Issue No. : Issue 1
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ECOPARK OPERATION

ANNUAL ENVIRONMENTAL MONITORING & AUDIT REPORT 2014

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/53/06 Provision of Management Services for EcoPark in Tuen Mun Area 38* was awarded to Serco Guardian Joint Venture (SGJV) by Environmental Protection Department (EPD) and was completed on 29th October 2014. The new contract *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/C).

This is the eighth (8th) annual EM&A report prepared for the operation phase of EcoPark and covers the calendar year of 2014.

There were thirteen tenants in EcoPark Phase 1 and Phase 2 in 2014, and one tenant is under tenancy termination. Nine tenants have commenced full recycling activities within their lots or are under trial operation, namely Champway, Shiu Wing, Hung Wai, Li Tong, Telford, Yan Oi Tong, St. James's Settlement, Chung Yue and K.Wah. Four tenants were carrying out plant design, construction work and machine installation, including E.Tech, On Fat Lung, SSK and South China. One tenant, i.e. Cosmos, is under tenancy termination.

Throughout the reporting year, site inspections were conducted by the ET 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 nine 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 (tonnes)	Waste Disposed (tonnes)
Waste Organic Food	6,962	2,168	4,858
Waste Ferrous Metals	86,420	88,132	-
Waste Wood	1,375	3,500	-
Waste Electronics	1,219	828	84
Waste Plastics	2,195	3,380	260

Notes:

1) The throughput data presented above is the best available data and has been rounded off to the nearest whole tonne for presentation.
2) All waste materials were processed for product output. The total product output may not be the same as the waste input due to processing of materials that were received before the reporting quarter and were stored within the lots.

Exceedances of Any Measured Action / Limit Levels

The northern part of EcoPark is located within the 250m Landfill Gas (LFG) Consultation Zone of Shiu 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 27th March, 18th June, 19th September and 17th December 2014. No exceedance of Action or Limit Level was recorded in the reporting year.

Summary of Complaints, Summons and Prosecutions

No environmental complaints, summons or successful prosecutions was recorded in 2014.

Reporting Changes

The contract for the management of EcoPark – Contract No. *EP/SP/53/06 Provision of Management Services for EcoPark in Tuen Mun Area 38*, which was awarded to SGJV, was completed on 29th October 2014. A new contract *EP/SP/71/13 Provision of Management Services for EcoPark 2014* was awarded to UPML effective from 30th October 2014. Starting from November 2014, the ET and IEC of the Project also change from SMEC Asia Ltd. (SMEC) to AEC and from Atkins China Ltd. (Atkins) to Mott MacDonald Hong Kong Limited (MottMac) respectively.

Future Key Issues

It is anticipated that more tenants in Phase 2 will commence recycling activities in 2015 Operation phase LFG monitoring in Phase 1 and Phase 2 will be continued with no exceedance anticipated.

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. Therefore, the operation of EcoPark in environmental terms is considered as acceptable.

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.

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/53/06 Provision of Management Services for EcoPark in Tuen Mun Area 38* was awarded to Serco Guardian Joint Venture (SGJV) by Environmental Protection Department (EPD) and was completed on 29th October 2014. The new contract *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 13 tenants in EcoPark and one tenant under tenancy termination comprising:

- Nine active tenants (Champway, Shiu Wing, Li Tong, Telford, Yan Oi Tong, St. James' Settlement, Hung Wai, Chung Yue and K.Wah) who have continued full recycling operations or are under trial operation;
- One tenant (South China) who has completed plant construction with machinery installation in progress;

- Three tenants (E.Tech, On Fat Lung and SSK) who are carrying out plant design and planning or are carrying out construction;

- One tenant (Cosmos) who is now under legal process for termination of the lease agreement.

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	W. Y. WONG	wywong@epd.gov.hk	2872 1647
Operator – UPML			
Project Manager	Raindy YIP	raindy.py.yip@urban.com.hk	2212 5900
Park Manager	May WU	may.sm.wu@urban.com.hk	2212 5920
IEC – Mott MacDonald			
IEC	Terence KONG	terence.kong@mottmac.com.hk	2828 5757
ET – AEC			
ET Leader	James WONG	jw@aechk.com	2815 7028

1.3.2 The organizational 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

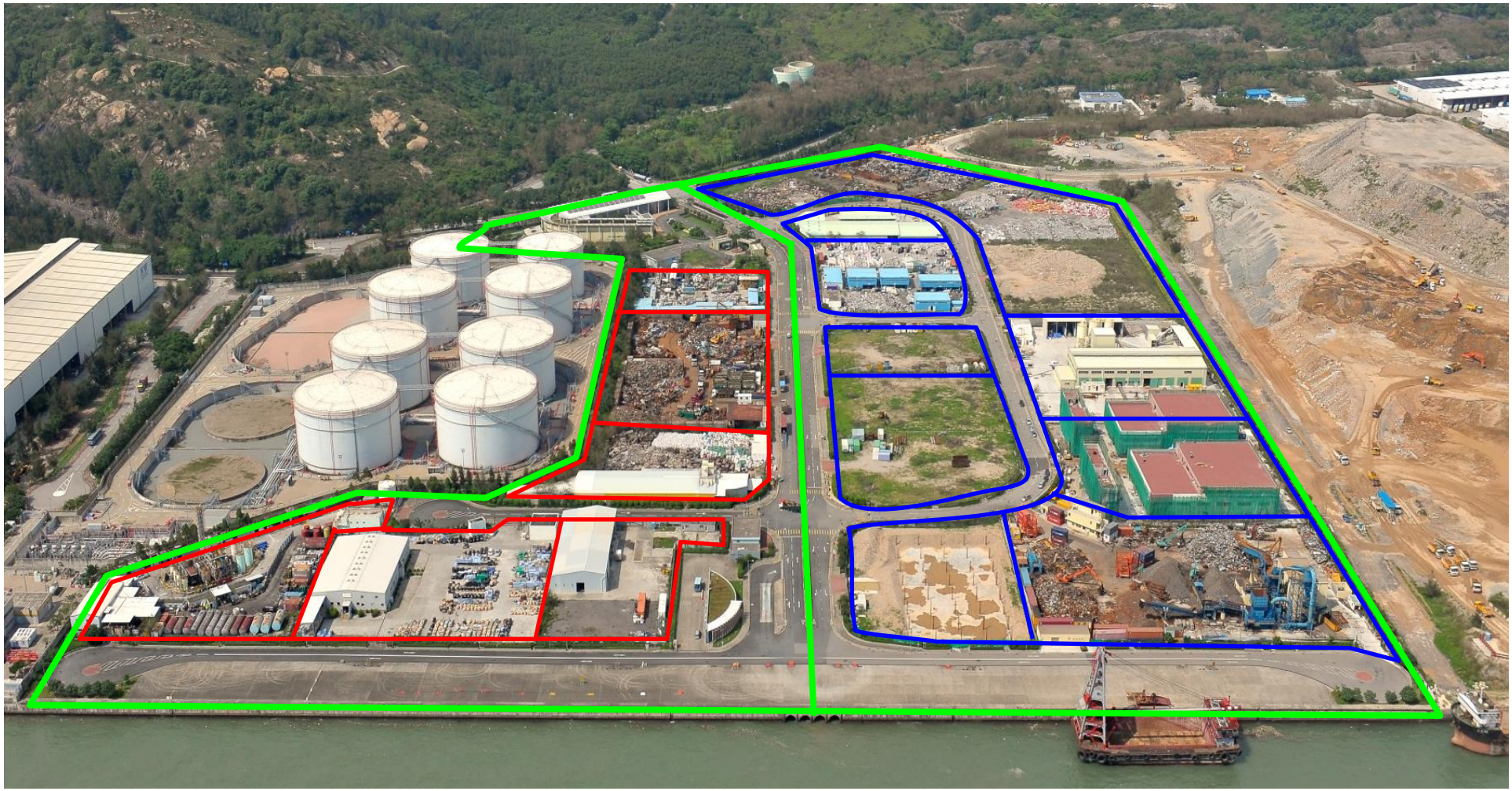


Figure 1.2 Organization Chart of UPML

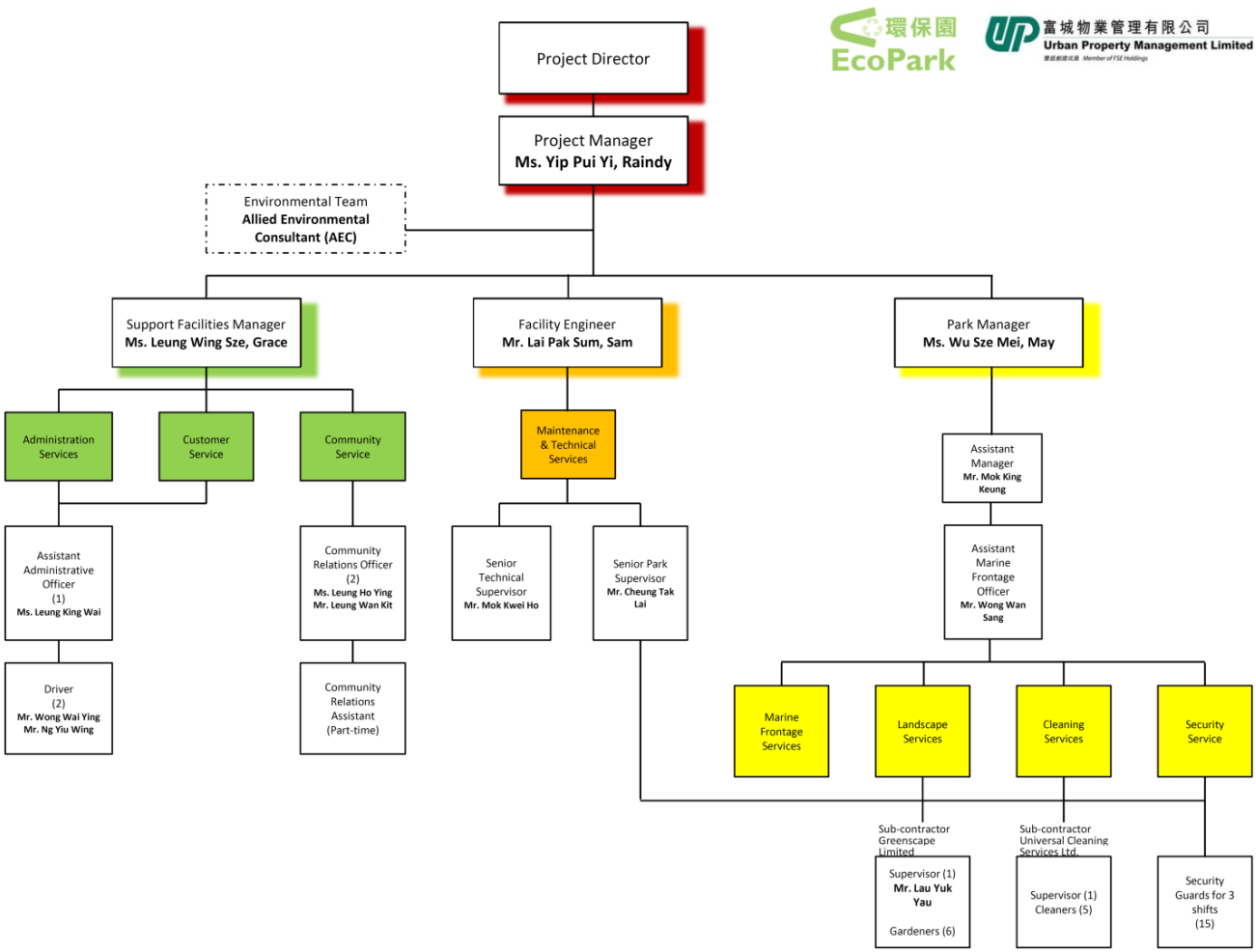
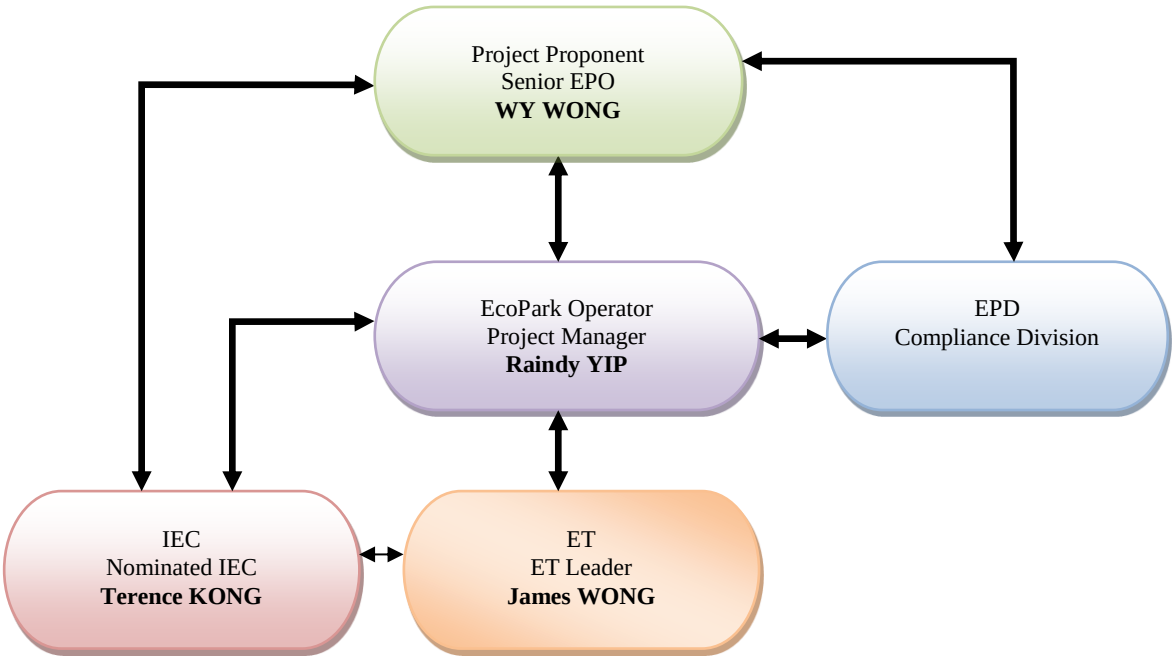


Figure 1.3 Organization Chart of EM&A Works (Operation)



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), IEC (Atkins) and the Operator (SGJV). 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, EPD has not alerted the Operator.

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% O2	• 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

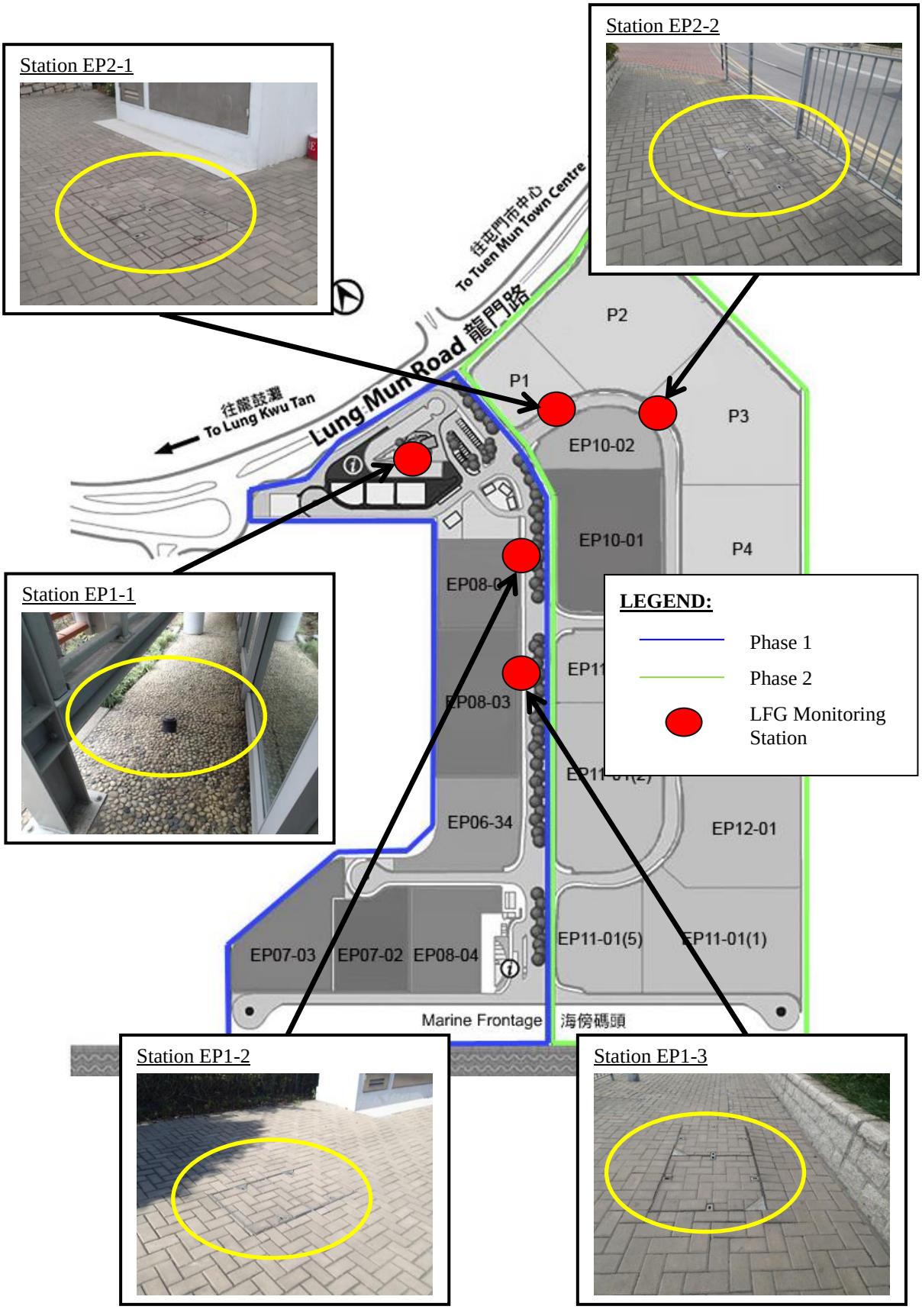
2.4 Environmental Mitigation Measures

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 3.11***.**

3.1.2 In the reporting year:

- Chung Yue carried out trial operation;
- K.Wah commenced operation from 1st November 2014;
- South China, On Fat Lung and E.Tech carried out construction works for plant; and
- SSK continued plant design and planning.

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/steel scrap 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 GO GREEN

- **Tenancy No.:** EP10-02 (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 manually dismantled to recover the reusable parts and recyclable materials.

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

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 Trial operation of waste metal recycling was carried out from January 2014.

3.10 K.Wah Construction Products Ltd.

- **Tenancy No.:** EP11-01(3) (Phase 3)
- **Lot Size:** Approx. 10,000 m^2
- **Activity:** Recycling of Waste Construction Materials and 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 from November 2014.

3.11 Throughput Statistics

3.11.1 For the active recyclers, most of the incoming waste materials and outgoing products were delivered by land transportation, except for the wood chips generated by Hung Wai and metals from Chung Yue were delivered by both marine and land transportation.

3.11.2 The throughputs of the nine active tenants in the reporting year are provided in ***Appendix 3*** and 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.

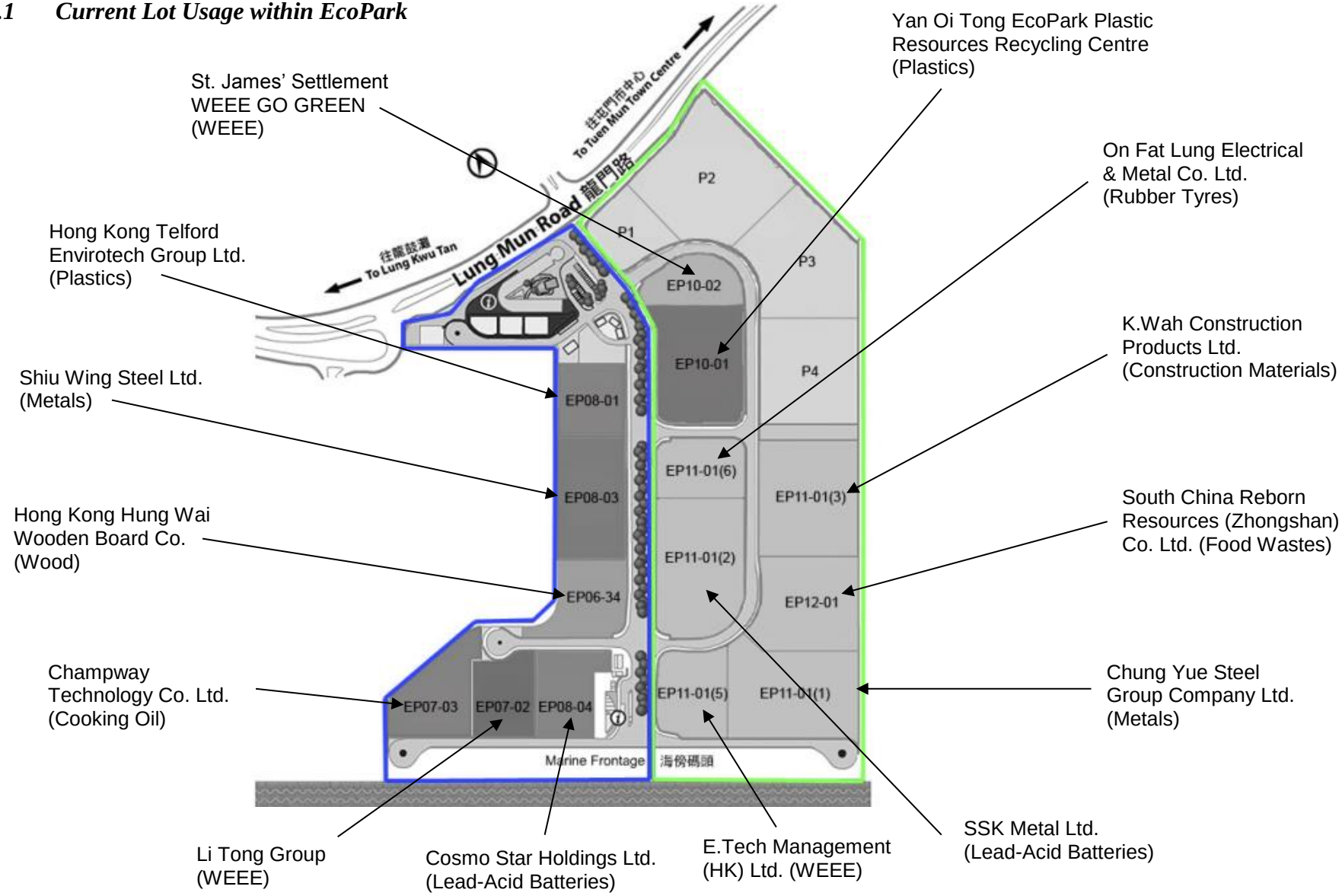
Table 3.1 Throughput Statistics for the Reporting Year

Material Type	Waste Input (tonnes)	Product Output (tonnes)	Waste Disposed (tonnes)
Waste Organic Food	6,962	2,168	4,858
Waste Ferrous Metals	86,420	88,132	-
Waste Wood	1,375	3,500	-
Waste Electronics	1,219	828	84
Waste Plastics	2,195	3,380	260

Notes:

1) The throughput data presented above is the best available data and has been rounded off to the nearest whole tonne for presentation.
2) All waste materials were processed for product output. The total product output may not be the same as the waste input due to processing of materials that were received before the reporting quarter and were stored within the lots.

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, nine tenants (Champway, Shiu Wing, Li Tong, Yan Oi Tong, Telford, St. James' Settlement, Hung Wai, Chung Yue and K.Wah) carried out recycling activities within their lots.

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 27th March, 18th June, 19th September and 17th December 2014. 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	27th March 2014	10:32 – 10:35	3 minutes	25°C	Sunny
EP1-2		10:13 – 10:16	3 minutes	25°C	Sunny
EP1-3		10:06 – 10:09	3 minutes	25°C	Sunny
EP2-1		10:18 – 10:21	3 minutes	25°C	Sunny
EP2-2		10:23 – 10:26	3 minutes	25°C	Sunny
EP1-1	18th June 2014	10:38 – 10:41	3 minutes	32°C	Sunny
EP1-2		10:17 – 10:20	3 minutes	32°C	Sunny
EP1-3		10:01 – 10:04	3 minutes	32°C	Sunny
EP2-1		10:24 – 10:27	3 minutes	32°C	Sunny
EP2-2		10:30 – 10:33	3 minutes	32°C	Sunny
EP1-1	19th September 2014	10:28 – 10:31	3 minutes	30°C	Sunny
EP1-2		10:10 – 10:13	3 minutes	30°C	Sunny
EP1-3		10:05 – 10:08	3 minutes	30°C	Sunny
EP2-1		10:15 – 10:18	3 minutes	30°C	Sunny
EP2-2		10:20 – 10:23	3 minutes	30°C	Sunny
EP1-1	17th December 2014	14:53 – 14:56	3 minutes	27°C	Sunny
EP1-2		14:34 – 14:37	3 minutes	27°C	Sunny
EP1-3		14:25 – 14:28	3 minutes	27°C	Sunny
EP2-1		14:39 – 14:42	3 minutes	27°C	Sunny
EP2-2		14:44 – 14:47	3 minutes	27°C	Sunny

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 GA 94A (serial number GA3385) and GA5000 (serial number G501982) were used for LFG measurements. The gas analyser is calibrated at least every 18 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	27th March 2014	0.0	0	20.6	0.0	1000
EP1-2		0.0	0	20.1	0.2	1000
EP1-3		0.0	0	20.5	0.0	1000
EP2-1		0.0	0	20.4	0.1	1000
EP2-2		0.0	0	20.6	0.0	1000
EP1-1	18th June 2014	0.0	0	20.7	0.1	1006
EP1-2		0.0	0	20.5	0.0	1007
EP1-3		0.0	0	20.8	0.0	1007
EP2-1		0.0	0	20.6	0.0	1006
EP2-2		0.0	0	20.8	0.0	1006
EP1-1	19th September 2014	0.0	0	20.0	0.0	1000
EP1-2		0.0	0	20.9	0.0	1000
EP1-3		0.0	0	20.4	0.0	1000
EP2-1		0.0	0	20.4	0.4	1000
EP2-2		0.0	0	20.3	0.0	1000
EP1-1	17th December 2014	0.0	0	20.1	0.3	1024
EP1-2		0.0	0	20.3	0.0	1024
EP1-3		0.0	0	20.4	0.0	1023
EP2-1		0.0	0	20.1	0.0	1024
EP2-2		0.0	0	20.3	0.0	1024

5.3.3 No exceedance of Action and Limit Levels were recorded in the reporting quarter.

6 SUMMARY OF ENVIRONMENTAL AUDIT

6.1 General

6.1.1 Among the 13 tenants in EcoPark, only nine active tenants were under either full operation or trial operation. As such, specific site inspections were only carried out at the lots of these nine 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 month and no further follow-up is needed. If the observation is not resolved in the reporting month and would be followed-up in the following month, it will be indicated as "Outstanding".

6.2 January 2014

6.2.1 Environmental audits of active tenants and general EcoPark condition were carried out by the ET on 23rd January 2014. Audit observations are summarised in ***Table 6.1***.

Table 6.1 Environmental Audit Findings in January 2014

Tenant	**Item**	**Status**
Follow-up Observations from Previous Reporting Month		
Champway	Leaves were observed in the u-channel near the site entrance.	No leaves were found inside the U-channel during the site audit on 23rd Jan 2014. **(Closed)**
New Observations from This Reporting Month		
No critical issues were identified.		

6.3 February 2014

6.3.1 Environmental audits of active tenants and general EcoPark condition were carried out by the ET on 27th February 2014. Audit observations are summarised in ***Table 6.2***.

Table 6.2 Environmental Audit Findings in February 2014

Tenant	**Item**	**Status**
No critical issues were identified.		

6.4 March 2014

6.4.1 Environmental audits of active tenants and general EcoPark condition were carried out by the ET and IEC on 27th March 2014. Audit observations are summarised in ***Table 6.3***.

Table 6.3 Environmental Audit Findings in March 2014

Tenant	Item	Status
K.Wah	A stockpile of C&D waste was observed near site entrance.	Based on the photograph taken at K.Wah on 14th Apr 2014 by the SGJV, the tenant cleared C&D waste on 14th Apr 2014. No significant amount of waste was found to be stockpiled during the site visit on 22nd Apr 2014. **(Closed)**
K.Wah	Water inside the waste water tank was too shallow to be pumped out but the submersible pump was still being operated. In addition, C&D waste was observed inside the tank.	No significant amount of waste and stagnant water was observed inside the waste water tank. **(Closed)**

6.5 April 2014

6.5.1 Environmental audits of active tenants and general EcoPark condition were carried out by the ET on 22nd April 2014. Audit observations are summarised in ***Table 6.4***.

Table 6.4 Environmental Audit Findings in April 2014

Tenant	Item	Status
No critical issues were identified.		

6.6 May 2014

6.6.1 Environmental audits of active tenants and general EcoPark condition were carried out by the ET on 21st May 2014. Audit observations are summarised in ***Table 6.5***.

Table 6.5 Environmental Audit Findings in May 2014

Tenant	Item	Status
No critical issues were identified.		

6.7 June 2014

6.7.1 Environmental audits of active tenants and general EcoPark condition were carried out by the ET and IEC on 18th June 2014. Audit observations are summarised in ***Table 6.6***.

Table 6.6 Environmental Audit Findings in June 2014

Tenant	Item	Status
Champway	The soil of the storage area was observed to be oily contaminated.	The oily contaminated soil of the storage area was cleared. **(Closed)**

Champway	Gaps between concrete blocks along the surface channels were observed that runoff oily contaminated directly discharging into the channel cannot be prevented.	Gaps between concrete blocks along the surface channels had been sealed with sand bags. **(Closed)**
South China	Tyre marks were observed outside the site entrance of the lot.	No silt/mud at the site entrance was observed during the site audit on 24th Jul 2014. **(Closed)**

6.8 July 2014

6.8.1 Environmental audits of active tenants and general EcoPark condition were carried out by the ET on 24th July 2014. Audit observations are summarised in ***Table 6.7***.

Table 6.7 Environmental Audit Findings in July 2014

Tenant	Item	Status
E. Tech	Muddy Water in the vehicle washing bay was observed.	Silt/mud deposited in the vehicle washing bay was cleared. **(Closed)**

6.9 August 2014

6.9.1 Environmental audits of active tenants and general EcoPark condition were carried out by the ET on 20th August 2014. Audit observations are summarised in ***Table 6.8***.

Table 6.8 Environmental Audit Findings in August 2014

Tenant	Item	Status
Champway	Some sand bags provided for filling up the gaps between the concrete blocks were broken.	Based on the photo record provided by SGJV on 24th Aug 2014, the tenant improved the mitigation measures for avoiding runoff to surface channels through the gaps. **(Closed)**
E. Tech	Some sand was observed in the gullies near site entrance.	No sand/debris inside the gullies was observed during site audit on 16th Oct 2014. **(Closed)**

6.10 September 2014

6.10.1 Environmental audits of active tenants and general EcoPark condition were carried out by the ET and IEC on 19th September 2014. Audit observations are summarised in ***Table 6.9***.

Table 6.9 Environmental Audit Findings in September 2014

Tenant	Item	Status
Champway	The soil of the storage area was observed to be oily contaminated.	The oily contaminated soil of the storage area was cleared as per the photo record of SGJV on 6th Oct 2014. **(Closed)**
E. Tech	Tyre marks were observed at the site entrance.	No silt/tyre marks were observed at the site entrance. **(Closed)**

6.11 October 2014

6.11.1 Environmental audits of active tenants and general EcoPark condition were carried out by the ET on 16th October 2014. Audit observations are summarised in ***Table 6.10***.

Table 6.10 Environmental Audit Findings in October 2014

Tenant	Item	Status
No critical issues were identified.		

6.12 November 2014

6.12.1 Environmental audits of active tenants and general EcoPark condition were carried out by the ET and IEC on 26th November 2014. Audit observations are summarised in ***Table 6.11***.

Table 6.11 Environmental Audit Findings in November 2014

Tenant	Item	Status
Telford	Empty plastic bottles were observed in the drainage channel near the lot entrance.	The observation will be followed up in the next audit. **(Outstanding)**

6.13 December 2014

6.13.1 Environmental audits of active tenants and general EcoPark condition were carried out by the ET on 18th December 2014. Audit observations are summarised in ***Table 6.12***.

Table 6.12 Environmental Audit Findings in December 2014

Tenant	Item	Status
Telford	Empty plastic bottles were still observed in the drainage channel near the lot entrance.	The observation will be followed up in the next audit. **(Outstanding)**

7 ENVIRONMENTAL COMPLAINTS, NOTIFICATION OF SUMMONS AND SUCCESSFUL PROSECUTION

7.1.1 No complaint, notifications of summons or successful prosecutions related to recycling activities was received in the reporting year.

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. No exceedance of action or limit level was recorded in the reporting year. The quarterly monitoring is considered as sufficient and effective since high LFG level had not been detected during monthly monitoring under the Siu Lang Shui Landfill restoration contract in accordance with Section 6.4.4 of the EM&A Manual.

8.2 Environmental Acceptability of EcoPark

8.2.1 In the reporting year, nine tenants (Champway, Shiu Wing, Li Tong, Telford, Yan Oi Tong, St. James' Settlement, Hung Wai, Chung Yue and K.Wah) have commenced recycling activities within their lots. With reference to *Section 6*, no critical environmental deficiencies were identified at tenants' lots in EcoPark in the reporting year. The operation of EcoPark in environmental terms is therefore considered as acceptable.

8.3 Monitoring Methodology

8.3.1 Quarterly LFG monitoring has been carried out since October 2009. No exceedance of action or limit level was recorded in the reporting year. The quarterly monitoring is considered as sufficient and effective since the monitoring result is consistent with the monthly monitoring of LFG under the Siu Lang Shui Landfill restoration contract, where high LFG level was not detected, in accordance with 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. Recommendation of improvement in the EM&A programme is not needed at this stage.

9 CONCLUSIONS

9.1.1 This is the eighth (8^{th}) annual EM&A report prepared for the operation phase of EcoPark and covers the calendar year of 2014. 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 thirteen tenants in EcoPark Phase 1 and Phase 2, and one tenant is under tenancy termination. Nine tenants have commenced full recycling activities within their lots or are under trial operation, namely Champway, Shiu Wing, Hung Wai, Li Tong, Telford, Yan Oi Tong, St. James's Settlement, Chung Yue and K.Wah. Four tenants were carrying out plant design, construction work and machine installation, including E.Tech, On Fat Lung, SSK and South China. One tenant, i.e. Cosmos, is under tenancy termination.

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

9.1.4 The throughputs 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 (tonnes)	Waste Disposed (tonnes)
Waste Organic Food	6,962	2,168	4,858
Waste Ferrous Metals	86,420	88,132	-
Waste Wood	1,375	3,500	-
Waste Electronics	1,219	828	84
Waste Plastics	2,195	3,380	260

Notes:

1) The throughput data presented above is the best available data and has been rounded off to the nearest whole tonne for presentation.
2) All waste materials were processed for product output. The total product output may not be the same as the waste input due to processing of materials that were received before the reporting quarter and were stored within the lots.

9.1.5 LFG monitoring was undertaken on 27^{th} March, 18^{th} June, 19^{th} September and 17^{th} December 2014 at five locations (three in Phase 1 and two in Phase 2). No exceedance of Action Level or Limit Level was recorded in the report year. The quarterly monitoring of LFG is considered as sufficient and effective in accordance with Section 6.4.4 of the EM&A Manual.

9.1.6 No environmental complaint, summons or successful prosecutions was recorded in the reporting year.

9.1.7 The contract for the management of EcoPark – Contract No. *EP/SP/53/06 Provision of Management Services for EcoPark in Tuen Mun Area 38*, which was awarded to SGJV, was completed on 29^{th} October 2014. A new contract *EP/SP/71/13 Provision of Management Services for EcoPark 2014* was awarded to UPML effective from 30^{th}

October 2014. Starting from November 2014, the ET and IEC of the Project also change from SMEC to AEC and from Atkins to MottMac respectively.

9.1.8 No critical environmental deficiencies were identified at tenants' lots in EcoPark in the reporting year. The operation of EcoPark in environmental terms is considered as acceptable.

9.1.9 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. Recommendation of improvement in the EM&A programme is not needed at this stage.

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

Table A3-1 Recycling of Waste Organic Food

Date	Waste Input (tonnes)	Product Output (tonnes)	Waste Disposal (tonnes)
January 2014	817	267*	575
February 2014	690	205*	481
March 2014	873	238*	631
April 2014	799	266	562
May 2014	811	238	569
June 2014	789	236	550
July 2014	791*	281*	541*
August 2014	678*	214*	460*
September 2014	716*	223*	488*
October 2014	n/a	n/a	n/a
November 2014	n/a	n/a	n/a
December 2014	n/a	n/a	n/a
Total	**6,962**	**2,168**	**4,858**

Notes:

1) The throughput data above is the best available data and has been rounded off to the nearest whole tonne for presentation.
2) The total throughput may be different from the sum of the presented monthly data due to data rounding.
3) The throughout data marked with "*" have been revised with updated data.

Table A3-2 Recycling of Waste Ferrous Metal

Date	Waste Input (tonnes)	Product Output (tonnes)	Waste Disposal (tonnes)
January 2014	9,046	8,541	-
February 2014	5,131	5,913	-
March 2014	8,933	9,598	-
April 2014	9,302	10,147	-
May 2014	8,234	8,234*	-
June 2014	8,540*	8,506*	-
July 2014	8,486*	8,465*	-
August 2014	9,968*	9,948*	-
September 2014	9,272*	9,272*	-
October 2014	3,539	3,539	-
November 2014	2,913	2,913	-
December 2014	3,056	3,056	-
Total	**86,420**	**88,132**	**-**

Notes:

1) The throughput data above is the best available data and has been rounded off to the nearest whole tonne for presentation.
2) The total throughput may be different from the sum of the presented monthly data due to data rounding.
3) The throughout data marked with "*" have been revised with updated data.

Table A3-3 Recycling of Waste Wood

Date	Waste Input (tonnes)	Product Output (tonnes)	Waste Disposal (tonnes)
January 2014	277	330*	-
February 2014	129	330*	-
March 2014	137	330*	-
April 2014	5	330*	-
May 2014	19	330*	-
June 2014	67	330*	-
July 2014	74*	330*	-
August 2014	148*	330*	-
September 2014	120*	330*	-
October 2014	174	330	-
November 2014	77	100	-
December 2014	148	100	-
Total	**1,375**	**3,500**	**-**

Notes:

1) The throughput data above is the best available data and has been rounded off to the nearest whole tonne for presentation.
2) The total throughput may be different from the sum of the presented monthly data due to data rounding.
3) The throughout data marked with "*" have been revised with updated data since submission of corresponding quarterly EM&A reports.
4) 2,400 tonnes of the product output were reproduced from the wood pellet produced in 2013 after moistening of the product during storage.

Table A3-4 Recycling of Waste Electronics

Date	Waste Input (tonnes)	Product Output (tonnes)	Waste Disposal (tonnes)
January 2014	130	88	0.3
February 2014	125	90	7
March 2014	189	74	14
April 2014	80	55	15
May 2014	87	141	21
June 2014	82	78	13
July 2014	135	33	3
August 2014	138*	39	4
September 2014	115*	66*	3*
October 2014	124	154	4
November 2014	14	8	1
December 2014	n/a	n/a	n/a
Total	**1,219**	**828**	**84**

Notes:

1) The throughput data above is the best available data and has been rounded off to the nearest whole tonne for presentation.
2) The total throughput may be different from the sum of the presented monthly data due to data rounding.
3) The throughout data marked with "*" have been revised with updated data.

Table A3-5 Recycling of Waste Plastic

Date	Waste Input (tonnes)	Product Output (tonnes)	Waste Disposal (tonnes)
January 2014	290	290	14
February 2014	193	190	10
March 2014	322	363	26
April 2014	265	494	35
May 2014	326	557	85
June 2014	305	503	58
July 2014	126	204	10
August 2014	116*	200*	10*
September 2014	115*	200*	11*
October 2014	136	381	n/a
November 2014	n/a	n/a	n/a
December 2014	n/a	n/a	n/a
Total	**2,195**	**3,380**	**260**

Notes:

1) The throughput data above is the best available data and has been rounded off to the nearest whole tonne for presentation.
2) The total throughput may be different from the sum of the presented monthly data due to data rounding.
3) The throughout data marked with "*" have been revised with updated 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	
27 March 2014																	
EP1-1	Inside the landscaping area of Administration Building	Fine	25	10:32	10:35	0.0	0	20.6	0.0	1000	>10	<19	>0.5	>20	<18	>1.5	Nil
EP1-2	PCCW below-ground chamber outside Lot EP08-01		25	10:13	10:16	0.0	0	20.1	0.2	1000							Nil
EP1-3	HGC Broadband below-ground chamber outside Lot EP08-03		25	10:06	10:09	0.0	0	20.5	0.0	1000							Nil
EP2-1	HGC Broadband below-ground chamber outside Lot P1		25	10:18	10:21	0.0	0	20.4	0.1	1000							Nil
EP2-2	HGC Broadband below-ground chamber outside Lot P3		25	10:23	10:26	0.0	0	20.6	0.0	1000							Nil
18 June 2014																	
EP1-1	Inside the landscaping area of Administration Building	Sunny	32	10:38	10:41	0.0	0	20.7	0.1	1006	>10	<19	>0.5	>20	<18	>1.5	Nil
EP1-2	PCCW below-ground chamber outside Lot EP08-01		32	10:17	10:20	0.0	0	20.5	0.0	1007							Nil
EP1-3	HGC Broadband below-ground chamber outside Lot EP08-03		32	10:01	10:04	0.0	0	20.8	0.0	1007							Nil
EP2-1	HGC Broadband below-ground chamber outside Lot P1		32	10:24	10:27	0.0	0	20.6	0.0	1006							Nil
EP2-2	HGC Broadband below-ground chamber outside Lot P3		32	10:30	10:33	0.0	0	20.8	0.0	1006							Nil
19 September 2014																	
EP1-1	Inside the landscaping area of Administration Building	Fine	30	10:28	10:31	0.0	0	20.0	0.0	1000	>10	<19	>0.5	>20	<18	>1.5	Nil
EP1-2	PCCW below-ground chamber outside Lot EP08-01		30	10:10	10:13	0.0	0	20.9	0.0	1000							Nil
EP1-3	HGC Broadband below-ground chamber outside Lot EP08-03		30	10:05	10:08	0.0	0	20.4	0.0	1000							Nil
EP2-1	HGC Broadband below-ground chamber outside Lot P1		30	10:15	10:18	0.0	0	20.4	0.4	1000							Nil
EP2-2	HGC Broadband below-ground chamber outside Lot P3		30	10:20	10:23	0.0	0	20.3	0.0	1000							Nil
17 December 2014																	
EP1-1	Inside the landscaping area of Administration Building	Sunny	27	14:53	14:56	0.0	0	20.1	0.3	1024	>10	<19	>0.5	>20	<18	>1.5	Nil
EP1-2	PCCW below-ground chamber outside Lot EP08-01		27	14:34	14:37	0.0	0	20.3	0.0	1024							Nil
EP1-3	HGC Broadband below-ground chamber outside Lot EP08-03		27	14:25	14:28	0.0	0	20.4	0.0	1023							Nil
EP2-1	HGC Broadband below-ground chamber outside Lot P1		27	14:39	14:42	0.0	0	20.1	0.0	1024							Nil
EP2-2	HGC Broadband below-ground chamber outside Lot P3		27	14:44	14:47	0.0	0	20.3	0.0	1024							Nil

Notes:

(1) Underlined figure indicates an exceedance of Action Level

(2) Shaded area indicates an exceedance of Limit Level

EP1-1

Date	Methane (% LEL)			Oxygen (% v/v)			Carbon Dioxide (% v/v)			Barometric Pressure (mBar)
	Measurement	Action Level	Limit Level	Measurement	Action Level	Limit Level	Measurement	Action Level	Limit Level	Measurement
27 Mar 2014	0	10	20	20.6	19	18	0.0	0.5	1.5	1000
18 Jun 2014	0	10	20	20.7	19	18	0.1	0.5	1.5	1005
19 Sep 2014	0	10	20	20.0	19	18	0.0	0.5	1.5	1000
17 Dec 2014	0	10	20	20.1	19	18	0.3	0.5	1.5	1024

EP1-2

Date	Methane (% LEL)			Oxygen (% v/v)			Carbon Dioxide (% v/v)			Barometric Pressure (mBar)
	Measurement	Action Level	Limit Level	Measurement	Action Level	Limit Level	Measurement	Action Level	Limit Level	Measurement
27 Mar 2014	0	10	20	20.1	19	18	0.2	0.5	1.5	1000
18 Jun 2014	0	10	20	20.5	19	18	0.0	0.5	1.5	1007
19 Sep 2014	0	10	20	20.9	19	18	0.0	0.5	1.5	1000
17 Dec 2014	0	10	20	20.3	19	18	0.0	0.5	1.5	1024

EP1-3

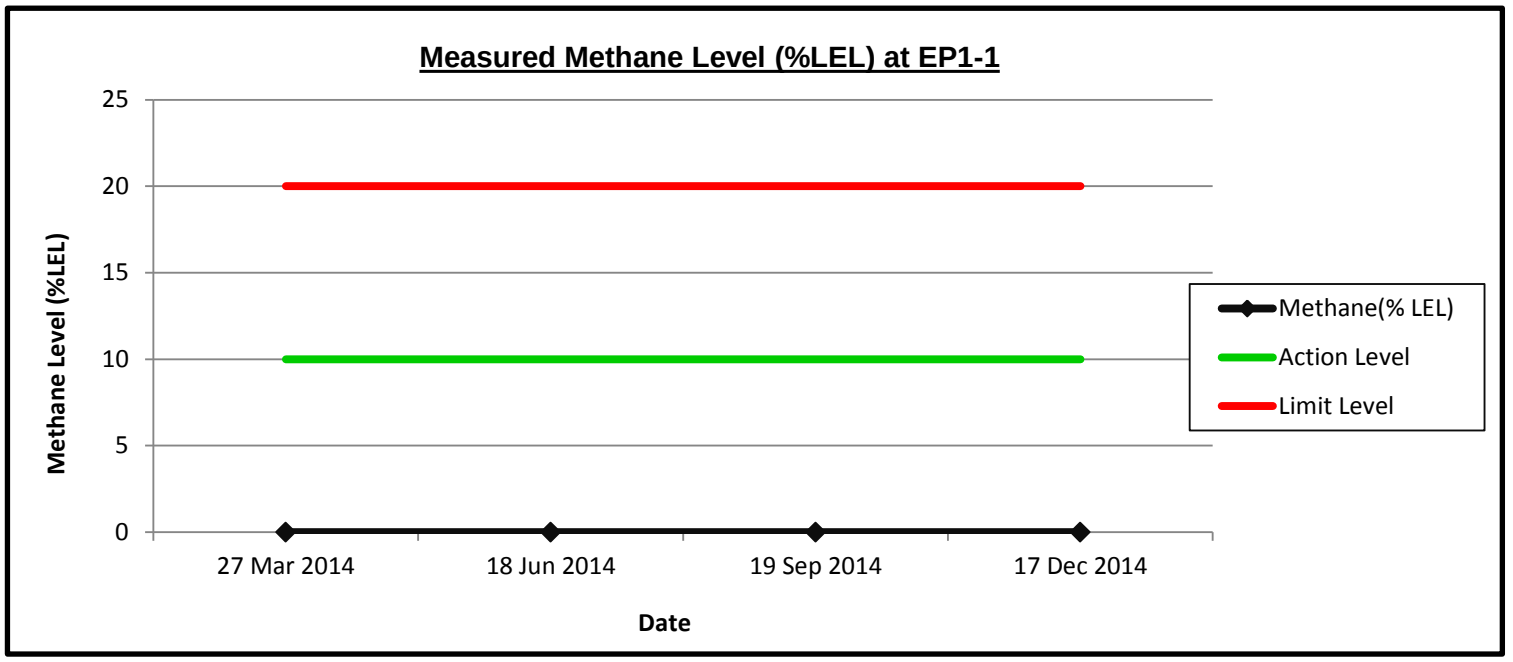
Date	Methane (% LEL)			Oxygen (% v/v)			Carbon Dioxide (% v/v)			Barometric Pressure (mBar)
	Measurement	Action Level	Limit Level	Measurement	Action Level	Limit Level	Measurement	Action Level	Limit Level	Measurement
27 Mar 2014	0	10	20	20.5	19	18	0.0	0.5	1.5	1000
18 Jun 2014	0	10	20	20.8	19	18	0.0	0.5	1.5	1007
19 Sep 2014	0	10	20	20.4	19	18	0.0	0.5	1.5	1000
17 Dec 2014	0	10	20	20.4	19	18	0.0	0.5	1.5	1023

EP2-1

Date	Methane (% LEL)			Oxygen (% v/v)			Carbon Dioxide (% v/v)			Barometric Pressure (mBar)
	Measurement	Action Level	Limit Level	Measurement	Action Level	Limit Level	Measurement	Action Level	Limit Level	Measurement
27 Mar 2014	0	10	20	20.4	19	18	0.1	0.5	1.5	1000
18 Jun 2014	0	10	20	20.6	19	18	0.0	0.5	1.5	1006
19 Sep 2014	0	10	20	20.4	19	18	0.4	0.5	1.5	1000
17 Dec 2014	0	10	20	20.1	19	18	0.0	0.5	1.5	1024

EP2-2

Date	Methane (% LEL)			Oxygen (% v/v)			Carbon Dioxide (% v/v)			Barometric Pressure (mBar)
	Measurement	Action Level	Limit Level	Measurement	Action Level	Limit Level	Measurement	Action Level	Limit Level	Measurement
27 Mar 2014	0	10	20	20.6	19	18	0.0	0.5	1.5	1000
18 Jun 2014	0	10	20	20.8	19	18	0.0	0.5	1.5	1006
19 Sep 2014	0	10	20	20.3	19	18	0.0	0.5	1.5	1000
17 Dec 2014	0	10	20	20.3	19	18	0.0	0.5	1.5	1024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Methane Level (%LEL)
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20
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27 Mar 2014
18 Jun 2014
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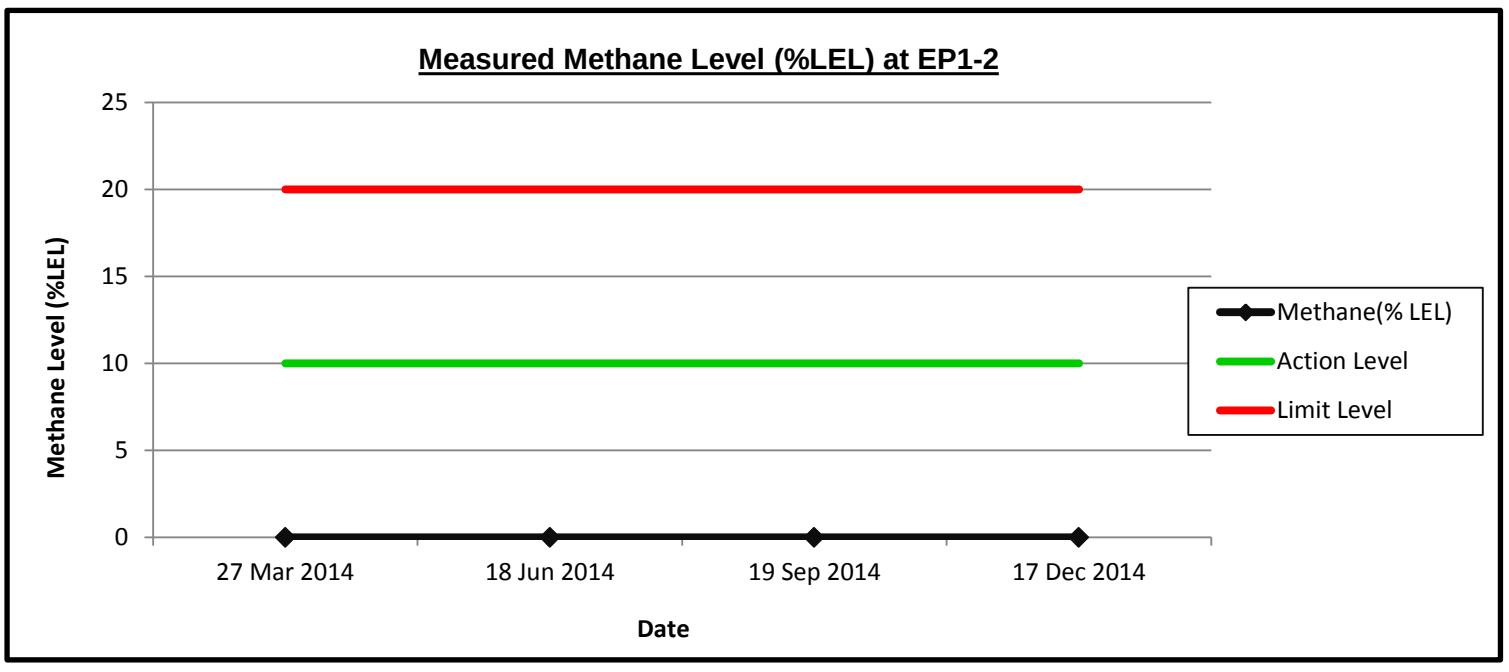
Date
Methane(% LEL)
Action Level
Limit Level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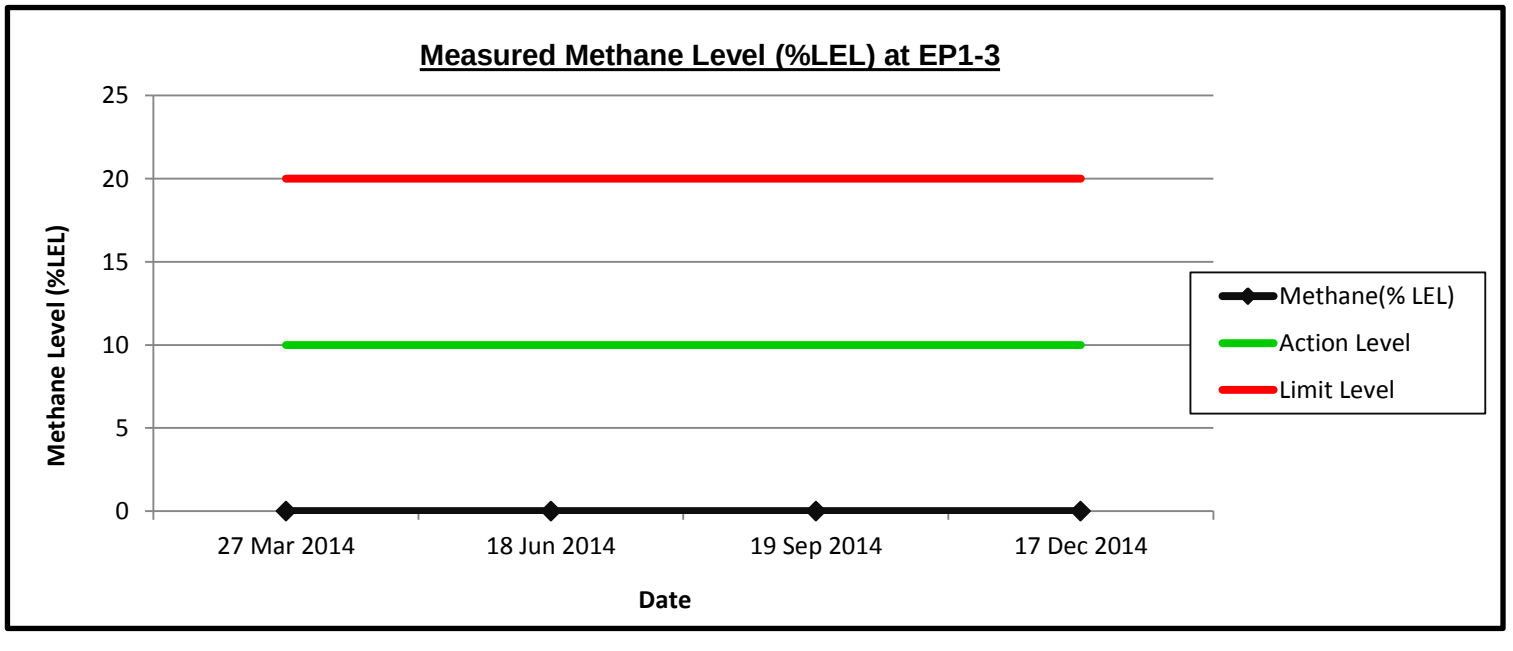
Action Level
Limit Level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18 Jun 2014
19 Sep 2014
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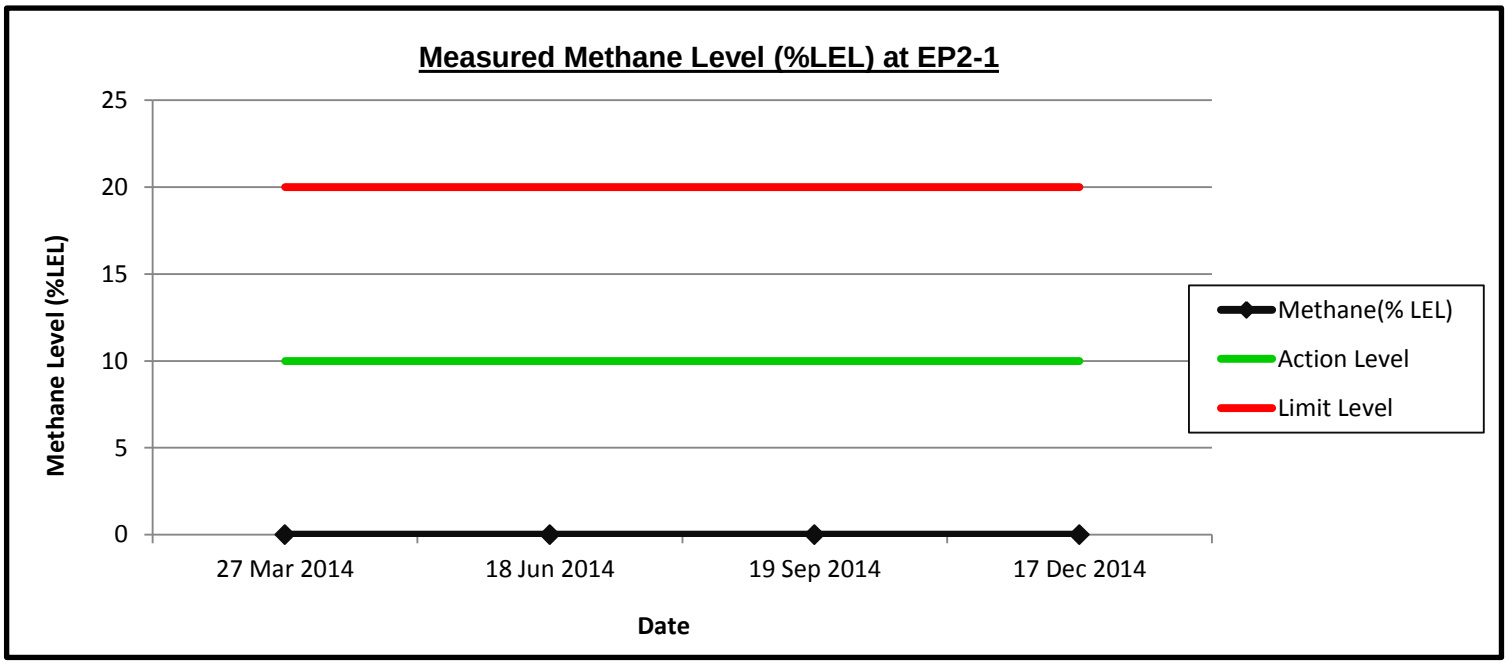
Methane(% LEL)
Action Level
Limit Level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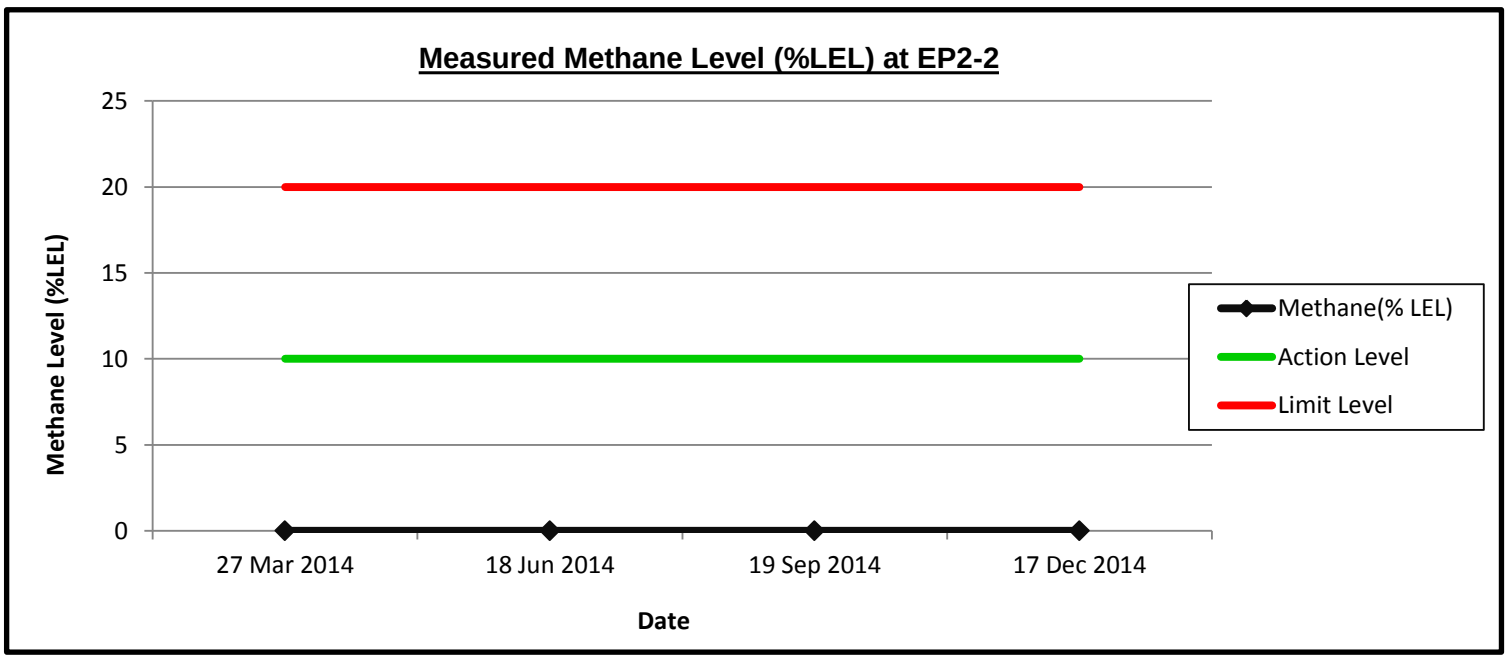
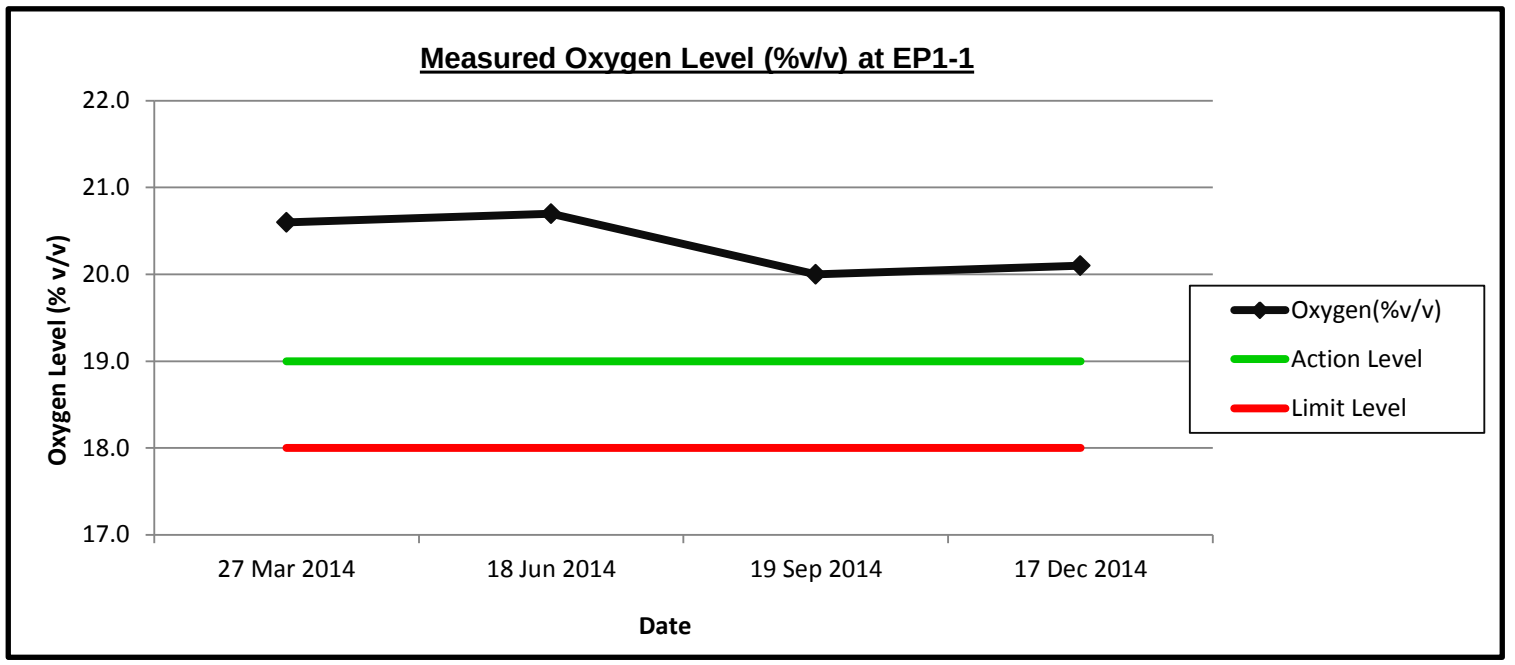
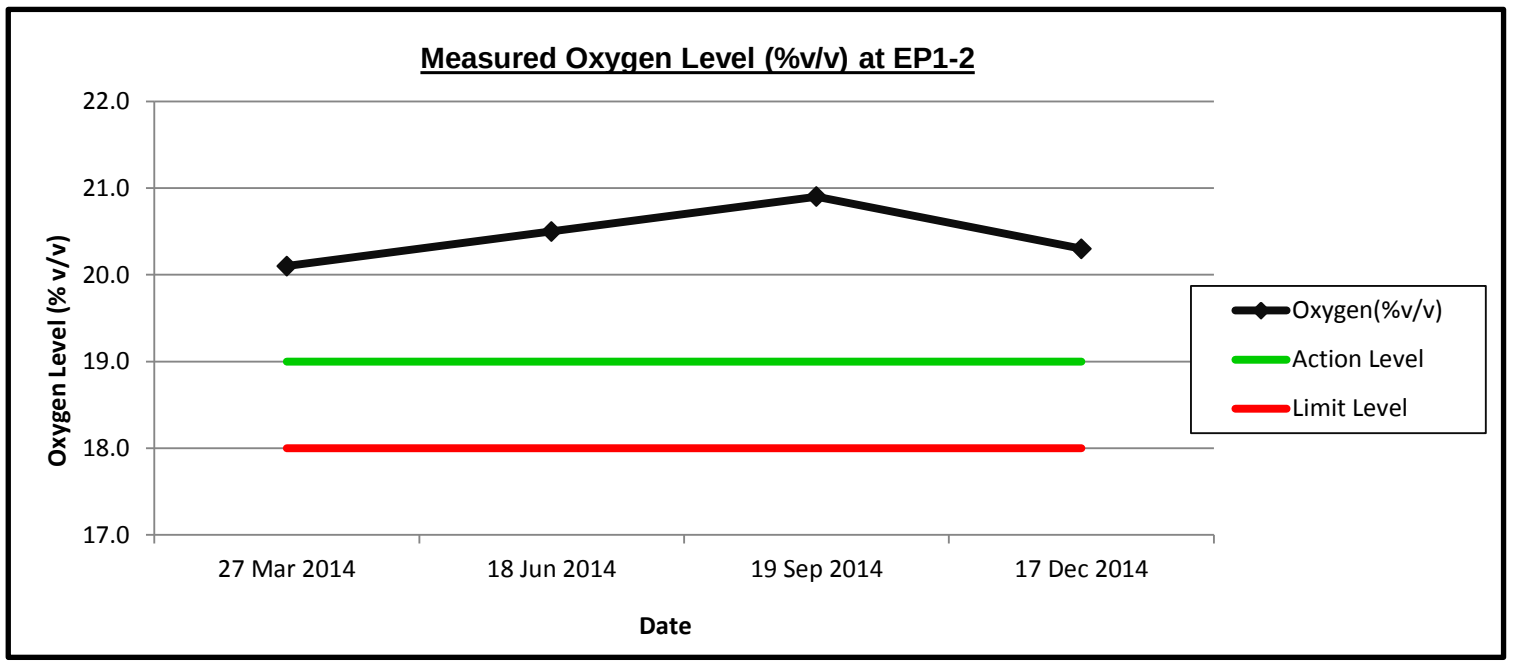
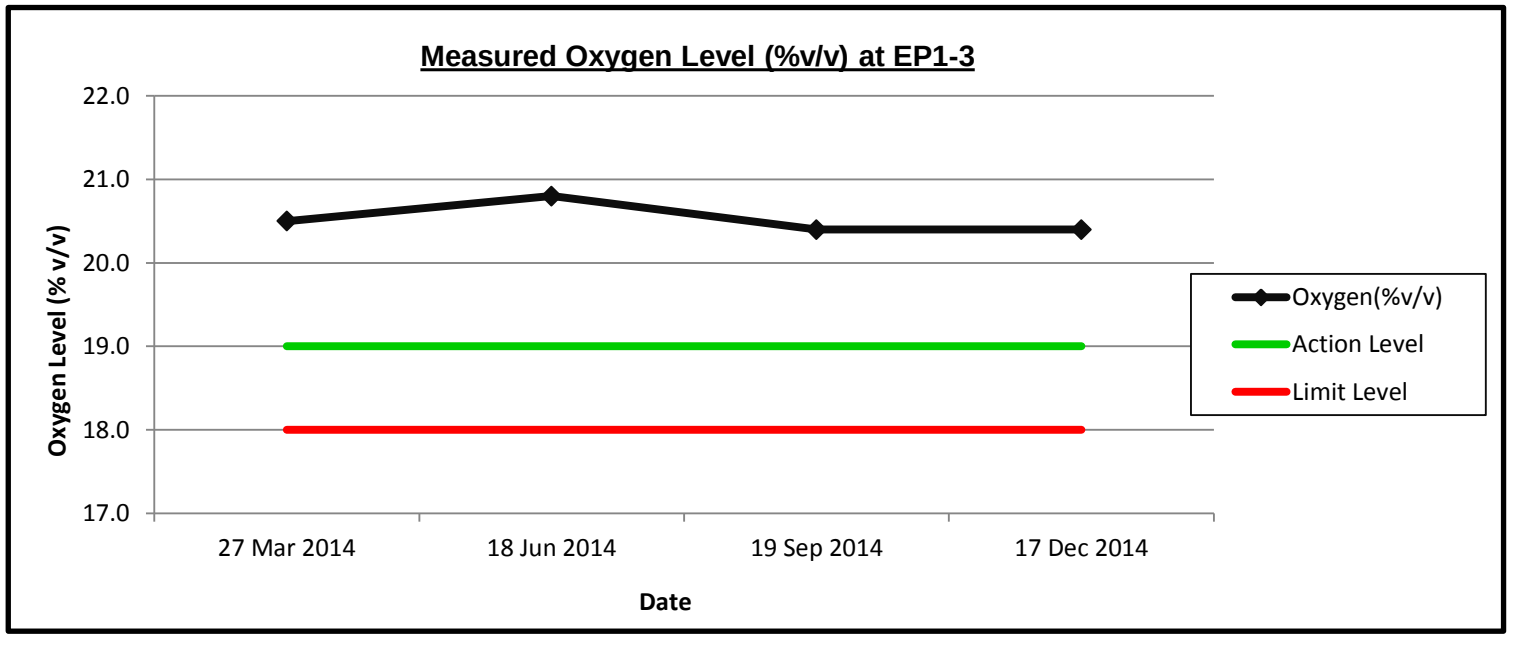
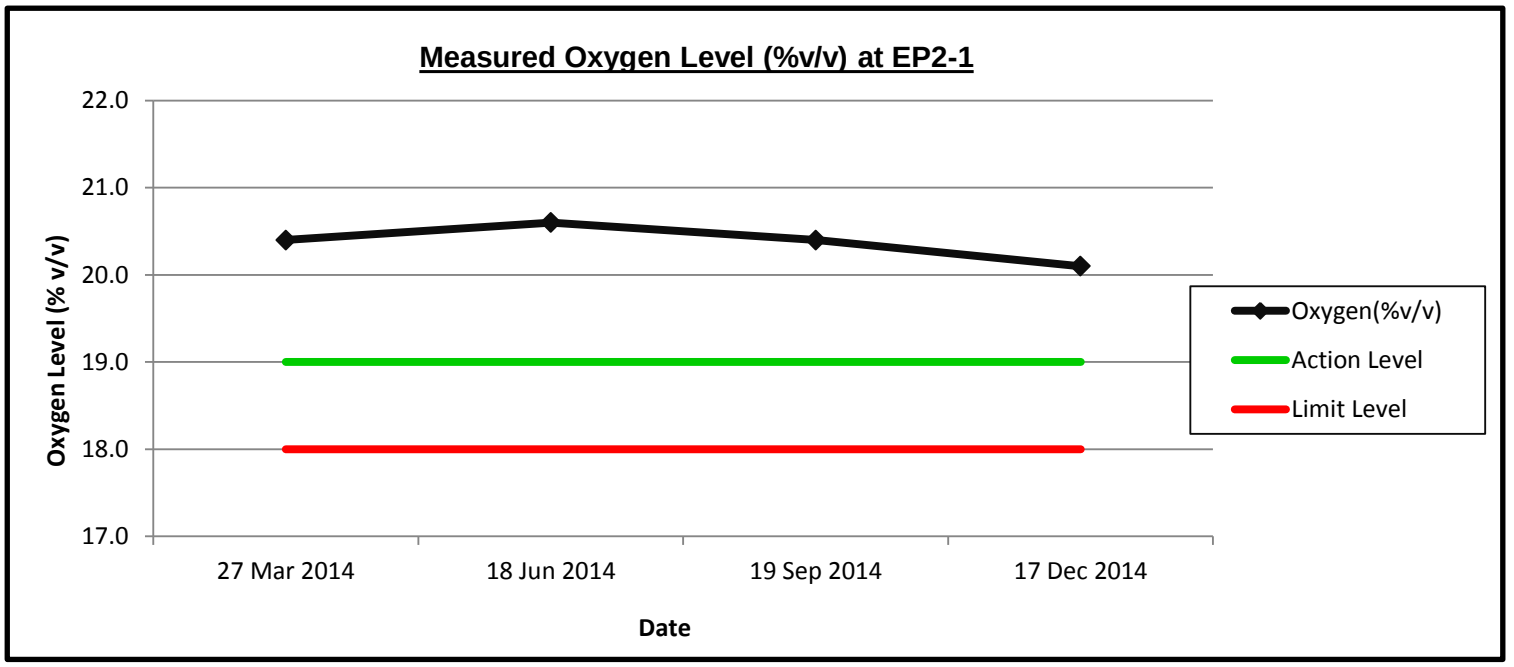
10
5
0
Methane Level (%LEL)
27 Mar 2014
18 Jun 2014
19 Sep 2014
17 Dec 2014
Date
Methane(% LEL)
Action Level
Limit Level

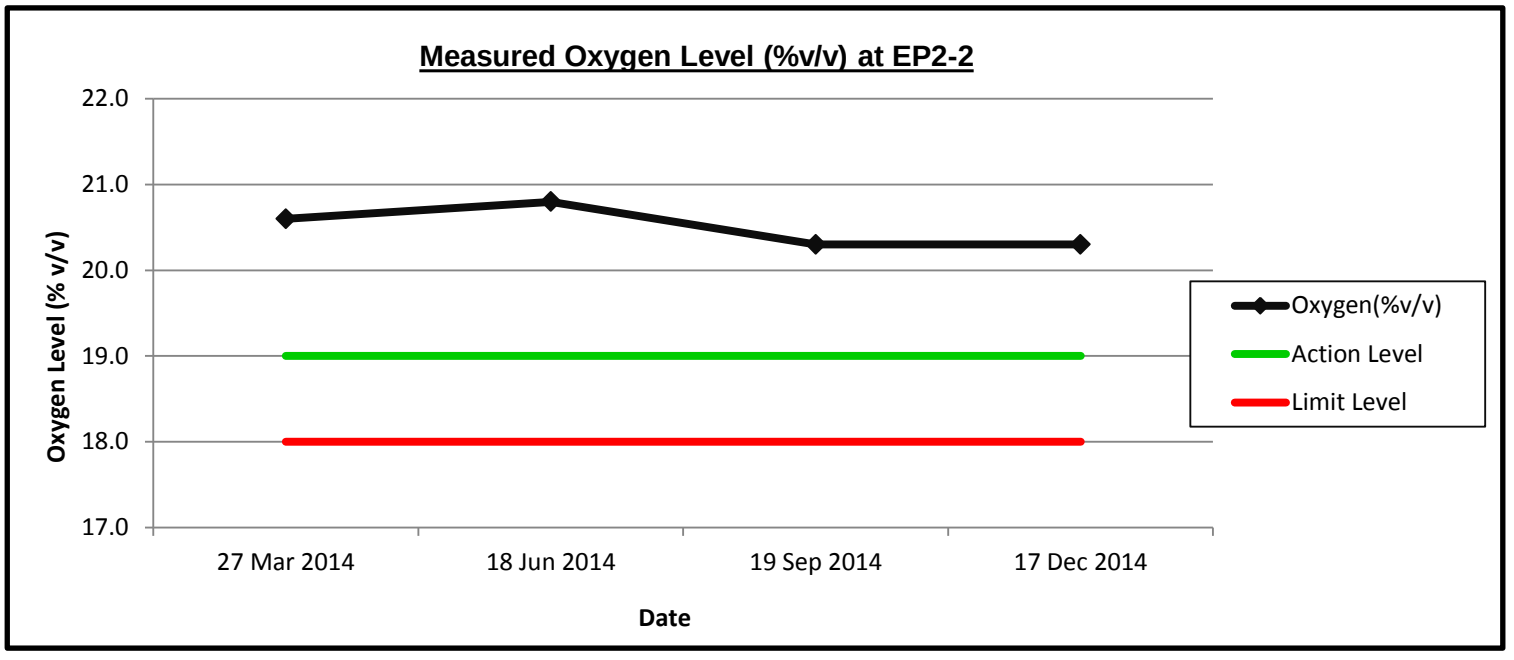

Measured Methane Level (%LEL) at EP2-2
25
20
15
10
5
0
Methane Level (%LEL)
27 Mar 2014
18 Jun 2014
19 Sep 2014
17 Dec 2014
Date
Methane(% LEL)
Action Level
Limit Level

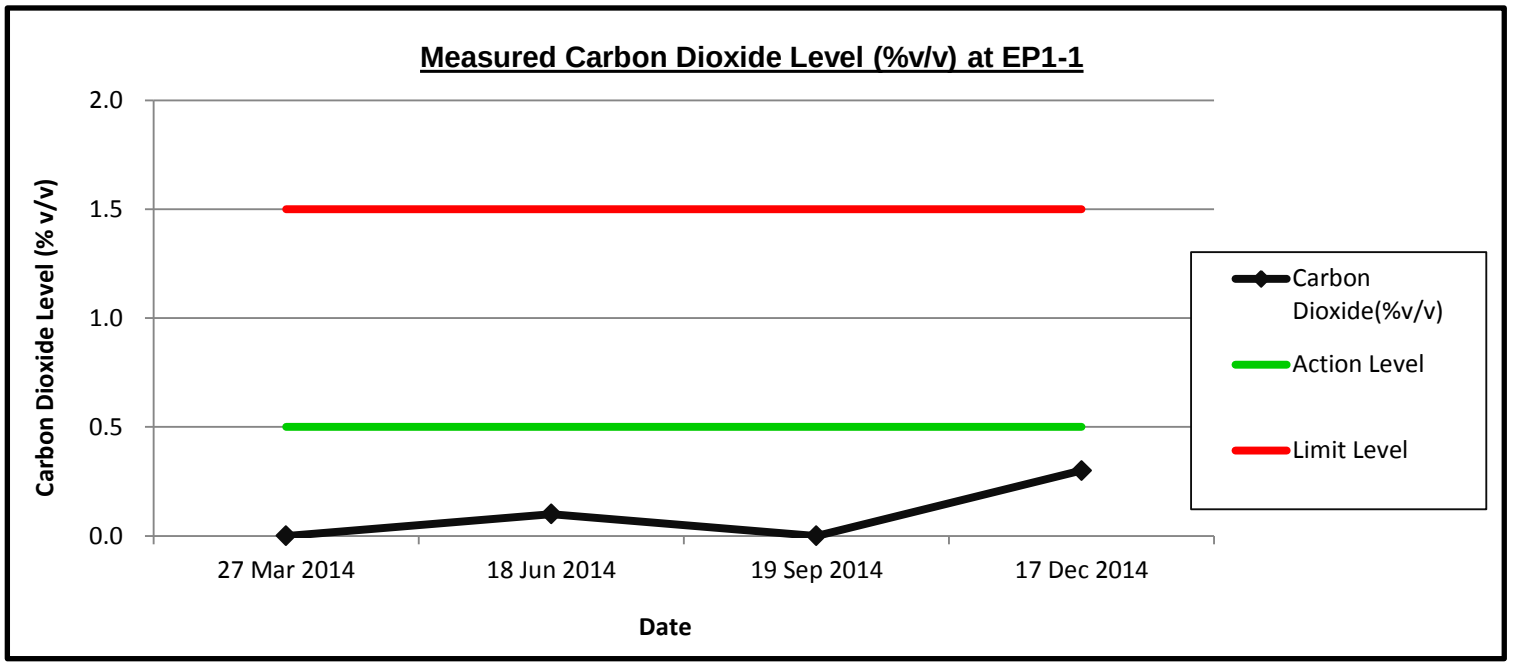

Measured Oxygen Level (%v/v) at EP1-1
22.0
21.0
20.0
19.0
18.0
17.0
Oxygen Level (% v/v)
27 Mar 2014
18 Jun 2014
19 Sep 2014
17 Dec 2014
Date
Oxygen(%v/v)
Action Level
Limit Level

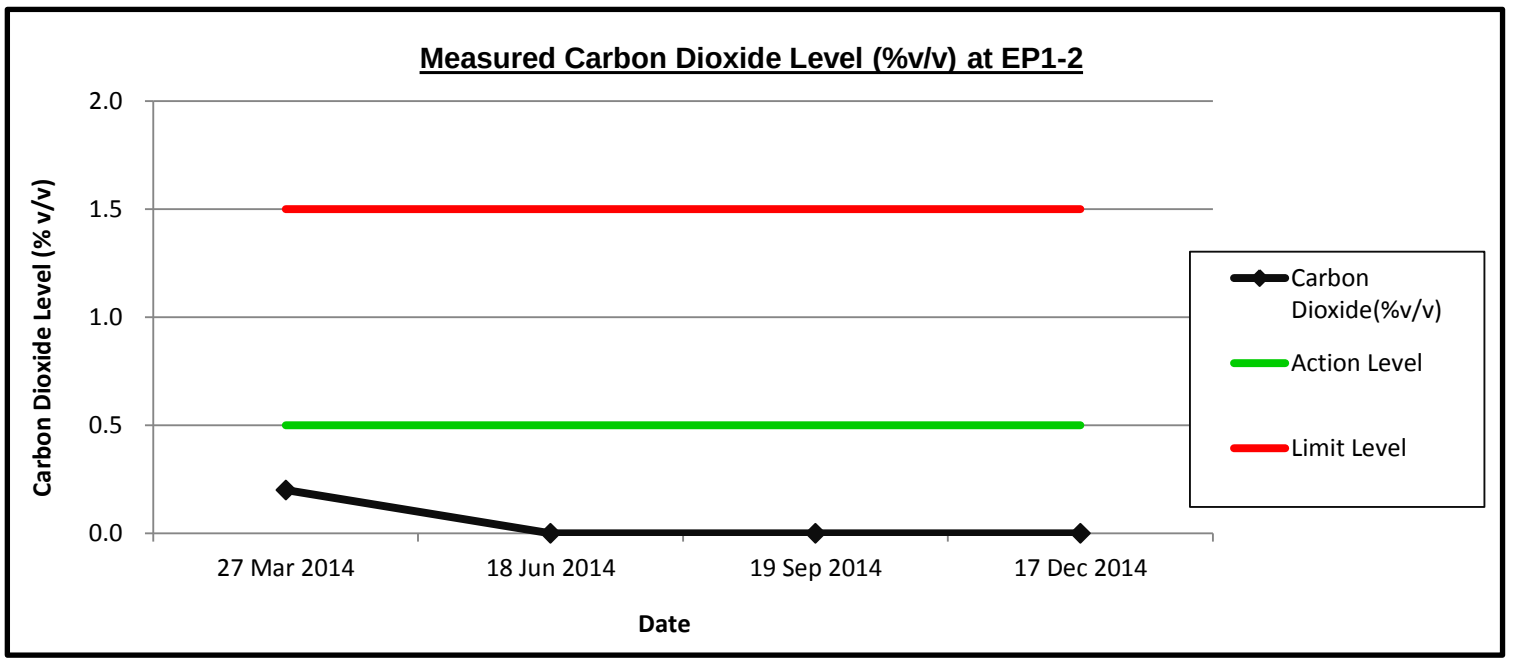

Measured Oxygen Level (%v/v) at EP1-2
22.0
21.0
20.0
19.0
18.0
17.0
Oxygen Level (% v/v)
27 Mar 2014
18 Jun 2014
19 Sep 2014
17 Dec 2014
Date
Oxygen(%v/v)
Action Level
Limit Level

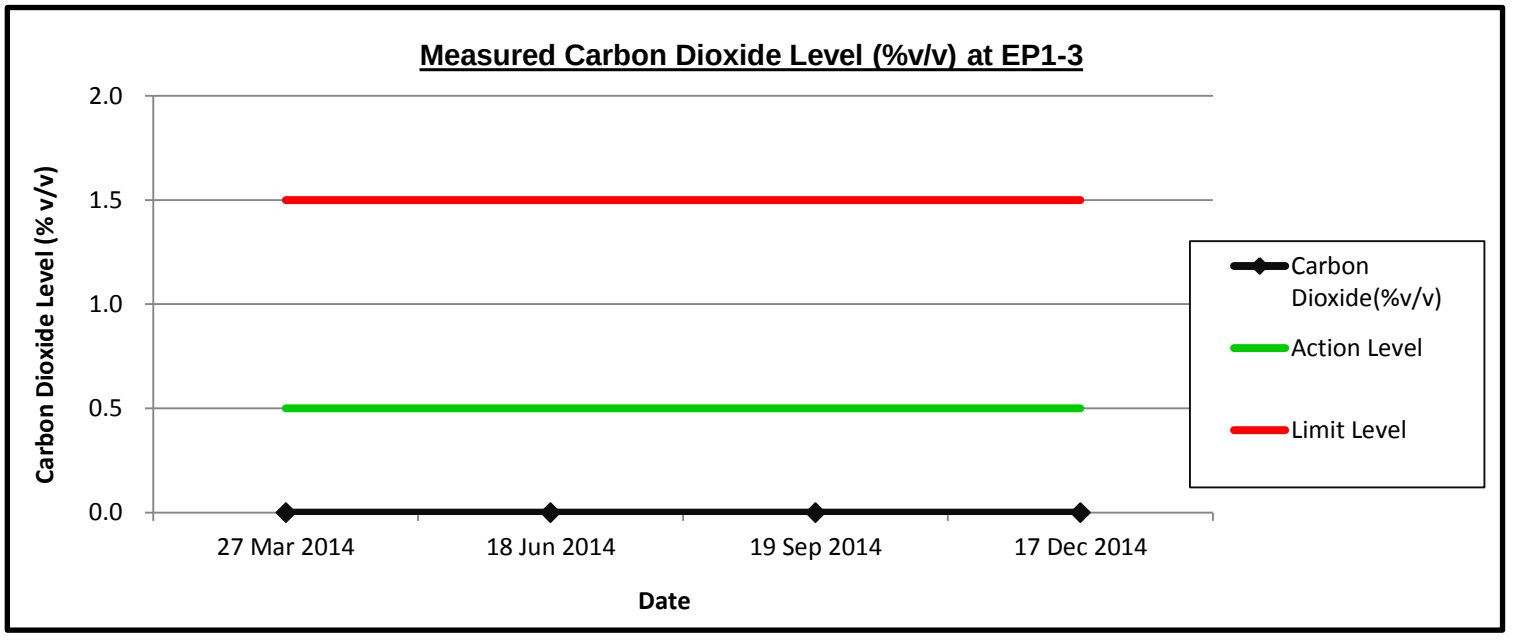

Measured Oxygen Level (%v/v) at EP1-3
22.0
21.0
20.0
19.0
18.0
17.0
Oxygen Level (% v/v)
27 Mar 2014
18 Jun 2014
19 Sep 2014
17 Dec 2014
Date
Oxygen(%v/v)
Action Level
Limit Level

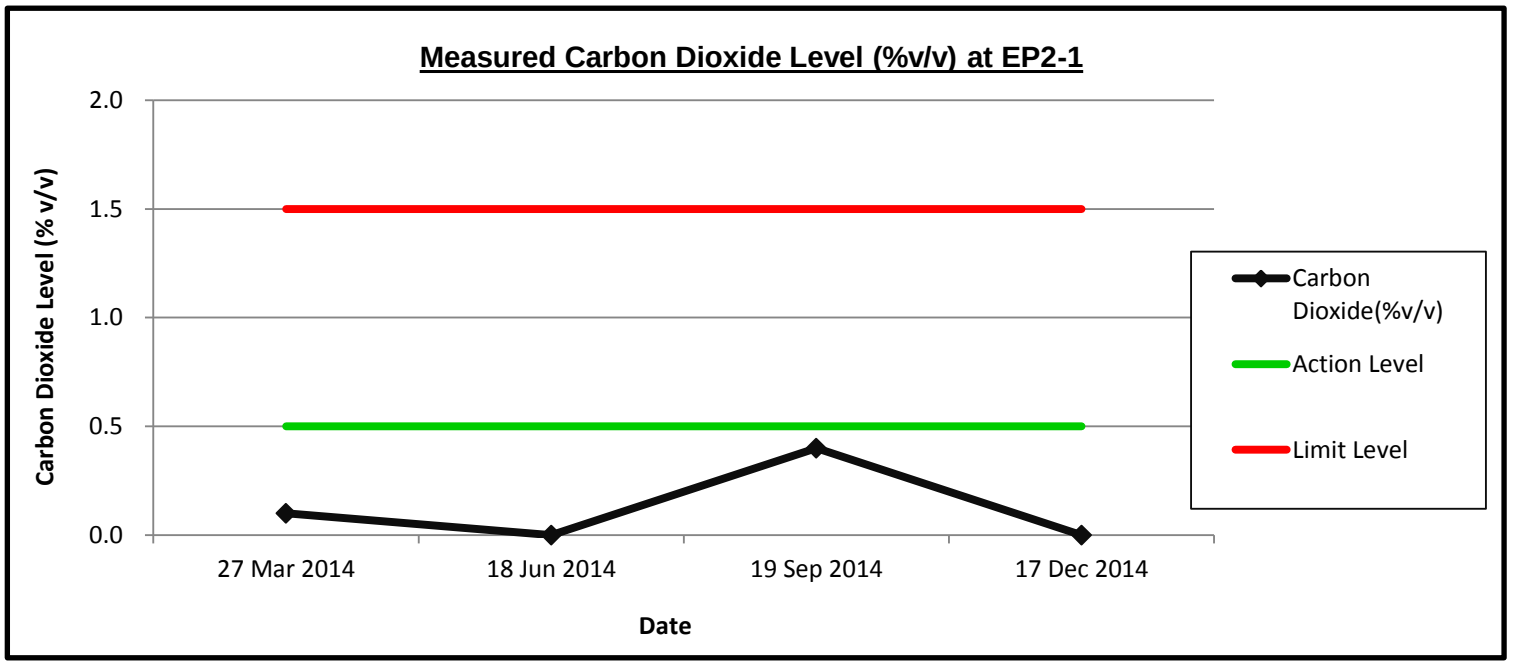

Measured Oxygen Level (%v/v) at EP2-1
22.0
21.0
20.0
19.0
18.0
17.0
Oxygen Level (% v/v)
27 Mar 2014
18 Jun 2014
19 Sep 2014
17 Dec 2014
Date
Oxygen(%v/v)
Action Level
Limit Level

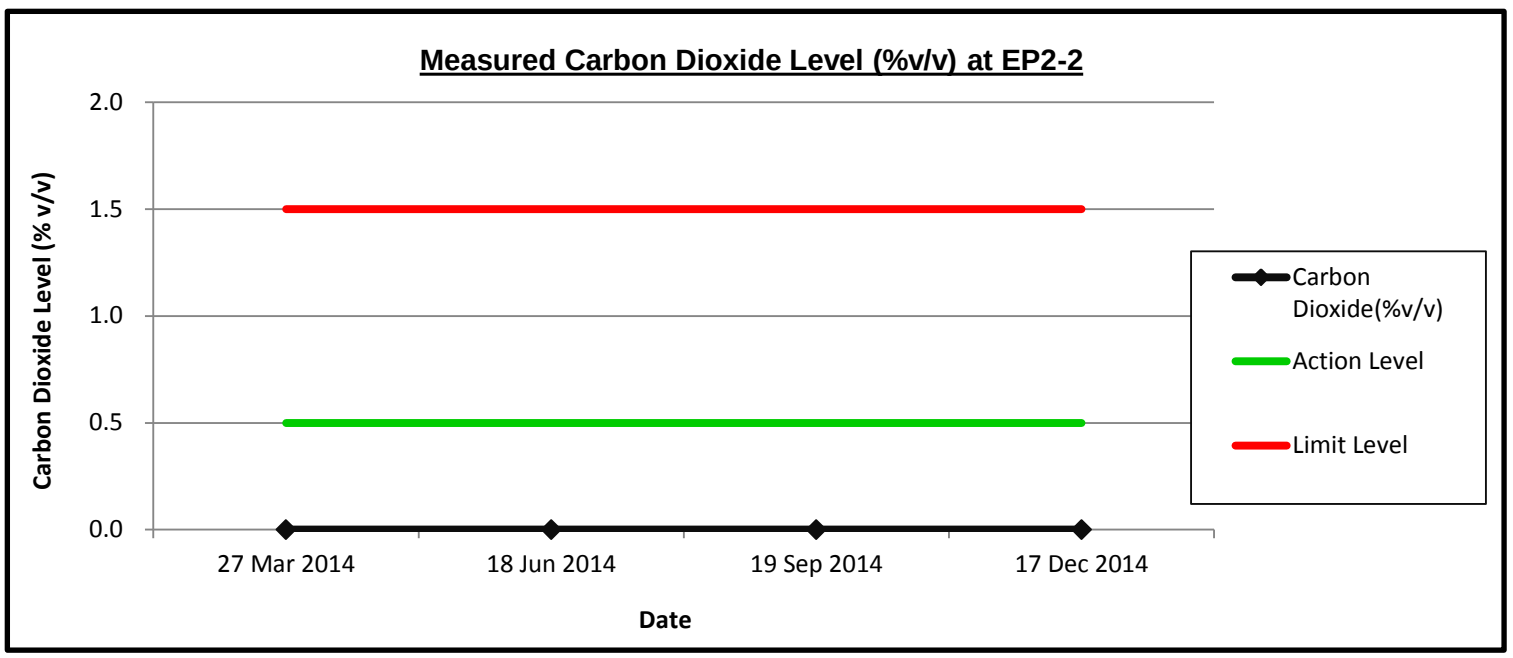

Measured Oxygen Level (%v/v) at EP2-2
22.0
21.0
20.0
19.0
18.0
17.0
Oxygen Level (% v/v)
27 Mar 2014
18 Jun 2014
19 Sep 2014
17 Dec 2014
Date
Oxygen(%v/v)
Action Level
Limit Level

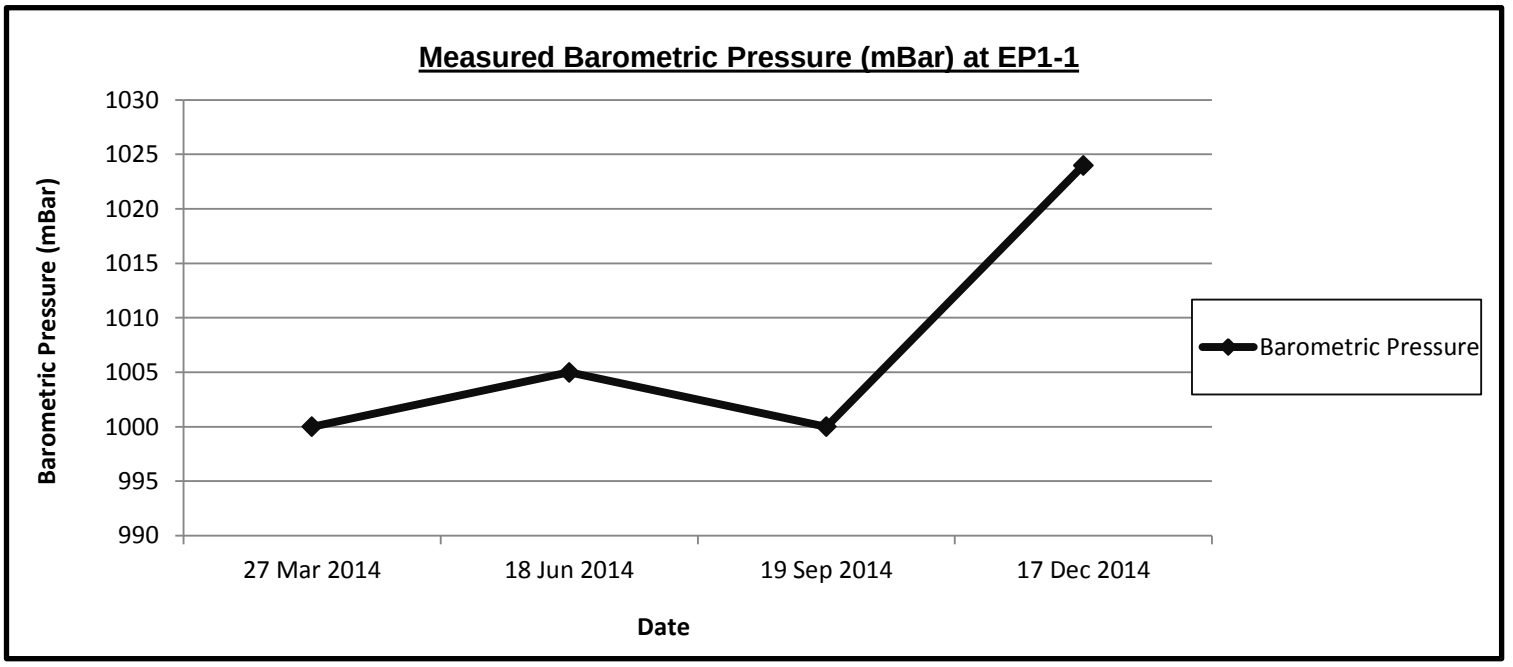

Measured Carbon Dioxide Level (%v/v) at EP1-1
Carbon Dioxide Level (% v/v)
2.0
1.5
1.0
0.5
0.0
27 Mar 2014
18 Jun 2014
19 Sep 2014
17 Dec 2014
Date
Carbon Dioxide(%v/v)
Action Level
Limit Level

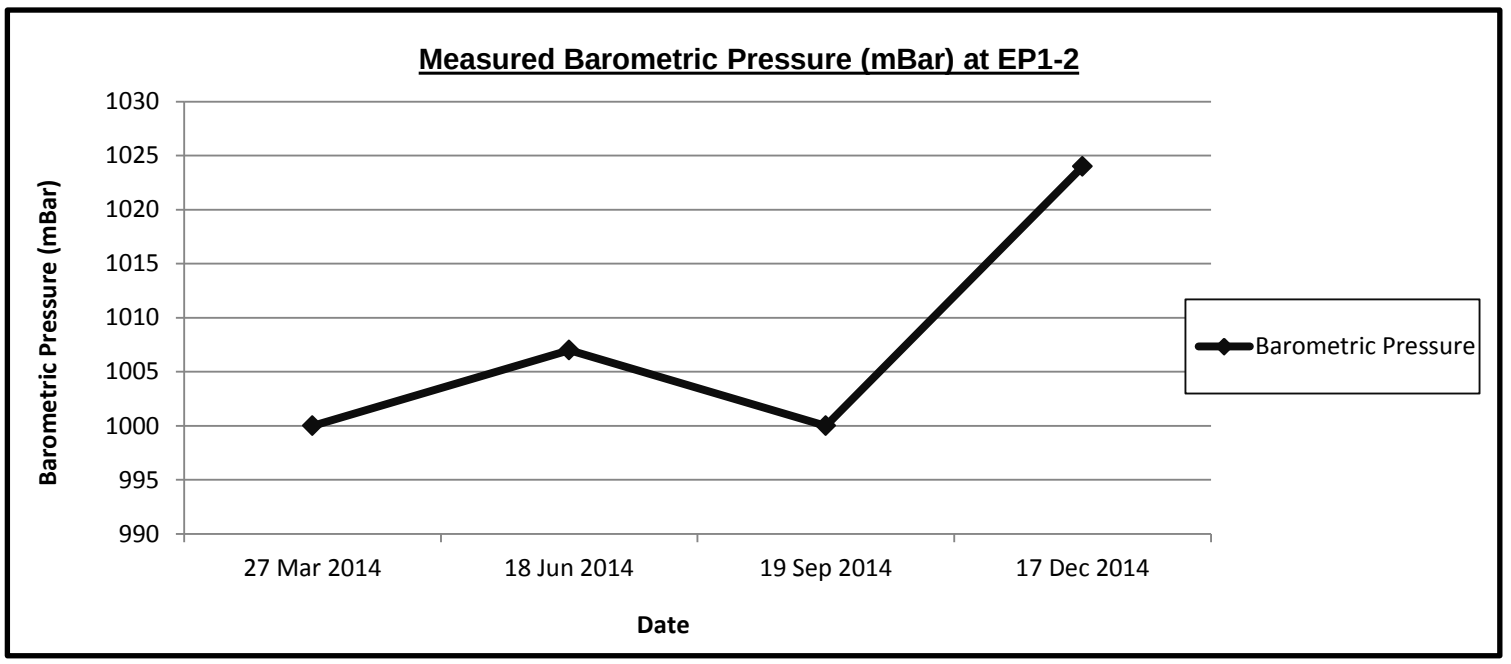

Measured Carbon Dioxide Level (%v/v) at EP1-2
Carbon Dioxide Level (% v/v)
2.0
1.5
1.0
0.5
0.0
27 Mar 2014
18 Jun 2014
19 Sep 2014
17 Dec 2014
Date
Carbon Dioxide(%v/v)
Action Level
Limit Level

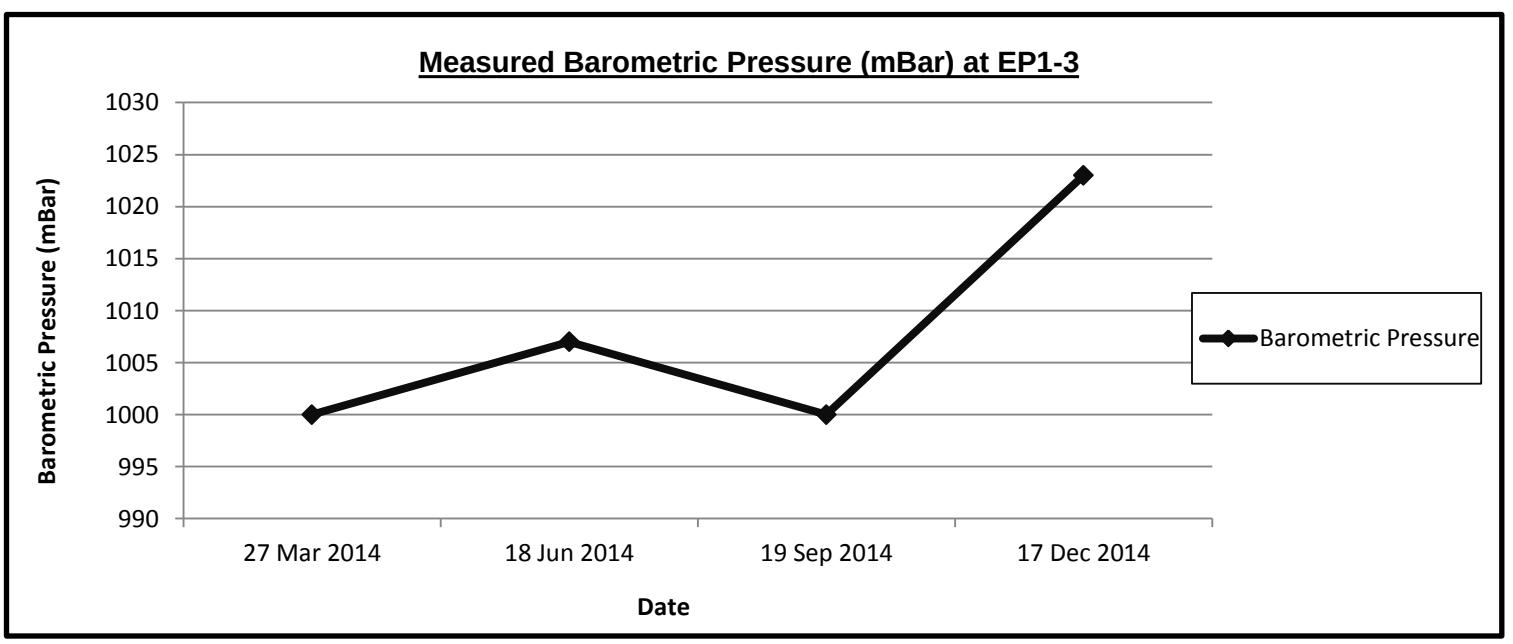

Measured Carbon Dioxide Level (%v/v) at EP1-3
Carbon Dioxide Level (% v/v)
2.0
1.5
1.0
0.5
0.0
27 Mar 2014
18 Jun 2014
19 Sep 2014
17 Dec 2014
Date
Carbon Dioxide(%v/v)
Action Level
Limit Level

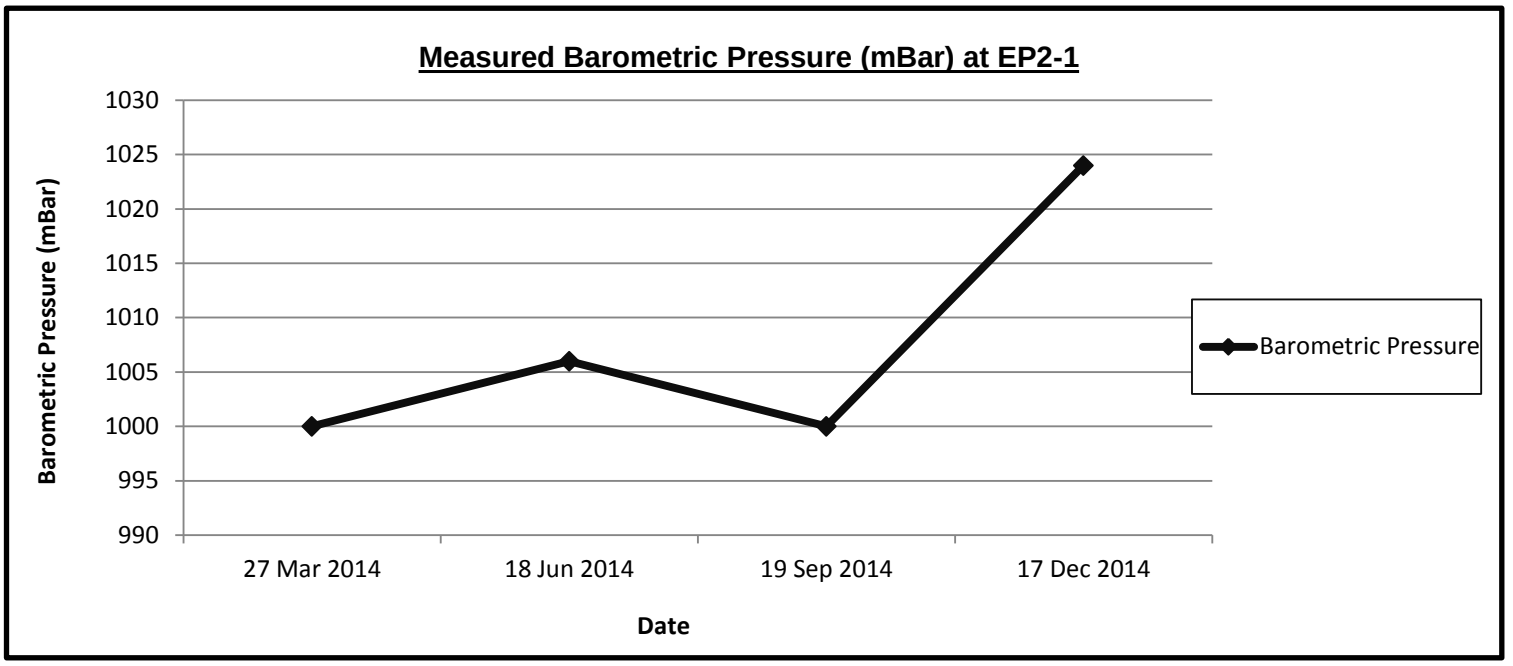

Measured Carbon Dioxide Level (%v/v) at EP2-1
Carbon Dioxide Level (% v/v)
2.0
1.5
1.0
0.5
0.0
27 Mar 2014
18 Jun 2014
19 Sep 2014
17 Dec 2014
Date
Carbon Dioxide(%v/v)
Action Level
Limit Level

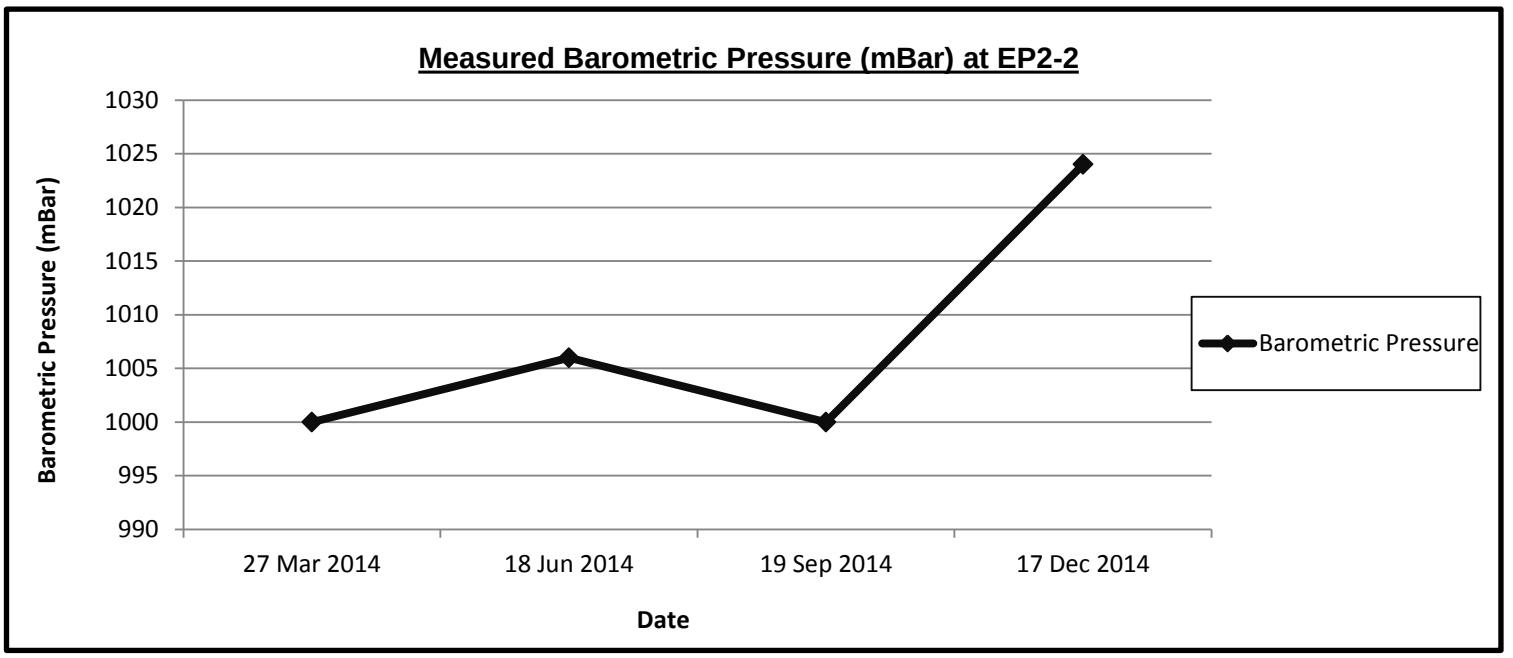

Measured Carbon Dioxide Level (%v/v) at EP2-2
Carbon Dioxide Level (% v/v)
2.0
1.5
1.0
0.5
0.0
27 Mar 2014
18 Jun 2014
19 Sep 2014
17 Dec 2014
Date
Carbon Dioxide(%v/v)
Action Level
Limit Level


Measured Barometric Pressure (mBar) at EP1-1
Barometric Pressure (mBar)
1030
1025
1020
1015
1010
1005
1000
995
990
27 Mar 2014
18 Jun 2014
19 Sep 2014
17 Dec 2014
Date
Barometric Pressure


Measured Barometric Pressure (mBar) at EP1-2
Barometric Pressure (mBar)
1030
1025
1020
1015
1010
1005
1000
995
990
27 Mar 2014
18 Jun 2014
19 Sep 2014
17 Dec 2014
Date
Barometric Pressure


Measured Barometric Pressure (mBar) at EP1-3
Barometric Pressure (mBar)
1030
1025
1020
1015
1010
1005
1000
995
990
27 Mar 2014
18 Jun 2014
19 Sep 2014
17 Dec 2014
Date
Barometric Pressure


Measured Barometric Pressure (mBar) at EP2-1
Barometric Pressure (mBar)
1030
1025
1020
1015
1010
1005
1000
995
990
27 Mar 2014
18 Jun 2014
19 Sep 2014
17 Dec 2014
Date
Barometric Pressure


Measured Barometric Pressure (mBar) at EP2-2
Barometric Pressure (mBar)
1030
1025
1020
1015
1010
1005
1000
995
990
27 Mar 2014
18 Jun 2014
19 Sep 2014
17 Dec 2014
Date
Barometric Pressure