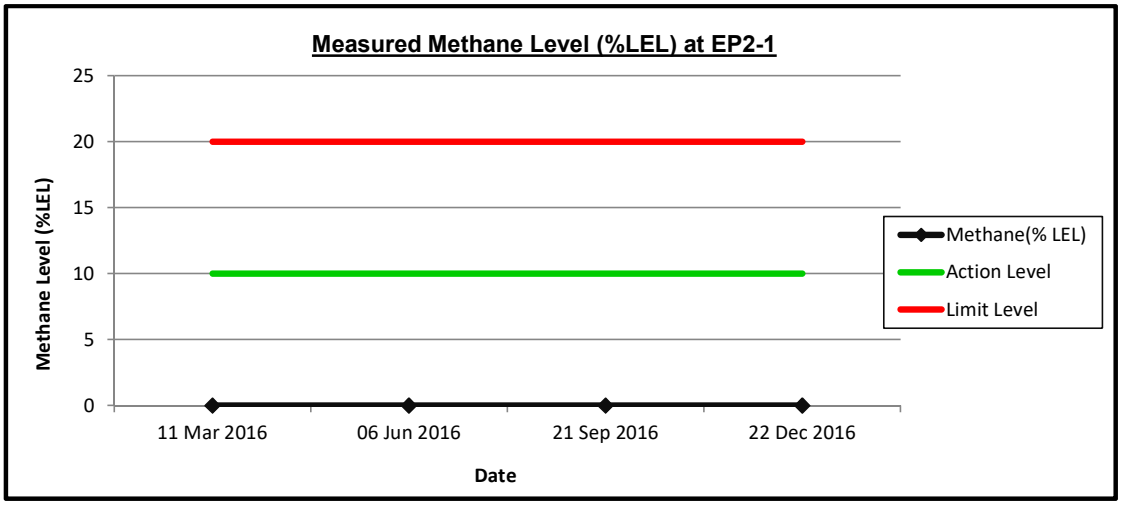
20
15
10
5
0
11 Mar 2016
06 Jun 2016
21 Sep 2016
22 Dec 2016
Date
Methane(% LEL)
Action Level
Limit Level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Methane Level (%LEL)
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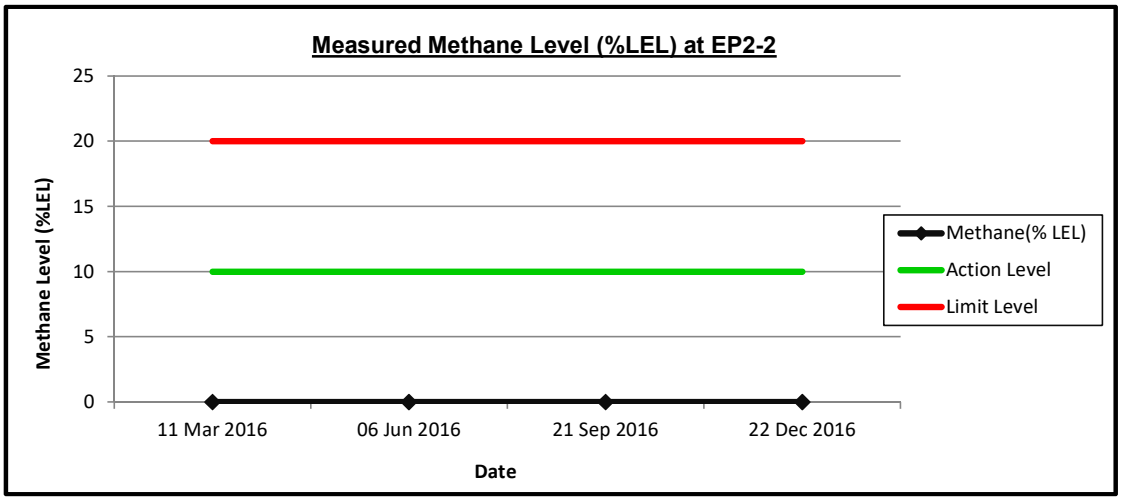
20
15
10
5
0
11 Mar 2016
06 Jun 2016
21 Sep 2016
22 Dec 2016
Date
Methane(% LEL)
Action Level
Limit Level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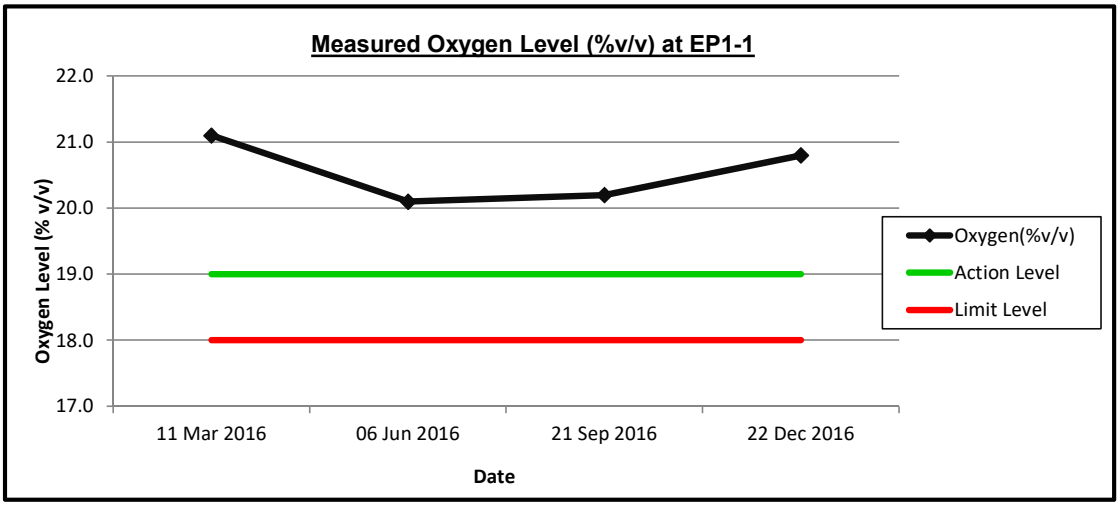
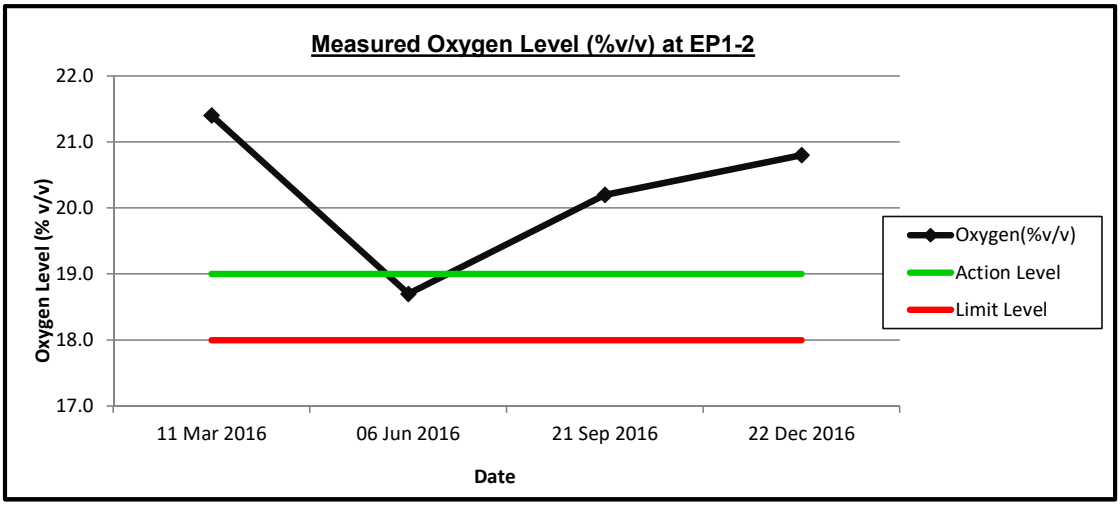
Methane Level (%LEL)
25
20
15
10
5
0
11 Mar 2016
06 Jun 2016
21 Sep 2016
22 Dec 2016
Date
Methane(% LEL)
Action Level
Limit Level


Measured Oxygen Level (%v/v) at EP1-1
22.0
21.0
20.0
19.0
18.0
17.0
Oxygen Level (% v/v)
11 Mar 2016
06 Jun 2016
21 Sep 2016
22 Dec 2016
Date
Oxygen(%v/v)
Action Level
Limit Level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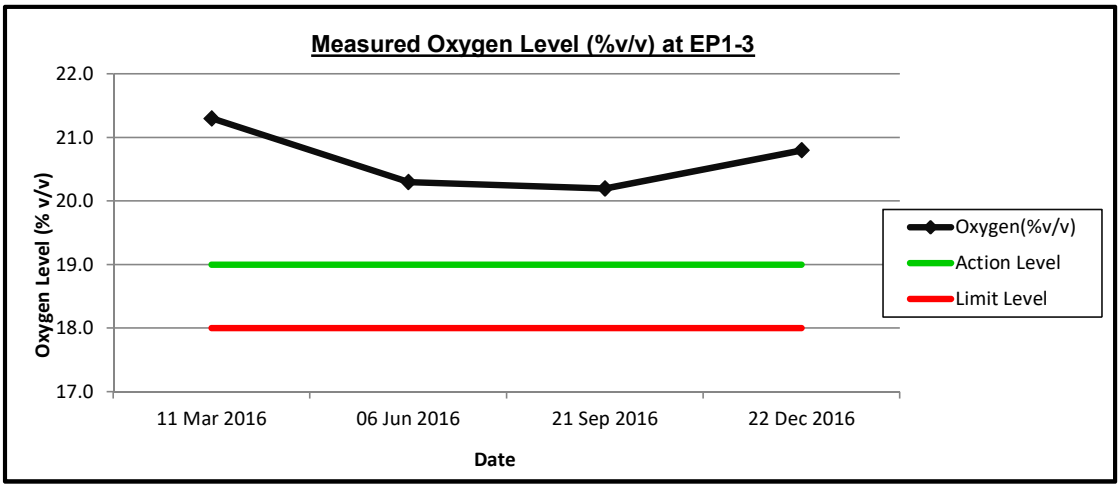
22.0
21.0
20.0
19.0
18.0
17.0
Oxygen Level (% v/v)
11 Mar 2016
06 Jun 2016
21 Sep 2016
22 Dec 2016
Date
Oxygen(%v/v)
Action Level
Limit Level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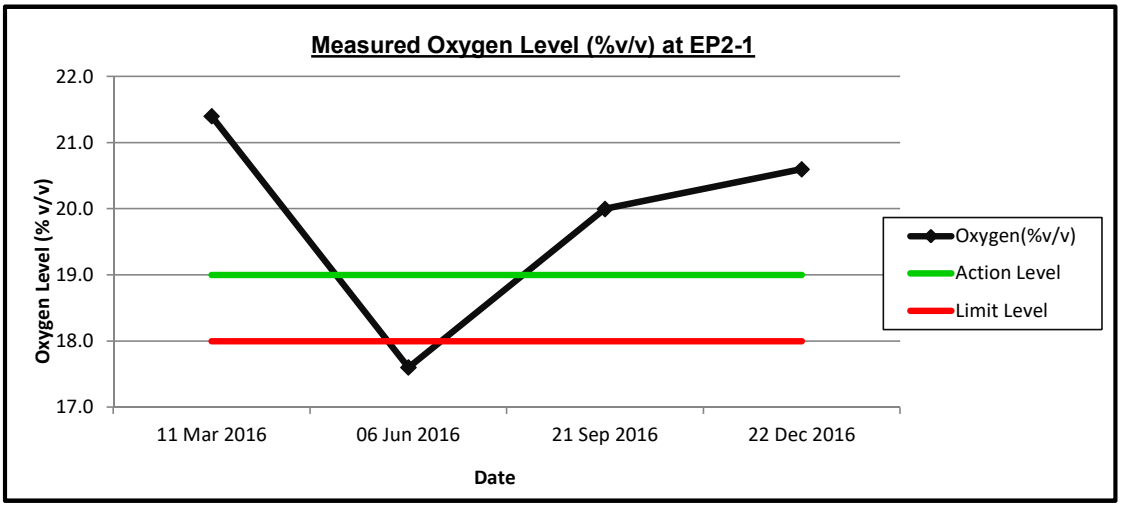
21.0
20.0
19.0
18.0
17.0
Oxygen Level (% v/v)
11 Mar 2016
06 Jun 2016
21 Sep 2016
22 Dec 2016
Date
Oxygen(%v/v)
Action Level
Limit Level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21.0
20.0
19.0
18.0
17.0
Oxygen Level (% v/v)
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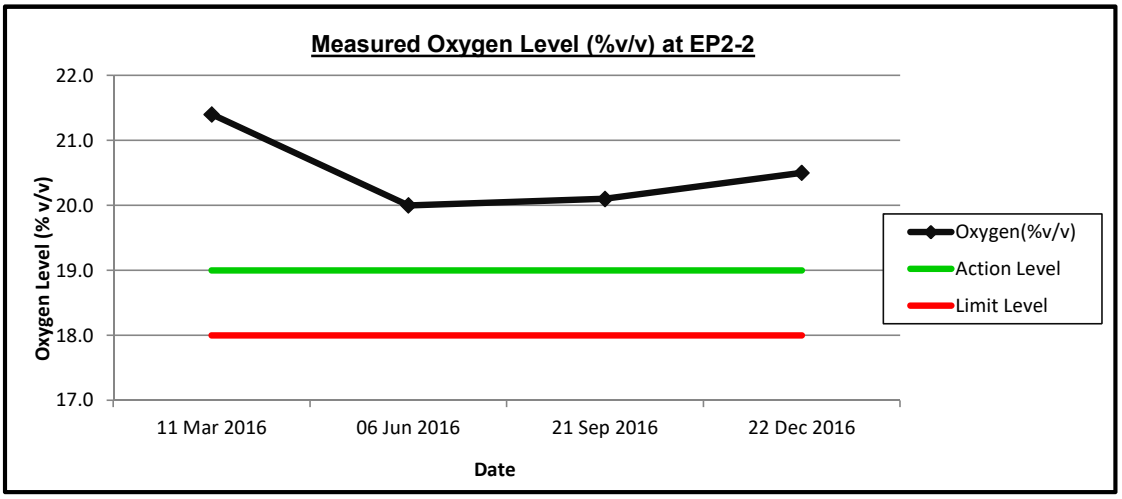
06 Jun 2016
21 Sep 2016
22 Dec 2016
Date
Oxygen(%v/v)
Action Level
Limit Level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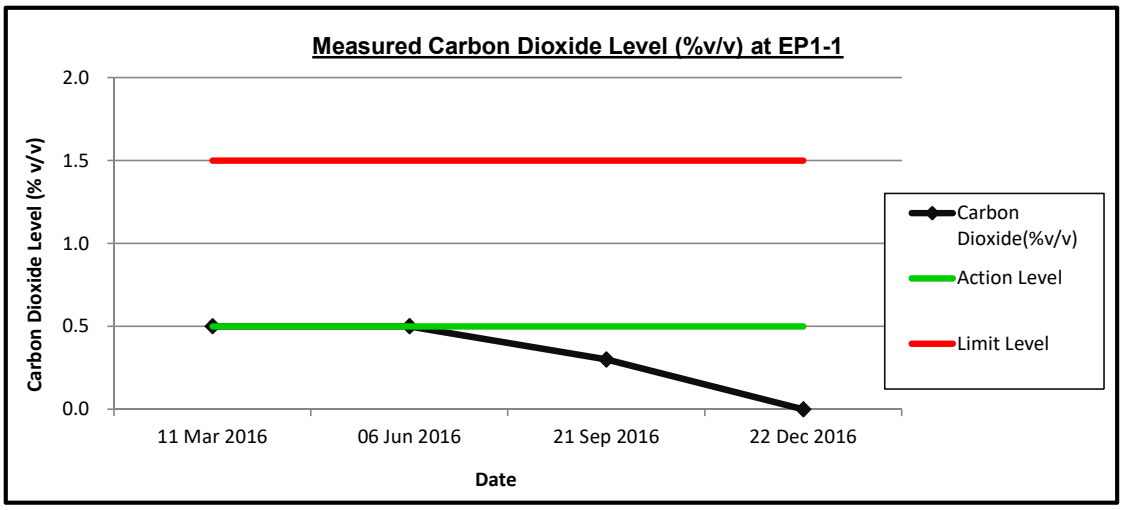
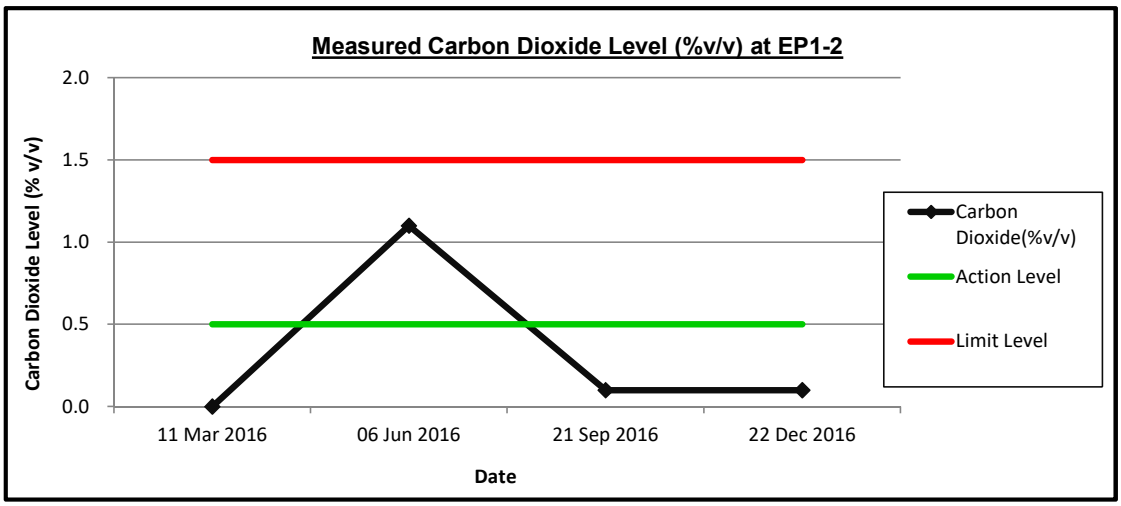
21.0
20.0
19.0
18.0
17.0
Oxygen Level (% v/v)
11 Mar 2016
06 Jun 2016
21 Sep 2016
22 Dec 2016
Date
Oxygen(%v/v)
Action Level
Limit Level


Measured Carbon Dioxide Level (%v/v) at EP1-1
Carbon Dioxide Level (% v/v)
2.0
1.5
1.0
0.5
0.0
11 Mar 2016
06 Jun 2016
21 Sep 2016
22 Dec 2016
Date
Carbon Dioxide(%v/v)
Action Level
Limit Level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Carbon Dioxide Level (% v/v)
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1.0
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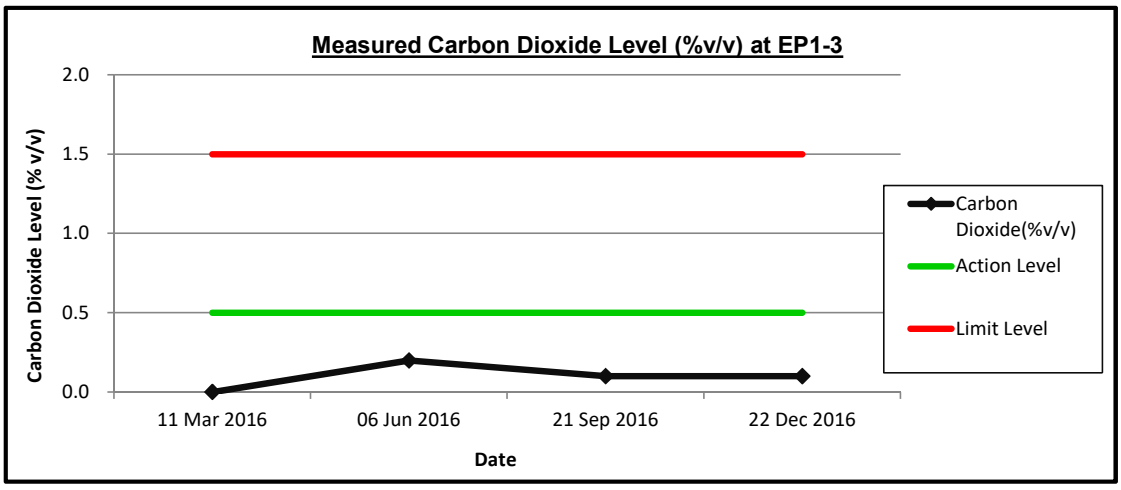
0.0
11 Mar 2016
06 Jun 2016
21 Sep 2016
22 Dec 2016
Date
Carbon Dioxide(%v/v)
Action Level
Limit Level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Carbon Dioxide Level (% v/v)
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1.0
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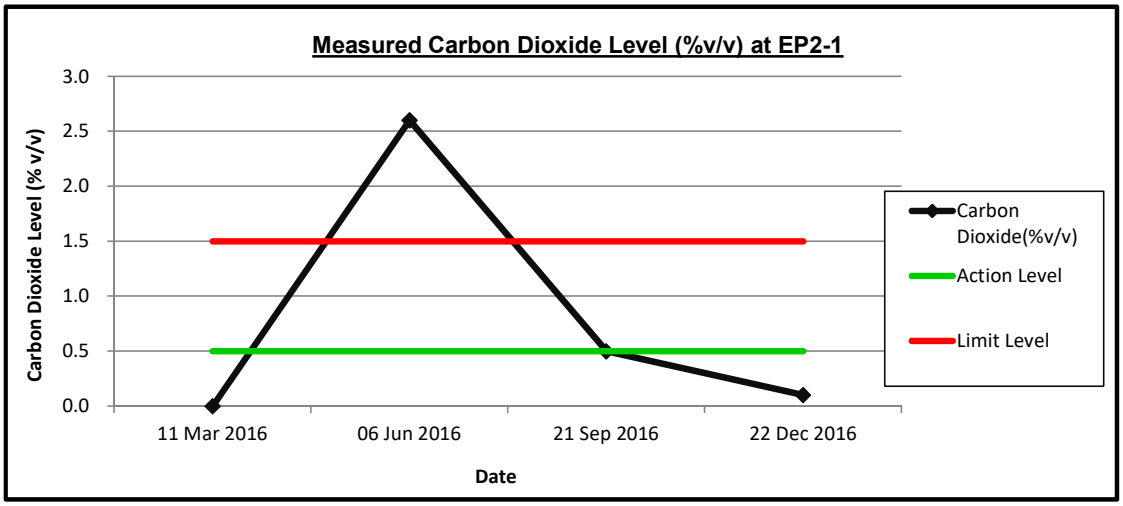
0.0
11 Mar 2016
06 Jun 2016
21 Sep 2016
22 Dec 2016
Date
Carbon Dioxide(%v/v)
Action Level
Limit Level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Carbon Dioxide Level (% v/v)
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2.0
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1.0
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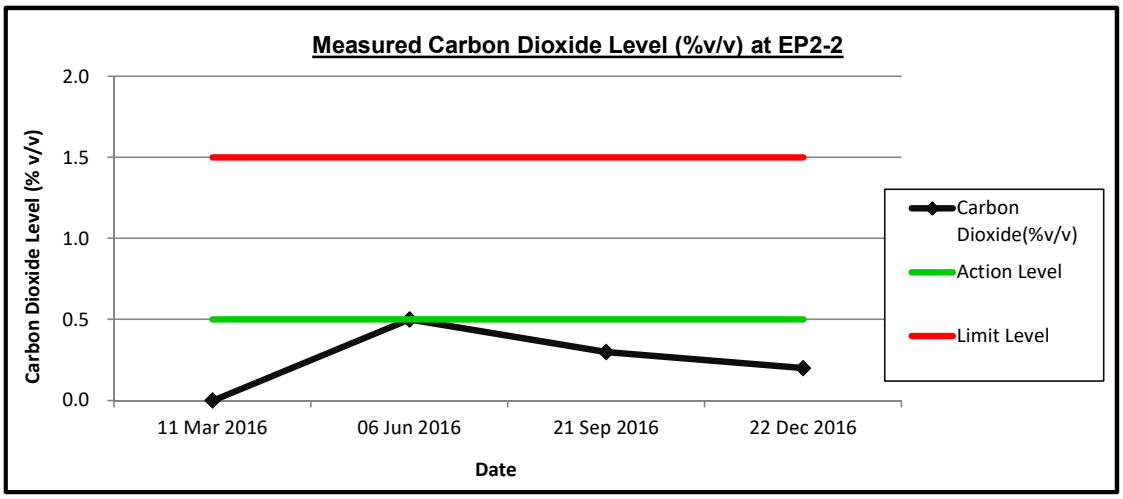
0.0
11 Mar 2016
06 Jun 2016
21 Sep 2016
22 Dec 2016
Date
Carbon Dioxide(%v/v)
Action Level
Limit Level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Carbon Dioxide Level (% v/v)
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1.0
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0.0
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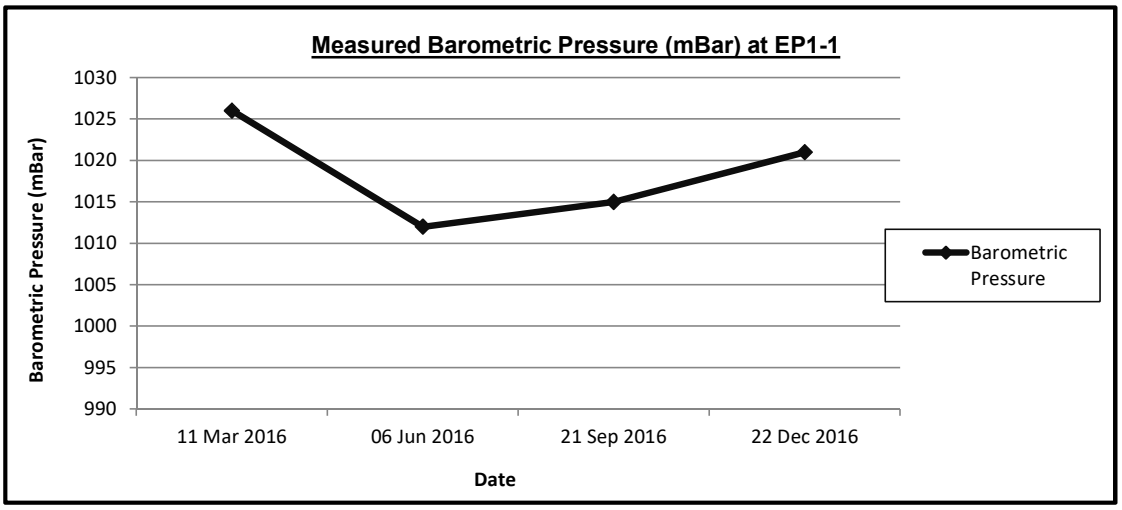
06 Jun 2016
21 Sep 2016
22 Dec 2016
Date
Carbon Dioxide(%v/v)
Action Level
Limit Level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1010
1005
1000
995
990
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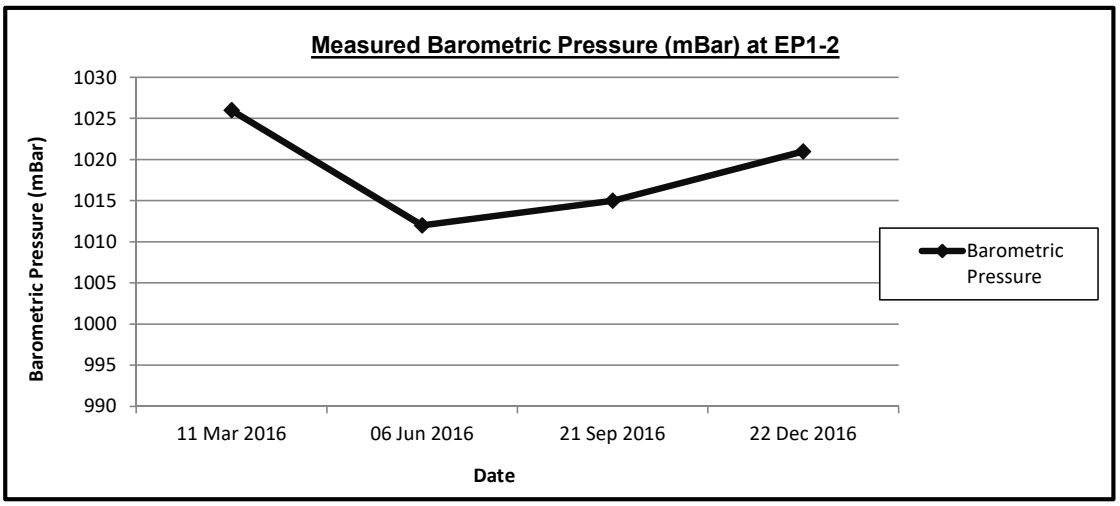
21 Sep 2016
22 Dec 2016
Date
Barometric Pressure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Barometric Pressure (mBar)
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1015
1010
1005
1000
995
990
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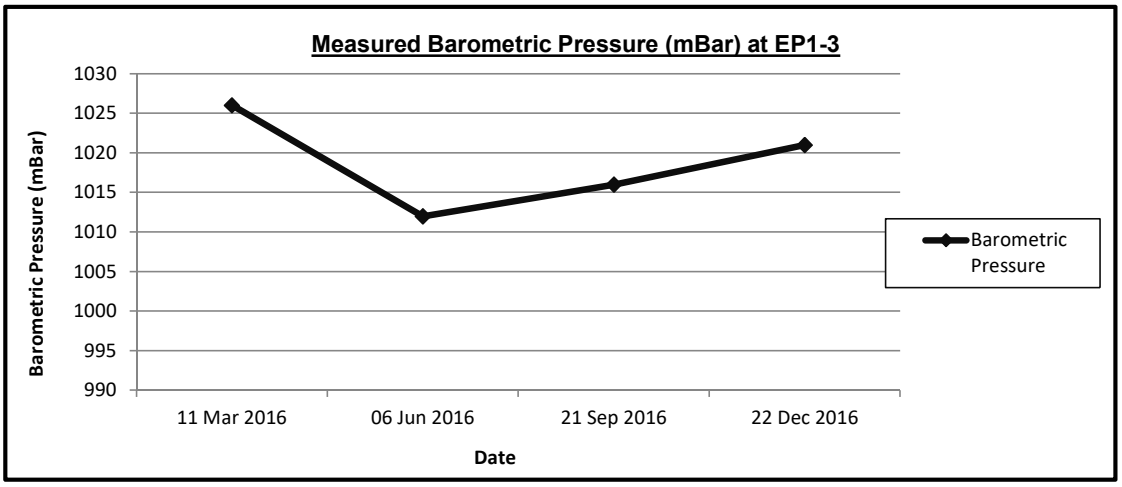
21 Sep 2016
22 Dec 2016
Date
Barometric Pressure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1010
1005
1000
995
990
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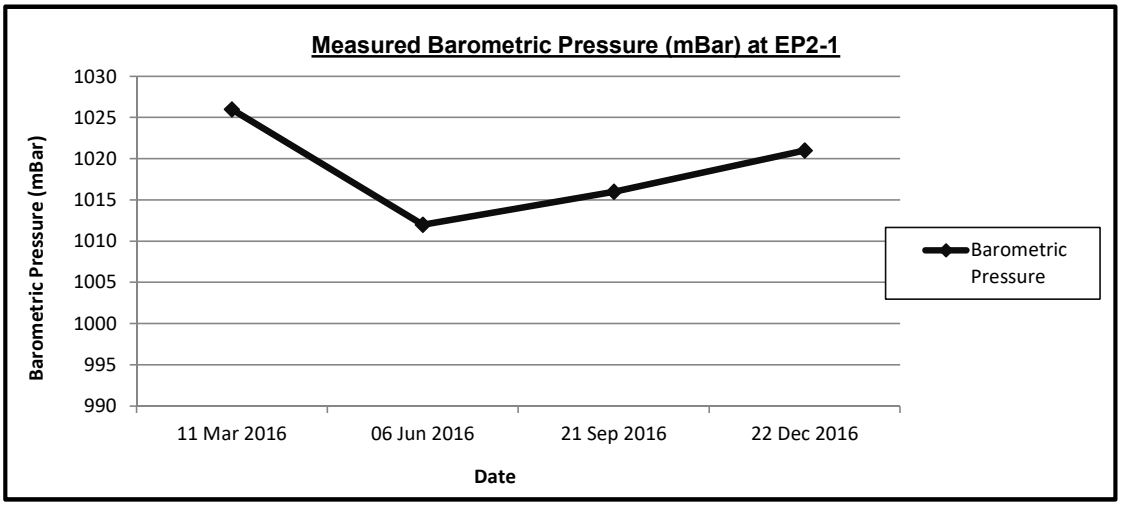
21 Sep 2016
22 Dec 2016
Date
Barometric Pressure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Barometric Pressure (mBar)
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1015
1010
1005
1000
995
990
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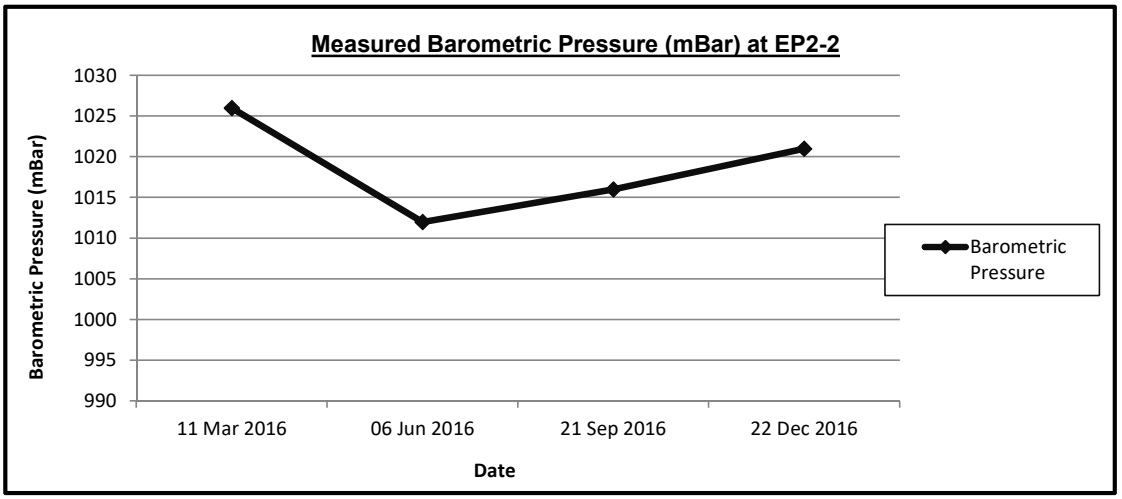
21 Sep 2016
22 Dec 2016
Date
Barometric Pressure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Barometric Pressure (mBar)
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1025
1020
1015
1010
1005
1000
995
990
11 Mar 2016
06 Jun 2016
21 Sep 2016
22 Dec 2016
Date
Barometric Pressure